

Withdrawal/Redaction Sheet

Clinton Library

DOCUMENT NO. AND TYPE	SUBJECT/TITLE	DATE	RESTRICTION
001. transcript	re: grades (2 pages)	n.d.	b(6)
002. transcript	re: grades (2 pages)	ca. 1966	b(6)
003. transcript	re: grades (2 pages)	ca. 1991	b(6)
004. letter	re: personal story (1 page)	06/05/1991	b(6)
005. letter	re: personal story (1 page)	09/18/1989	b(6)
006. report	re: Faculty evaluations (28 pages)	1996-1998	b(6)

COLLECTION:

Clinton Presidential Records
Domestic Policy Council
Ann O'Leary
OA/Box Number: 19587

FOLDER TITLE:

Resumes [2]

2013-0436-S

rc1269

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

- P1 National Security Classified Information [(a)(1) of the PRA]
- P2 Relating to the appointment to Federal office [(a)(2) of the PRA]
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C. Closed in accordance with restrictions contained in donor's deed of gift.

PRM. Personal record misfile defined in accordance with 44 U.S.C. 2201(3).

RR. Document will be reviewed upon request.

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DIXIE R. WOODARD
COLLEGE OF EDUCATION
UNIVERSITY OF GUAM
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EDUCATIONAL BACKGROUND:

- Ed.D.** University of Missouri-Columbia, Columbia, MO., 1984. Major: Elementary Educational Administration, Elementary Curriculum and Instruction.
- M.S. Ed.** Central Missouri State University, Warrensburg, MO., 1969. Majors: Elementary Educational Administration,
- B.S.** Missouri Valley College, Marshall, MO., 1965. Majors: Elementary Education, Philosophy, English

CURRENT POSTION:

- Assistant Professor, Early Childhood Education and Elementary Education (1995- *present*)
- Director, College of Education, Child Development Center (1996 - *present*)

COURSES DEVELOPED AND TAUGHT:

Early Childhood Courses:

- ED 330 Language Arts in Early Childhood
- ED 332 Curriculum for the Young

Child Elementary Courses:

- ED 355: Language Arts Methods: Elementary
- ED 357: Reading Methods: Elementary

Graduate Courses:

- ED699: Integrated Language Arts in Early Childhood

COMMITTEE ASSIGNMENTS:

- WASC Library Task Force (1998-*present*)
- Certification Advisory Council, Guam Department of Education (1997 - *present*)

PREVIOUS WORK EXPERIENCE

- 1994 - 1995 **Kindergarten Teacher**, F.Q. Sanchez Elementary School, Department of Education, Umatac, Guam
- Served as a regular Classroom teacher.

- 1984 - 1992 **Teacher** - International School Bangkok, Thailand,
Primary level -- Multi-cultural situation. Designed and taught a Pre-first program. Served as grade level chair and conducted numerous in-service training workshops throughout the Southeast Asian region.
Consultant/Advisor--Thai Ministry of Education, Asia Institute of Technology, United Nations (1985-1992)
Conducted training related to the use of whole language instruction, assisted in the development of a math and science curriculum intended for use at the primary level throughout the country, Helped to establish a new K through 8th grade international school under UN sponsorship.
- 1982 - 1984 **Assistant Professor** - Faculty of Education, Prince of Songkhla University, Pattani, Thailand.
Assisted faculty members in designing courses. Conducted in-service training workshops and seminars dealing with topics related to instructional methods and techniques as well as diagnostics.
- 1974 - 1982 **Principal** - State School for the Severely Handicapped, Columbia, Missouri, USA.
Responsible for budgeting, personnel supervision, parent relations, etc. associated with the administration of this program. Also had direct teaching responsibilities.
- 1972 - 1974 **Area Coordinator** - Central Missouri Developmental Disabilities Council (DDA).
Designed a system and coordinated the delivery of specialized services for developmentally disabled people throughout a 17 county area in central Missouri, USA.
- 1970 - 1972 **Director of Elementary Education** - Wright City Public School District, Wright City, Missouri.
Responsible for the overall management of a K through 6 program involving 750 students and 48 teachers. Launched a comprehensive special education program, revised the curriculum, introduced new staff evaluation procedures.
- 1965 - 1970 **Classroom Teacher** -
Taught at a variety of grade levels in school districts in both rural and urban areas across the United States. Was involved in team teaching, pod schools and multi-lingual situations.

CERTIFICATIONS

Missouri Life Teaching Certificates:

Elementary Teaching
English (7th, 8th grade)
Special Education
Elementary Principal

Guam Teaching Certificates:

Elementary Teaching (K-6th grade)
Special Education

RECENT PRESENTATION AND TEACHER WORKSHOPS

Workshops

- Fourth Annual Guam Care Givers Training Institute, 1995, "Big Books"
- Eighth Annual Regional Language Arts Conference, 1995 "Big Books and Cuddly Bears".

- Fresh Start Seminar, 1995. *"Interactive learning Centers, Language Arts and Reading"*
- Fifth Annual Guam Care Givers Training Institute, 1996, *"Big Books and Cuddly Bears"*
- Eleventh Annual Language Arts Conference, 1998, *"Teaching without Textbooks"*

Other

- Celebrating Family Literacy Island-wide Conference, 1998, Demonstrated model child care provider service in cooperation with COE-PTA Support Group members.

Staff Development Training:

- Santa Barbara Elementary School, Guam 1998, *"Integrated Curriculum"*
- Mt. Santa Rosa Elementary School, Guam 1998, *"Integrating Language Arts"*
- Upi Elementary School, Guam 1998, *Reading and language arts assessment methods"*

GRANT ACTIVITY:

Regional Children, Youth and Families at Risk Project (Wrote early intervention component of the 1995 and 1996 grant applications. *(Approved funded for \$300,000)*)

AmeriCorps Community Service Project, (Developed school readiness component, *(overall project funding for FY 1995-FY96 was \$250,000)*)

University Head Start Partnership Grant Program, Prepared regional grant application, (1998), application was not selected for funding.

Fund for Improvement of Post Secondary Education (FIPSE), Regional pre-grant application, (1998) application is pending.

International Reading Association, Grant Program, application for funding to the Chuukese Women's Association (1996) *(Funded for \$500)*

International Reading Association, Grant Program, application for College of Education, (1996) *(Funded for \$500)*

Guam Department of Public Health and Social Services, application from the COE – Child Development Center, 1998 *(Funded for \$2,500)*

Guam Department of Public Health and Social Services, application from the COE – Child Development Center, 1997 *(Funded for \$1,500)*

Guam Department of Public Health and Social Services, application from the COE – Child Development Center, 1996 *(Funded for \$1,700)*

PROFESSIONAL MEMBERSHIP

- Guam International Reading Association, Member
- Council for Exceptional Children
- Phi Delta Kappa
- Chi Omicron Gamma
- National Association for the Education of Young Children

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EDUCATIONAL PHILOSOPHY

AN EDUCATOR'S CREED

INTRODUCTION

My educational philosophy continues to be a "work in progress". It encompasses a number of underlying beliefs and values about teaching and learning that I hold dear. It is built on more than 30 years of teaching in a wide variety of situations (*i.e. stateside and overseas classroom experience as an early childhood/elementary classroom teacher, elementary administrator, university professor, and child development center lab school director.*)

As a university professor teaching in the classroom, I try to model the beliefs I hold and pass them on to my students. As a supervisor of university students doing their field practicum, my greatest reward comes from seeing them teaching and gaining the life experiences needed to build their own philosophy of education. I smile to myself as I see my reflection in their teaching and know the years of joy they have ahead of them in the teaching profession. I believe working with students is the best part of teaching. I find great reward as I gaze in those faces representing a multicultural population, all different, yet so similar. I get a great deal of satisfaction from knowing that I am making a difference in their future.

With this brief introduction, the following statements reflect my current philosophy about teaching and learning in the early childhood/elementary classroom. I have chosen to present my philosophy as an educator's creed. In my creed I try to show how I practice what I preach in my daily life as a professional educator. It is this philosophy that influences not only "WHAT" but also "HOW" I teach.

THE CREED

I BELIEVE that the educational curriculum should be child-centered and not content centered. I believe in providing my students with the skills needed to search out and locate information on their own. In addition, I try to give them the conceptual bases on which to construct meaning and make sense of whatever information they find. I try to motivate students through their own interest in learning. I feel success has been achieved when my students can demonstrate their capacity for critical thinking, apply problem-solving skills and practice their study skills. I want students to learn as much as they can, not simply what they must learn in order to get a grade or move on to the next class.

I BELIEVE the physical environment of the classroom has a direct impact on the quality of learning that takes place. For early childhood educators the classroom must welcome the child and insure a safe environment that is developmentally appropriate, including such cultural considerations as interdependence and independence. The extent to which the physical environment encourages

cooperation, individuality, antibias, aesthetics, authenticity and exploration is a very important concern of mine. Children's work should be on display giving the clear message – "*I am proud of what I can do.*" I encourage my university students to create a print rich environment designed to provide many opportunities for authentic learning experiences. I believe children who make connections between print and real life are the ones who learn to read earlier because the written language they come in contact with is infused with meaning.

I BELIEVE students learn best in an environment that promotes learning. I support children's learning when I: encourage students to reach the high expectations I hold for them. I recognize the richness of diversity and help students to take pride in their culture. I support the importance of teaching to each child's potential not to past performance based on test scores, grades, or former teachers' assessments. I place a value on building on the linguistic strengths of the bilingual child. I offer open-ended activities allowing children the opportunity to demonstrate and build on their prior knowledge. I recognize the richness and contribution of the dialect to the lives of the students, rather than seeing children who speak a dialect as deficient. I recognize the variation in children's growth and adhere to developmentally appropriate practices. When possible I provide student feedback describing rather than attaching a judgement to whether the answer is correct. I encourage risk taking and see the mistakes as indicators of growth.

I BELIEVE as the teacher, I set the tone of my classroom. I work hard to create a sense of community, and I want my students to work together to feel both the empowerment and responsibility of citizenship in my classroom community. We come with respect for each other recognizing the uniqueness of each individual (*child, teacher, family member, administrator, and colleague*). I model the commitment to this philosophy in the way I interact with my students, the children in my classes and their parents. As a teacher, my goal is to help those I come in contact with to reach their full potential. I want each member of our classroom community to feel a sense of pride, trust, worth and dignity as she/he contributes to our success. As a classroom teacher, I try to insure that every child will be recognized for what they do best and encouraged to not give up in the face of difficult challenges. Regardless of the level I am teaching (*i.e. university or kindergarten*), I always "keep the door open" encouraging members of the community, parents and/or family members into my classroom. I try to make people feel comfortable in my classroom. I have found that by doing so, parents especially can support and become involved, first hand, with their child's education. I believe it is very important in today's society to create a real partnership between and home and the school. As a classroom teacher, and even to some extent, as a university professor, I try to get to know each of my students as an individual. By doing this I gain an

increased appreciation and understanding for the family, culture and the greater community that my students are a part of.

I BELIEVE classroom management is one of the most difficult areas for beginning teachers and is often a challenge for even the experienced classroom teacher. Methods of discipline that once worked may not be successful today. The first two or three weeks of the school year should be dedicated to teaching class procedures, step by step directions of what is expected in order for all members of the class to work and learn together in harmony. I believe in being fair, consistent, and supportive and feel a set routine gives the child a sense of knowing what to expect. As a classroom teacher, I always try to send a firm signal through, behavior charts and cooperative learning approaches, that I do not like nor will I tolerate disruptive behaviors that affect other people's right to learn. I am also careful to convey the message that it is the behavior I dislike and not the child. I tell beginning teacher's to be careful to maintain rapport as a teacher and not just another friend. I feel many problems can be avoided when a teacher is well prepared, ready to teach and maintains a presence in the group. Class rules are few in numbers and are posted in the classroom. Allowing children the opportunity to help solve their own problems through conflict resolution and a daily class meeting at the end of the school day to air individual concerns keeps some problems from escalating. Children need to leave school feeling good about returning the next day. I want children to feel safe in my classroom. Children become involved and find a meaning in what they learn when it relates to their life (authentic learning). Each child feels there is a reason to come to school and is motivated to be present. I encourage beginning teacher's to use school/community resources and ask for and find help when needed.

I BELIEVE children should be given choices in the classroom. Studies show us that choices motivate the child to become involved in learning. Recognizing the different learning styles of the students is important and choice of activities allows students to gain the most using the modality of learning that best suites them.

I BELIEVE in the concept of emergent literacy. The child learns to use language through a natural process that begins even before birth as he/she experiences hearing the spoken language. This emergent process continues throughout the child's early years of life. As a classroom teacher, I try to understand the cultures represented by the different children in my class and build on what each child brings from home. The school curriculum must adjust to meet the needs of the child rather than expecting the child to simply meet the demands of the classroom. Respect for the child's language as spoken in the home is important.

I BELIEVE the role of the teacher should primarily be that of a facilitator, however, at times, giving direct instruction is needed and appropriate. The teacher should not be viewed as an authoritarian or the single central figure in the learning process. Students should be allowed to work together in ways that are consistent with the principles of cooperative learning. Efforts should be made to ensure that students are involved in planning and developing the curriculum with the teacher. By doing this they develop a sense of ownership over both the process and content involved. When students are involved in the learning process they develop a greater interest and commitment to learning. Students have knowledge to share and they can teach each other.

CONCLUSION

My years of experience have brought me to believe in and live by the above "Educator's Creed". Every day I learn something new from my students (*those in my child development center as well in my undergraduate and graduate classes*). Every day I become a better educator.

I have always tried to create a cohesive learning environment for my students. Although, I admit some days I am more successful than others, on the whole I do practice what I preach. In everything I do with my class, I attempt to affirm the joy and excitement of learning and teaching.

This is what Dixie Woodard, the teacher, is all about!

Dixie R. Woodard

NARRATIVE STATEMENT

My Background:

My work history shows more than 25 years of teaching activity that has greatly enriched my ability to be an effective university level classroom teacher.

From 1965 to 1982 I taught in stateside elementary grades, served as a principal and as a director of elementary education. During this period, I launched a comprehensive special education program, revised elementary curriculum and introduced new staff evaluation procedures. Prior to coming to Guam I served as a teacher in the international school system in Bangkok Thailand, was a member of the faculty of Prince of Songkla University, served as a consultant to the Thai Ministry of Education, the Asian Institute of Technology (AIT) and the United Nations. During this period I gained valuable experience by conducting in-service training for teachers and developing curriculum materials to support elementary and early childhood reading, math and science programs. I also helped to establish a new K through 8th grade international school operated under UN auspices.

MY CURRENT ROLE:

In August of 1995, I joined the University of Guam as a faculty member in the College of Education at the rank of Assistant Professor in elementary education and early childhood education. Since coming to UOG a little over four years ago, my activities have largely centered around resident instruction and university/community service. More recently (Fall 1998), I have launched two major research projects.

MY PROFESSIONAL PRIORITIES:

Presently, the majority of my time and interest is directed towards ensuring the highest possible quality of education for all students. My office is a curriculum resource center piled high with big books, children's trade books, teaching aides and hands-on teaching materials. I make a

special point of being available to advise and help students at all stages in their professional development – students in COE classes, student teachers and beginning teachers in the classroom. Realizing the limited number of books that are available, I have placed a real priority on having children's books for my students to use as they prepare themselves to become teachers. Over the past four years I have secured more than \$6,000 in external funding to purchase children's books. In addition to my regular course load in early childhood and elementary education, I also am very much involved in a number of related activities. I supervise six student teachers each semester. Since Spring Semester, 1996 I have served as the director of the College of Education, Child Development Center which serves as our lab school. This center is vital in providing College of Education students a setting for first hand experience as they apply the theory from their classes by working directly with children. I also conduct in-service training workshops for both the public and private elementary schools on Guam. Most recently I have become interested in participatory and action research. I am currently involved in two efforts designed to increase our understanding about the teaching learning process in the field of elementary and early childhood education.

MY TEACHING:

To be a teacher is to receive a lifetime of rewards as you see your students learn and grow towards accomplishing their goals. I get great satisfaction when I look into the rainbow of diversity making up the UOG students in my classes. Not just students headed for any profession, but special students that are seeking to also become teachers, and so the cycle must continue with my students striving to prepare and give more to their future students.

I have successfully redesigned and taught two undergraduate courses in the field of elementary education. These include:

ED 355: Language Arts Methods: Elementary

ED 357: Reading Methods: Elementary

The demand for these two courses is great. I typically have enrollment levels of 30 to 45 students per course. One semester I taught two sections of each course and had more than 65 students enrolled per course. I also teach one early childhood course each semester with an average course enrollment of between 22 to 30 students. In one semester my combined student load was

over 150 students. As reflected by the way that students have evaluated my teaching, I have been quite successful in conducting these high enrollment courses.

In addition to my elementary education courses, I have also redesigned and successfully taught the following early childhood courses.

ED 330 Language Arts in Early Childhood

ED 332 Curriculum for the Young Child

DIRECTOR OF THE CHILD DEVELOPMENT CENTER

I give my students a solid base, in theory and they apply their understanding in a lab school setting at the Child Development Center where I serve as the Director. I have served as the Director of the University's Child Development Center since 1996. Starting in 1997, I launched a special project (*i.e. the reading buddy program*) designed to increase student involvement in working directly with young children and their parents. This project has been very successful. A number of my students, who were involved in the project, have indicated that being a part of the reading buddy program was the highlight of the semester. University students in my courses are provided with an opportunity to create prop boxes, big books, teaching units and also are given the opportunity to experience teaching lessons using what they have produced and getting the reaction of the children at the CDC.

Throughout my courses, students are given assignments that allow them opportunities to have direct learning experiences with the children and parents at the CDC. My students are regularly asked to create parent newsletters, educational pamphlets, letters of communication with parents and meet with parents to report on observations and evaluations of different children's programs. As the director, I offer informative parent workshops on topics about emergent literacy, beginning stages of writing, phonemic awareness, reading aloud to children and discipline at home.

My graduate teaching efforts:

I am currently involved in teaching a new course being taught for the first time during this spring 1999 semester. This new course is titled as follows:

ED 699: Integrated Language Arts in Early Childhood

In the fall 1999 semester I am scheduled to teach the following graduate course:

ED 681 Language and the Whole Child

COMMUNITY AND UNIVERSITY SERVICE

MY FOCUS:

Over the past four years, I have played an instrumental role in launching a number of community projects and activities both here on Guam and throughout the pacific island region. In addition, I have served as a member of the Teacher Certification Committee for the Department of Education. Within the University, I have worked closely with colleagues within the College of Education in developing a comprehensive strategic plan for both elementary and early childhood education programs, I was also a key member of the working group involved in restructuring both of these programs.

COE CHILD DEVELOPMENT CENTER

Efforts to support parents of children in the CDC. – I was appointed as the Director of the COE Child Development Center in January 1996. Since becoming the Director, I have worked to increase services to parents whose children are involved in the Center. In this regard, a system has been established through which parents can borrow books and other instructional materials from the Center to use at home in working with their children.

Efforts to secure outside funding for the purpose of enriching the CDC program – Outside grants were awarded to the CDC in 1996, 1997 and 1998 to purchase trade books and other instructional materials to enhance and enrich Center programming.

Efforts to increase the CDC's visibility in the community and its reputation as a community resource center -- I have devoted a great deal of attention over the past three years promoting the Center as a viable community resource. Community groups as well as government organizations are encouraged to use the center in carrying out efforts to enhance their programs

WORKSHOPS AND CONFERENCES

Over the past four years I was a presenter at workshops offering information on a range of topics. Several workshops gave directions for the construction of big books. Workshop participants were given ideas about helping children to become the authors of stories from their own cultures

"Big Books and Cuddly Bears" was the topic for a presentation at the University of Guam 8th Annual Regional Language Arts Conference. I made efforts to involve UOG Students from my ED 355 and ED 357 Reading and Language Arts classes in the "Fresh Start Seminar". My students were given the opportunity to gain direct experience reading to children.

During the 5th Annual Guam Caregivers Training Institute, I presented two sessions on Big Books I also presented a workshop at the 11th Annual Regional Language Arts Conference entitled "Teaching With Out Textbooks".

I have presented workshops for both DOE schools and private schools across the island. I find this to be particularly rewarding as I have found that many of my former UOG students, now new teachers, participate in these staff development workshops

I also regularly assist and conduct sessions as a part of scheduled professional development days at different elementary schools around the island.

GUAM DEPARTMENT OF EDUCATION (DOE) SERVICE

Guam Teacher of Year Program -- I was invited, and agreed to server as a member of the 1998 "Teacher of the Year" Selection Committee. Along with four other committee members, I reviewed all submitted applications based on long standing selection criteria. I made site visits to the classrooms of all the finalists and participated in conducting final selection interviews. My service on this committee culminated in the final selection of Guam's 1998 Teacher of the Year. I am serving again on the Selection Committee for 1999 "Guam Teacher of the Year".

Certification Advisory Council (10/97 to present) – Served as Chair of the subcommittee responsible for establishing teacher certification criteria in areas related to: 1) Elementary, 2) Early Childhood, 3) English as a Second Language (ESL), 4) Gifted and Talented Education (GATE), 5) Chamorro, 6) Special Education and 7) Head Start.

ADVISEMENT TO UNIVERSITY STUDENT ORGANIZATIONS

UOG Association for Childhood Education International (ACEI) (5/96 through 5/98) – Over the past four years that I have served as a faculty member in the College of Education at UOG. In this capacity I have made a special effort to support and encourage the COE students involved in this organization to actively participate in as many co-curricular activities as possible that are sponsored by the organization. In this regard, I have provided advise and counseling to ACEI members involved in the: 1) Children's Fun Fair (5/95), 2) Charter day activities (3/96), 3) The COE Student Teaching Forum (10/95), and 4) Children's Fun Fair, (5/96)

COE Parent Teacher Organization Support Group – In the fall of 1997, I was asked by the members to serve as the designated faculty advisor to this new student organization. I accepted this role and have actively supported the members as they worked to build a strong student organization.

COMMUNITY OUTREACH PROJECTS

My community outreach effort has been directed towards increasing opportunities for practicing teachers to become better educators in the area of reading and language arts. I have also worked to provide opportunities for parents to become more engaged in their children's education. I firmly believe that fostering a spirit of close cooperation between teachers and family members is one of the important keys to improving the overall quality of education throughout the region.

During the past four years, I have launched or have been involved in launching, the following community based projects and initiatives:

Assessment of Teacher Preparation in the Area of Reading and Language Arts -- In

August 1998, I launched a three-phase participatory research project that is currently underway. Phase I of this project involved interviewing more than 250 parents, teachers and school administrators from across the island in an effort to identify some of the barriers and opportunities parents and teachers face in the area of reading and language arts. Phase II of this initiative involves conducting focus group interviews with parents and teachers using the results of the field surveys as a general framework for discussion. To date, three, focus group meetings have been conducted. Four more are planned for March and April 1999. Phase III will involve a formal workshop/seminar involving teachers, parents and public officials. This seminar/workshop has been scheduled to take place in April 1999.

Regional Children, Youth and Families at Risk Project (CYFAR) -- Working with

colleagues from UOG, the College of Micronesia, College of the Marshall Islands and American Samoa Community College, I designed and launched a model after school reading and language arts program. This program involved teachers, parents and community leaders from more than 75 villages in the region. Activities involved local teachers serving as facilitators and advisors to groups of local parents. The teacher/advisors taught parents and other family members how to use creative teaching techniques as tools in teaching their children how to read. In several of the Pacific island jurisdictions, the model teaching approaches that were introduced through this project have been adopted and are being used as the basis for conducting after-school programs island-wide. In supporting this project, I have conducted numerous workshops and seminars for CYFAR outreach workers. I have also modeled the use of effective teaching techniques and demonstrated creative ways of working with young children.

AmeriCorps Community Service Project -- I designed and helped to secure funding for an out-of-school home based reading enrichment program. Trained and supervised a team of eight part-time AmeriCorps Outreach Workers who made home visits on a regular basis in assigned villages. Worked closely with faculty and staff from the College of Agriculture and Life Sciences in carrying out this project over a two year period (1995-97)

The Reading Rainbow Project (*Chuukese Women's Association*) -- Organized and conducted training in cooperation with members of the Chuukese Women's Association. Parents were shown effective ways to work with their children at home helping to reinforce what teachers were doing in the school classroom. More than 15 parents regularly participated in this project which met once a week for more than two years. (1995-96)

University Head Start Partnership Grant Program (*Project Proposal*) -- Working in collaboration with key personnel from the Guam Head Start program as well as Head Start program Directors in the Federated States of Micronesia, the Republic of the Marshall Islands and American Samoa. A major action research project proposal was developed and submitted for federal funding. While the project was not selected for funding, the process of developing the application has lead to closer working relationships between the College of Education at UOG and the different head start programs throughout the region. Efforts are currently underway to redraft the proposal and submit it for funding as a part of the FY 2000 cycle.



DEPARTMENT OF EDUCATION

P.O. Box DE
Agana, Guam 96932
Tel: (671) 475-0457
Fax: (671) 472-5003



Roland L.G. Taimanglo
Director of Education

Aline A. Yamashita, Ph.D
Deputy Director of Education

February 22, 1999

Dr. Dixie Woodard
Professor
College of Education
University of Guam

Dear Dr. Woodard:

Last year, you played a very important role, as a judge, in the success of the Teacher of the Year Program. Once again, the Department of Education cordially invites you to be a judge for the 1999-2000 Guam Teacher of the Year Program.

As you know, this is a nationally affiliated and supported honors program that recognizes the contributions of the classroom teacher to teaching and learning. Exemplary teachers are nominated based on academic, professional, and personal achievements. I have enclosed a copy of the Teacher of the Year Program for your review.

Judging will consist of reviewing the application for content and context, a classroom observation, and finally, an oral interview. Five finalists will be selected from which the Teacher of the Year is chosen. Judges roles are critical in that they are ultimately the ones who will determine who the Guam Teacher of the Year will be. Judges have been selected based on their past or current involvement with education and their integrity as a member of the community.

Judging will take place in three phases. The first will be to review the applications to select the applications with the ten highest scores. The second phase will be to conduct an oral interview with the panel of judges. Five nominees with the highest composite scores for the application and interview will be selected as finalists. Finally, a classroom observation of each of the five finalists will be conducted at the teacher's work site. The Teacher of the Year will be selected based on the highest composite scores of the application, observation, and interview.

It is anticipated that judging will begin on April 12 and end by April 30. The announcement of the winner will be made in May.

We look forward to you accepting this invitation to help determine the 1999-2000 Teacher of the Year. For confirmation, contact Faye C. Kaible, Teacher of the Year Program Coordinator, at 475-0458.

Sincerely,

ROLAND L.G. TAIMANGLO
Director of Education

COMMONWEALTH NOW!



February 3, 1993

Dr. Gene Huff
Director of Personnel
Columbia Public Schools
Columbia, MO 65203

Dear Dr. Huff:

I feel compelled to write this, an unsolicited letter of support, on behalf of Dr. Dixie Woodard. I am a speech pathologist at West Boulevard Elementary, working in a program dedicated to the concept of full inclusion. I am in a third grade classroom on a daily basis for 2-3 hours, helping 5 children who have been identified as demonstrating various language concerns. Dr. Woodard has substituted for the classroom teacher there several times and I have had the opportunity to observe her in action and work closely with her.

I have found her to have excellent qualities that I feel Columbia values in a teacher. Her experience, both academically and on a student relationship level, is obvious. She knows her material and demonstrates flexibility when teaching as she can switch strategies quickly and has, at her fingertips, many strategies available if it appears that the information she is presenting is not being internalized. She is kind yet firm. She has a great sense of humor and the fact that she truly enjoys children is evident.

We are doing some children in Columbia as well as Dr. Woodard a disservice if she is not hired permanently for a position in the district.

Sincerely,

A handwritten signature in cursive script that reads "Jane Ferguson". The signature is fluid and elegant, with a large initial "J" and a long, sweeping underline.

Jane Ferguson

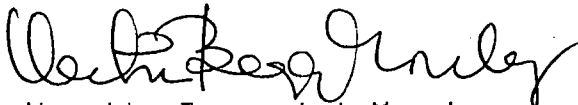
TO WHOM IT MAY CONCERN

Our daughter Elin Mossberg has been a student of Dr Dixie Woodard in Grade 2 at the International School Bangkok (ISB).

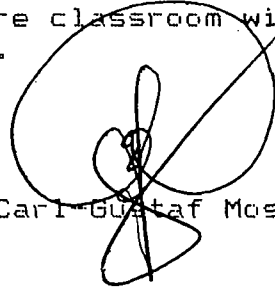
It has been a great advantage to be a student as well as parents in Dr Dixie's class.

Dr Dixie is a teacher of great ability, well above an average teacher. Her way of teaching, care, love, understanding and humbleness has helped our child (and all children) in her learning process as well as in her social and emotional progress. We do not believe any student leaves Dr Dixie's classroom without quite a great deal of selfconfidence, from whatever language, cultural or social background he/she may come.

We will all miss Dr Dixie a lot at ISB. At the same time we are happy, because we know that her future classroom will always be filled with lucky and happy students.



Kerstin Bergqvist-Mossberg



Carl-Gustaf Mossberg

Stockholm 10 July 1991



Singapore American School

60, KING'S ROAD, S. 1026.
REPUBLIC OF SINGAPORE

AMERICAN SCHOOL TRUST LTD.
(REGISTERED OFFICE)

TELEPHONE: 4665611 (KING'S ROAD)
4670022 (ULU PANDAN)

Nova Preschool!

Dear Dixie,

You're 'WONDERFUL!! The toys are WONDERFUL! Your workshop was STUPENDOUS!! 😊

Here is \$10 which should cover the cost of what you sent but can never pay you back for all you have done! I sincerely thank-you!

I really hope you repeat your work shop next year at KL. Then all 11 Singapore teachers who would attend! We'll write in requesting you next fall-OK? 😊

Thanks again for the wonderful math manipulations!

See you in KL
Warm Regards,

Patricia Green
Preschool Director

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DOCUMENT NO. AND TYPE	SUBJECT/TITLE	DATE	RESTRICTION
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004. letter	re: personal story (1 page)	06/05/1991	b(6)
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COLLECTION:

Clinton Presidential Records
Domestic Policy Council
Ann O'Leary
OA/Box Number: 19587

FOLDER TITLE:

Resumes [2]

2013-0436-S

rc1269

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

P1 National Security Classified Information [(a)(1) of the PRA]
P2 Relating to the appointment to Federal office [(a)(2) of the PRA]
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RR. Document will be reviewed upon request.

Freedom of Information Act - [5 U.S.C. 552(b)]

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INTERNATIONAL SCHOOL BANGKOK

P.O. BOX 1513, BANGKOK 10112, THAILAND. PHONE : (662) 253-0109

ROBERT W. BREWITT
SUPERINTENDENT

FAX:(662) 255-3494
CABLE : ISBAN, BANGKOK

June 1991

RE: Dr. Dixie Woodard

To Whom It May Concern:

Dr. Woodard came to teach at the International School Bangkok in August 1984. Since that time she has taught second grade, in our pre-one, and for the last few years in grade one.

Dr. Woodard is an experienced, versatile teacher. She is the type of teacher that builds a strong bond between herself and her students. The lessons are carefully planned to take into account individual learning styles and ability levels. The students very much enjoy being in her class.

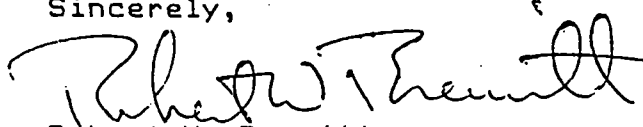
She also works closely with the parents of her students. Parents are welcomed into the classroom. Dr. Woodard shares much information with her parents and students, making them feel a real part of the learning process.

Dr. Woodard participates in many school activities. She has served as grade level chair in both first and second grade and on curriculum revision committees. She has been instrumental in developing a new process science program in our elementary school. Dr. Woodard has also presented workshop session at our regional teachers' conferences.

Dr. Woodard is a progressive, responsible faculty member. She uses cooperative learning techniques when appropriate, literature based language arts, and helped developed formal assessment scales as part of our portfolio assessment program.

Dr. Woodard has been an effective contributor to the programs at ISB over the past eight years. Please contact me if any further information is needed.

Sincerely,



Robert W. Brewitt
Superintendent

UNITED NATIONS



NATIONS UNIES

ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC
THE UNITED NATIONS BUILDING, RAJADAMNERN AVENUE
BANGKOK 10200, THAILAND.

TELEX : 82392 ESCAP TH
82315 ESCAP TH
CABLE : ESCAP BANGKOK

TELEPHONE : 2829161-200
2829381-389
FACSIMILE : 2829602

TO WHOM IT MAY CONCERN

Dr. DIXIE WOODARD was our son Rahul's second grade teacher at the International School of Bangkok during the academic year 1990-1991.

She brought an unbridled spirit of enthusiasm, dedication and caring to her class. Most remarkable was her ability to capture the full potential and imagination of our child and instill in him a sense of confidence and self-esteem.

We were particularly impressed by the very special way in which she carried out the science program for the children where she instilled in them a natural curiosity and interest for the subject which also helped strengthen their language arts skills.

Her genuine love and concern for each child in her class was, above all, her strongest asset and was evident throughout the year.

Our son Rahul benefited greatly from having Dr. Dixie as his second grade teacher and we will all miss her very much.

Khanum and Siva Thampi
3 June 1991

Khanum and Siva Thampi

MISSOURI VALLEY COLLEGE

CAREER PLANNING AND PLACEMENT CENTER

Marshall, Mo. 65340
816-886-6924, Ext. 194

To The Candidate:

The Family Educational Rights and Privacy Act of 1974 opens your student records for your inspection. The law also permits you to sign a waiver relinquishing your rights to inspect letters of recommendation.

Date February 13, 1985

To The Reference:

The candidate's signature below constitutes a waiver signifying that the recommendation will remain CONFIDENTIAL: no signature means the student will have the right to read this reference.

Signature Dixie R. Woodard

EVALUATION OF CANDIDATE

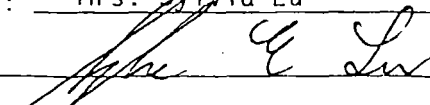
Comments: (Please Type)

Dr. Dixie Woodard creates a warm, secure environment where learning can take place. She is well liked and respected by both colleagues and students. She uses a variety of teaching techniques to put knowledge across. She tries to make learning (particularly reading) an exciting adventure. She makes good use of effective questioning techniques to encourage effective thinking skills.

She is also involved in research and developing program modules to address areas of competencies needed by teachers and administrators at the elementary level for Thai schools. She is also co-authoring a text that will address these areas of competencies in terms of role and scope.

Submitted By: Mrs. Sylvia Lu

Date February 13, 1985

Signature: 

Position: Elementary Principal

Business Address International School Bangkok
36 Soi Ruam Chai, Sukhumvit Road

Business Phone 252-8141-4 x 27, 28

City, State, Zip Bangkok 10110

INTERNATIONAL SCHOOL BANGKOK

36 SOI 15, SUKHUMVIT ROAD. TELEGRAM: ISBAN, BANGKOK
P.O. BOX 1513, BANGKOK 10112, THAILAND. PHONE: 253-0109

November 22, 1988

Dr. Dixie Woodard
Second Grade Teacher
ISB

Dear Dixie:

On a very personal note, I would like to thank you for your time, energy and devotion in making a presentation at the South East Asia Teachers and Counselors Conference.

By everyone's standards, this was an outstanding conference and your presentation entitled, "Straws, Sticks, and Shell - Manipulatives Make Learning Fun!", certainly added to this level of success.

Again, my sincere thanks.

Sincerely,



Robert A. Sills
Elementary Principal

cc: file
RAS/st

INTERNATIONAL SCHOOL BANGKOK

P. O. BOX 1513, BANGKOK 10112, THAILAND. PHONE: 2528141-4, 2516397

1 June 1987

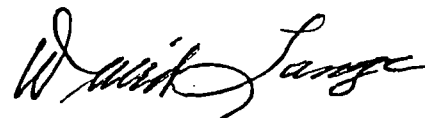
A Letter of Recommendation for Dixie Woodard

Dr. Dixie Woodard has been employed as a pre-first grade teacher at International School Bangkok (ISB) since August, 1984. ISB is an English-speaking, K-12 day school of 1400 students which follow an American curriculum and serves the American and international expatriate community living in Bangkok.

Dr. Woodard is a very capable and experienced elementary teacher. She has an excellent knowledge of primary curriculum. Her classroom is well organized, there are typically a variety of learning activities taking place. Dr. Woodard encourages her children to be independent and responsible learners. She establishes small instructional groups and individualizes her program to meet the special needs of every child. She is very thorough in assessing her children's capabilities and provides for suitable remediation where necessary. Dr. Woodard is a strong believer in the dignity and worth of each child and she works hard to enhance children's self-concepts. Dr. Woodard projects a quiet, calm, efficient manner which provides a secure environment for her students. She has excellent relationships with both students and parents. Her colleagues respect her as a dedicated professional.

We are extremely pleased with Dr. Woodard's professional performance. She is a valued team member on this outstanding elementary staff.

Sincerely,



David L. Lange
Elementary Principal

DLL/vw

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DOCUMENT NO. AND TYPE	SUBJECT/TITLE	DATE	RESTRICTION
005. letter	re: personal story (1 page)	09/18/1989	b(6)

COLLECTION:

Clinton Presidential Records
Domestic Policy Council
Ann O'Leary
OA/Box Number: 19587

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Resumes [2]

2013-0436-S
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RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

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UNIVERSITY OF GUAM
UNIBETSEDÄT GUAHAN

STUDENT EVALUATION OF FACULTY

INSTRUCTIONS:

Using this list of questions, you will fill out a machine-readable answer form for the instructor of this course. Follow these steps:

1. Find the box at the top of your answer form that says "NAME - Please print within this box." Print in the name of your instructor.
2. Do not write in any information that identifies you.
3. Read evaluation item number 1. Then find number 1 on your answer form and darken the bubble that indicates your response to this item. Continue in this way for all of the evaluation items.
4. If you want to make comments about the instructor's strengths, or areas in which improvement is needed, please write on the comment sheet provided.

Rate how well your instructor fits each of these descriptive statements.

FOR ALL CLASSES

1. The instructor made the subject matter interesting.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
2. The instructor's speaking style was clear enough to be understood.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
3. The instructor seemed interested in what he/she was teaching.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
4. The instructor knows the course material well.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
5. The instructor answered students' questions.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
6. The instructor's syllabus clearly stated the learning objectives, requirements, and grading procedures for the course.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
7. The instructor was well prepared for each class.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
8. The instructor used class time well.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
9. The instructor encouraged the students to do their best work.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
10. The instructor was fair to the students.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
11. The instructor made himself/herself available for help in and out of class.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
12. I spent two hours studying for this class for every hour of actual in-class time.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
13. I feel I've learned a great deal in this course.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
14. The instructor followed her/his syllabus.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable

FOR LECTURE-DISCUSSION CLASSES

15. The instructor related the course material to my previous learning experiences.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
16. The instructor stressed important points in lectures.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
17. The instructor encouraged class discussion.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
18. The instructor returned examinations and assignments promptly.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
19. Course objectives were reflected in the exams.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable
20. My grades reflected my performance in the course.
A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Not applicable

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DOCUMENT NO. AND TYPE	SUBJECT/TITLE	DATE	RESTRICTION
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006. report	re: Faculty evaluations (28 pages)	1996-1998	b(6)
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Clinton Presidential Records
Domestic Policy Council
Ann O'Leary
OA/Box Number: 19587

FOLDER TITLE:

Resumes [2]

2013-0436-S

rc1269

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RADM SUSAN J. BLUMENTHAL, M.D., M.P.A.
U.S. Assistant Surgeon General and Rear Admiral
Senior Science Advisor to the Surgeon General
Former Deputy Assistant Secretary for Health (Women's Health)
U.S. Department of Health and Human Services

Clinical Professor of Psychiatry
Georgetown University School of Medicine

A champion for improving the health of Americans, Susan J. Blumenthal, M.D., M.P.A. is a national expert in women's health and mental illness. Her leadership has been a major force in bringing these important public health issues to scientific and public attention, helping to place them at the forefront of our country's health care agenda. Dr. Blumenthal serves as U.S. Assistant Surgeon General, Rear Admiral, and Senior Science Advisor in the Department of Health and Human Services, where her work focuses on a broad range of public health and science issues facing the Nation.. She is also a Clinical Professor of Psychiatry at Georgetown School of Medicine and Tufts University Medical Center and this year serves as the Distinguished Visiting Professor of Women's Studies at Brandeis University.

In April 1994, Dr. Blumenthal was appointed the country's first Deputy Assistant Secretary for Women's Health within the Department of Health and Human Services. In this position from 1994-1997, she developed innovative national initiatives, provided oversight and coordinated research, services and education programs and activities across the agencies of the Department of Health and Human Services including NIH, CDC and the FDA ensuring that our national health programs targeted the unique needs of women. She also worked with other governmental organizations, consumer and health care professional groups to advance women's health in the United States and internationally. Her many accomplishments include developing a coordinated national approach to women's health that dramatically increased attention to these issues, establishing National Centers of Excellence on Women's Health at academic centers across the country to serve as models for women's health care nationwide, developing a National Women's Health Information Center that links thousands of women's health resources through a toll free telephone number and on the internet, establishing a focus on women's mental health issues and violence against women, fostering international partnerships, and initiating a unique collaboration with the CIA , NASA and DOD called "From Missiles to Mammograms" that has transferred imaging technology used for military and space purposes to improve the early detection of breast cancer. Dr. Blumenthal also served as Co-chair and was responsible for the coordination and implementation of the National Action Plan for Breast Cancer.

For the 12 years prior to this appointment, she directed major national research programs at the National Institutes of Health and the NIMH on suicide, violence, mood disorders, behavioral medicine, eating disorders and psychoneuroimmunology. In this capacity, she developed and coordinated research and education initiatives on these mental health issues making important contributions to shaping and expanding these fields within the Federal government and nationally.

Dr. Blumenthal is a member of numerous governmental and professional organization committees including having served as a member of the President's Interagency Council on Women. She has served as the United States representative to the World Health Organization's Global Commission on Women's Health, as Chair of the Department of Health and Human Service's and NIH's Workgroup on Health and Behavior and the Federal Coordinating Committees on Breast Cancer, on Women's Health and the Environment, and as Co-Chair of the Department of Health and Human Service's Steering Committee on Domestic Violence. In 1998, Dr. Blumenthal was on special assignment to the George Washington University Medical Center as Associate Vice President for Health Affairs and as a Visiting Professor of Obstetrics and Gynecology.

Dr. Blumenthal has authored numerous scientific articles and books including a volume on *Suicide Over the Life Cycle*. She writes a monthly health column for Elle magazine and served as Host and Medical Director for an award winning 13 part television series on women's health. Dr. Blumenthal has received numerous awards from health care professional and consumer organizations including honorary doctorates, and several of the highest medals of the United States Public Health Service for her outstanding scientific contributions and distinguished national leadership in mental illness and women's health research and education. She has been named by the New York Times as one of the top twelve doctors in the women's health field, by the Ladies' Home Journal as one of the ten most important women doctors in the country and by the Medical Herald as one of the twenty most influential women in medicine. 12/2/99

Youth Suicide: The Physician's Role in Suicide Prevention

One of the most difficult clinical problems facing the physician is the prediction and prevention of youth suicide. Since one goal of medicine is to avert untimely mortality, the death of a young person by suicide may be particularly devastating to the clinician, raising issues about whether and how the tragedy might have been prevented. Although the percentage of youth who visit health care professionals prior to their suicide has not been well documented, it is generally believed that most young people have exhibited warning signs to family, friends, teachers, and physicians, suggesting that the clinician may have important opportunities to detect suicidal behavior and intervene appropriately to prevent these tragedies.¹

See also p 3151.

Suicide is the third leading cause of death among young people 15 to 24 years of age in the United States.¹ Completed suicide is rare in children but increases with each of the teenage years, reaching a peak for youth at age 23.² The youth suicide rate has tripled since the 1950s, having plateaued at this higher rate in the 1980s. It is not yet clear in the 1990s whether the rate has begun to decline.¹ A number of explanations have been proposed to account for this increase, including (1) a parallel rise in the incidence and prevalence of psychiatric risk factors associated with youth suicide, particularly depression, conduct disorders, and substance abuse^{1,3,4}; (2) a higher proportion of youth in the society, resulting in increased competition for jobs and educational experiences with greater possibilities for failure and hopelessness^{1,5}; (3) effects where large birth groups experience more stress over their life span and higher suicide rates at every age level^{6,7}; and (4) an association with increased violent behavior and access to firearms in our society.^{1,4} It has also been postulated that the rise in both the rates of depression and suicide shifting to younger age groups may be due to certain environmental influences, such as the increased divorce rate, geographic mobility, and changes in family structure, interacting with an individual's genetic vulnerability.³

It has only been over the last decade that there have been systematic and methodologically rigorous studies of adoles-

cent and adult suicide. Research efforts to evaluate preventive interventions have received far less attention, and most studies have been plagued by methodological problems. Nonetheless, numerous suicide prevention strategies have been developed and implemented to respond to this public health problem, including community-wide services such as hot lines and crisis intervention centers; individual treatment services aimed at high-risk youth; media coverage of suicide, including movies, documentaries, and news reports; and high school curricula on suicide prevention. By 1986, over 100 high school educational programs on suicide existed in the United States, reaching approximately 180 000 students.⁶ Generally, these programs seek to increase awareness of suicide; identify vulnerable youth; provide students and educators with information about mental health resources; and, in a small number of programs, provide instruction aimed at enhancing coping skills.² Many of these programs have not been adequately evaluated to determine their effects on students' attitudes, behaviors, and suicidality. Most of these curricula are based on the premise that all youth are potentially at risk for suicide following stressful life events and do not relate youth suicide to mental illness. Based on our current knowledge of youth suicide, this is a faulty and potentially harmful premise.^{1,2,4,7}

In this issue of THE JOURNAL, Shaffer and colleagues⁸ report on the impact of 1½- and 3-hour suicide prevention curricula on the attitudes of ninth- and 10th-grade self-identified suicide attempters, nonattempters, and controls who were not exposed to the intervention. The researchers found that self-identified attempters held views that differed from those of their nonattempter peers. There was some evidence that the attempter group was more troubled by the suicide education program, had more negative attitudes, continued to believe that suicide was a possible solution to their problems, and would be less likely to seek help or disclose their feelings to others than their nonattempter peers. The findings from this study suggest that short-term educational interventions are not effective for self-identified adolescent suicide attempters and that the exposure may have possible detrimental effects in stirring up troubling feelings without sufficient time or an appropriate treatment setting to adequately deal with issues raised by the curricula. These results lend support to previous work from this research group that demonstrated an association between exposure to media coverage of suicide and increased youth suicide rates.⁹ Given the evidence from these studies, the authors suggest caution when delivering suicide education programs to general audi-

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ences because of the possible stimulation of imitative behavior in vulnerable youth.

Results from this study and from other research evaluating this type of preventive intervention suggest that it is extremely difficult and very expensive to predict which youth in the general population will kill themselves, given that adolescent suicide is a rare event with low specificity (high false-positive rates).² Since there is currently slender systematic evidence to either support or refute the efficacy of most types of suicide prevention and intervention programs, we can conclude that interventions aimed at the general population will be of lowest utility, whereas programs targeted at treated or untreated high-risk youth would be the most beneficial.^{2,46} The study by Shaffer and colleagues represents an important contribution to our understanding of the limitations of some types of suicide education programs and points us in new directions for future research aimed at the identification of young people at high risk for suicidal behavior. Additionally, the provision of longer-term behavioral/cognitive interventions in the schools to strengthen students' interpersonal and problem-solving skills linked to mental health services (where appropriate) should be evaluated. Fortunately, the physician does not have to wait for results from suicide prevention studies to use knowledge already gained from youth suicide risk factor research to enhance the early detection and treatment of suicidal patients encountered in clinical practice.

Risk Factors

Who among our patients is at risk? Research evidence delineates two separate but overlapping groups of people with different risk factor profiles who engage in suicidal behavior—suicide attempters and suicide completers.¹⁴ Five risk factor domains for completed suicide have been identified, represented graphically as a series of interlocking Venn diagrams.^{1,10,11} It is suggested that the presence and overlap of contributing factors from each of these risk factor domains increase the risk of suicide and help explain why certain adolescents will attempt or complete suicide while other young people will not.^{1,10,11} These domains include (1) *sociodemographic factors*—white males, Native Americans, older youth, and those with a history of a previous suicide attempt are at increased risk^{1,4} (The primary method used by young men and women in the United States is firearms. One group at lower risk for suicide is college students, perhaps because of the decreased access to firearms, the supportive milieu, and the availability of mental health services on campus.¹); (2) *psychiatric diagnosis*—over 90% of youth who end their lives by suicide have an associated psychiatric illness, most commonly conduct disorder, mood disorders, particularly bipolar illness, substance abuse, and psychoses^{1,2,4,7} (often these illnesses coexist and may increase lethality¹); (3) *psychosocial, personality, and environmental factors*—a history of early loss, more stressful and negative life events, exposure to suicide, being physically or sexually abused, poor social supports, unwanted pregnancy, early marriage (particularly for young women), delinquency, incarceration, running away from home, chaotic family environments, and the presence of certain medical illnesses including epilepsy in adolescents and the acquired immunodeficiency syndrome in older youth increase suicide risk.^{1,4} Specific personality traits have been associated with suicidality, including aggressivity, impulsivity, cognitive rigidity, excessive perfectionism and hopelessness,^{1,2,4,7} and borderline and antisocial personality disorders in late adolescence and young adulthood.^{1,4} The cooccurrence of depression, substance abuse, and impulsivity is a particularly lethal triad in young people.^{1,4} Precipitating events for suicide among youth are often humiliating in na-

ture, involving interpersonal problems or an impending disciplinary crisis.^{1,4} Other risk factor domains are (4) *genetic/familial variables*, with a higher incidence of suicide in the biological relatives of adopted suicide victims,^{1,3,6} a higher concordance rate for suicide in identical twins as compared with fraternal twins, and an increased rate of suicidal behavior in the first-degree relatives of suicide attempters, and (5) *biological correlates*—decreased serotonin level has been implicated in violent suicidal behavior across psychiatric diagnoses in adults as well as in impulsivity and alcohol abuse, two important risk factors for youth suicide.¹² Other biological variables that have been associated with suicide include decreased growth hormone secretion, decreased corticotropin releasing factor, and certain perinatal factors,^{1,4} including hypoxia at birth. More research is needed on the contribution of these biological factors to suicide in young people and to the development of easily usable techniques to identify potential biological markers in clinical practice.

Fortunately, suicide is a rare event, and the risk factors discussed above will identify a large number of young people who will not kill themselves.¹³ While the presence of mental illness or a previous suicide attempt is an important predictor of suicide, it is not sufficient in and of itself to explain a completed suicide. Applying a model for understanding the dynamics of suicidal behavior discussed elsewhere,^{1,10,11} those youth at highest risk may have certain predisposing factors such as a family history of suicide and a biological vulnerability that interacts with risk factors developed later in life, including having a psychiatric illness and poor social supports. When a young person with these risk factors undergoes a humiliating life experience and when there is an available method for suicide, the threshold for suicidal behavior may be lowered. However, the presence of certain protective factors including cognitive flexibility, hopefulness, strong social supports, removal from stressors, and, importantly, receiving appropriate treatment for an associated psychiatric disorder contribute to maintaining a barrier to suicidal behavior.^{1,10,11}

In this way, the risk of suicide may be viewed like the risk for death from coronary heart disease in individuals with known risk factors. The incidence of morbidity and mortality will be greater than in the general population despite treatment.¹⁴ Yet, given these difficulties in prediction, the physician still has important opportunities to contribute to the prevention of youth suicide by translating a knowledge of risk factors into careful assessment of the *individual* patient, in developing a clinical management plan, and in strengthening the protective factors for his or her patients by providing treatment interventions that heighten the barriers to suicide.^{1,11} As in coronary heart disease, prevention, early detection, and aggressive intervention with suicidal youth can impact significantly on the course and outcome of the illness.

Interventions

Interventions for the suicidal patient depend foremost on making an accurate diagnosis. There are four essential elements to clinical treatment of suicidal youth: (1) psychosocial and psychotherapeutic interventions; (2) if indicated, medication targeted to the treatment of diagnosed mental illness; (3) appropriate use of psychiatric consultation, referral, and hospitalization; and (4) environmental interventions. The proper identification, assessment, and treatment of mental illness by the primary care physician is a key element in the prevention of youth suicide.^{1,4,15} This is critical insofar as many psychiatrically ill suicide victims never receive appropriate diagnosis or treatment.^{1,4,15} Clinicians need to be certain that interventions for adolescent and young adult suicidal patients in their practice include state-of-the-art psychosocial and psychopharmacologic techniques geared to the treatment of spe-

cific psychiatric disorders as well as to suicidal behaviors.^{1,11,15}

Other important components in the clinical treatment of adolescent and young adult patients at high risk for suicide include providing the patient with support and hope; frequent contact with the patient; helping the young person to solve problems; involving the family to enhance compliance to treatment and decrease the chance of relapse; referring parents for treatment where appropriate; educating the patient and family about the illness; ensuring an adequate clinical trial of medication; reducing environmental stressors; appropriate use of psychiatric consultation and hospitalization; aggressive outreach; development and utilization of a network of community social supports; and removal of firearms and other lethal methods from the home.^{1,11,15} Special attention must be paid to the patient's environment and support systems. In this regard, a comprehensive follow-up plan is critical to preventing youth suicide—creating a lifeline and meaningful link for the young person to people who care and who can help in both the treatment and community settings.^{1,11}

Additionally, the physician has a critical community leadership role to play in spearheading several important public health interventions that may help prevent youth suicide: (1) restricting the availability of firearms; (2) increasing public and health care professional education to heighten awareness of the warning signs, causes, and treatment of mental illness, substance abuse, and suicidal behavior; (3) developing guidelines for effective ways to minimize the potentially adverse effects of both nonfictional and fictional media coverage of suicide, including deromanticizing portrayals of suicide in the media; (4) integrating information about self and peer recognition of psychiatric symptoms, coping strategies, stress management, and the value of mental health treatment into high school health education programs; (5) developing community "At-Risk Clinics" that offer expert clinical assessment and treatment combined with strong community links, social support, school liaison, family education, and hot lines staffed by mental health professionals; (6) establishing community task forces composed of physicians, mental health professionals, educators, parents, students, and media representatives to develop a suicide response plan to deal with the problem of suicide before tragedies occur in the community and to employ if suicides should take place; (7) advocacy for parity in insurance benefits for outpatient and inpatient coverage of mental and substance abuse disorders; and (8) coalition building among health care professionals, policymakers, civic leaders, and the general public to enhance support of suicide research and prevention programs.^{1,16}

Our understanding of youth suicide is benefiting from rapid advances in the neurosciences and the behavioral sciences, from the application of new research technologies, and from our society's increased awareness of and willingness to deal more openly with mental illness.¹⁶ Increased concern about youth suicide must be met with a broad spectrum of rigorous basic, clinical, and epidemiological research designed to identify risk factors and to evaluate the effectiveness of the interventions being initiated. Comprehensive evaluations of prevention efforts should be undertaken to ensure that prevention programs are effective and to enable refinement and modification as new information is gathered. Studies of the full range of short- and long-term treatments, including psychosocial, psychopharmacologic, and environmental interventions and their combination, should be implemented.

Systematically designed research interventions are needed aimed at enhancing the identification and treatment of patients at high risk for suicide in primary care practice and to assess service utilization and the follow-up care received by suicide attempters in health and mental health care settings. Studies of preventive interventions to promote healthy psychosocial functioning are also important.¹⁶

A concluding point—it is critical that health care professional and continuing medical education programs contain instruction about the diagnosis and treatment of psychiatric disorders and complex human behaviors such as suicide.^{1,11} As mentioned earlier, many health care professionals will evaluate suicidal youth in their offices during the weeks when these young people are contemplating whether to live or to die. Given that we can never predict with complete certainty who among our adolescent and young adult patients will end their lives by suicide, if we should err, let it be on the safe side because, tragically, mistakes in prediction are both irreversible and fatal.^{1,11} Therefore, we, as physicians, must use our lifesaving skills in the assessment of suicide risk and become more vigilant in detecting the warning signs of mental illness and suicidal behaviors in our patients.^{1,11} In this respect, hope, like love, is a very important four-letter word in suicide prevention. It is something that physicians can provide patients through accurate diagnosis and active and appropriate treatment.

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Youth Suicide: Risk Factors, Assessment, and Treatment of Adolescent and Young Adult Suicidal Patients

*Susan J. Blumenthal, MD, MPA**

One of the most difficult clinical problems facing the mental health care professional is the prediction and prevention of youth suicide. There is nothing more tragic than this untimely loss of human life, all the more devastating and perplexing because it represents a volitional act, and all the more disturbing when it is the life of a young person. Suicide is now the third leading cause of death among young people, ages 15 to 24.⁵⁴ Suicidal behavior has also increased among youth so that the assessment of suicidality is the most frequent emergency treated by child and adolescent psychiatrists.^{43, 149, 223}

Although the percentage of youth who visit health care professionals prior to their suicide has not been well documented, it is generally believed that most young people who commit suicide have exhibited warning signs to friends, family, teachers, and clinicians, but their communications may have not been taken seriously. One study found that 50% of adolescent suicide victims had previous contact with a mental health professional.²¹⁹ This disturbing fact can change through increased health-care professional and public education about suicide.

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This article stresses that prevention of completed suicide depends on the medical and mental health practitioner's early detection of young people at risk for suicidal behavior, underscoring that suicide in young people is often the final outcome of a serious psychiatric disorder, which in most cases is not recognized or not properly treated.^{43, 217, 222} Current knowledge about risk factors for youth suicide, including demographic, psychosocial, psychiatric, genetic, and biologic variables translate this information into practical assessment and treatment strategies that the mental-health-care professional can use with adolescent and young adult suicidal patients.

EPIDEMIOLOGY OF SUICIDE

Suicide is the eighth leading cause of death in the United States today and the third leading killer of young people. In 1987, 30,796 suicides were recorded in our country; 4924 of these by young people ages 15 to 24.⁵⁴ On average, one young person ends their life by suicide every 1.75 hours. It is estimated that the actual number of youth suicides may be two to three times higher because of the under-reporting that occurs and because many single motor car accidents and homicides may, in fact, be suicides. Additionally, suicidal thoughts and behaviors among adolescents have become more common in recent years. In a survey of 380 randomly selected high school students in New York, 60% reported that they had thought of killing themselves and almost 9% reported that they had made at least one attempt to kill themselves.⁸⁹

Suicide cuts across all age, racial, occupational, religious, and social groups. Considerable research efforts have been made to determine specific demographic risk factors for suicide over the life cycle. Important differences have been found in sociodemographic variables, including age, race, and sex. The most pronounced shifts in suicide rates are occurring for particular age groups.

Age

Suicide rates are known to increase steadily with age, but current rates for young adults age 25 to 34 are rivaling those in older age groups. Suicide is rare before the age of 14, rises during puberty, and increases steadily with each of the adolescent years, reaching a peak at age 23.²¹⁷ Although the overall base rate of suicide for the general population (12.7/100,000) has remained relatively constant since the early 1900s, the rate has tripled for young people aged 15 to 24 over the past three decades (Fig. 1).

One group of youth at lower risk for suicide are college students. Schwartz and Whitaker²¹² analyzed suicide data accumulated from several universities and found that suicide rates for college students

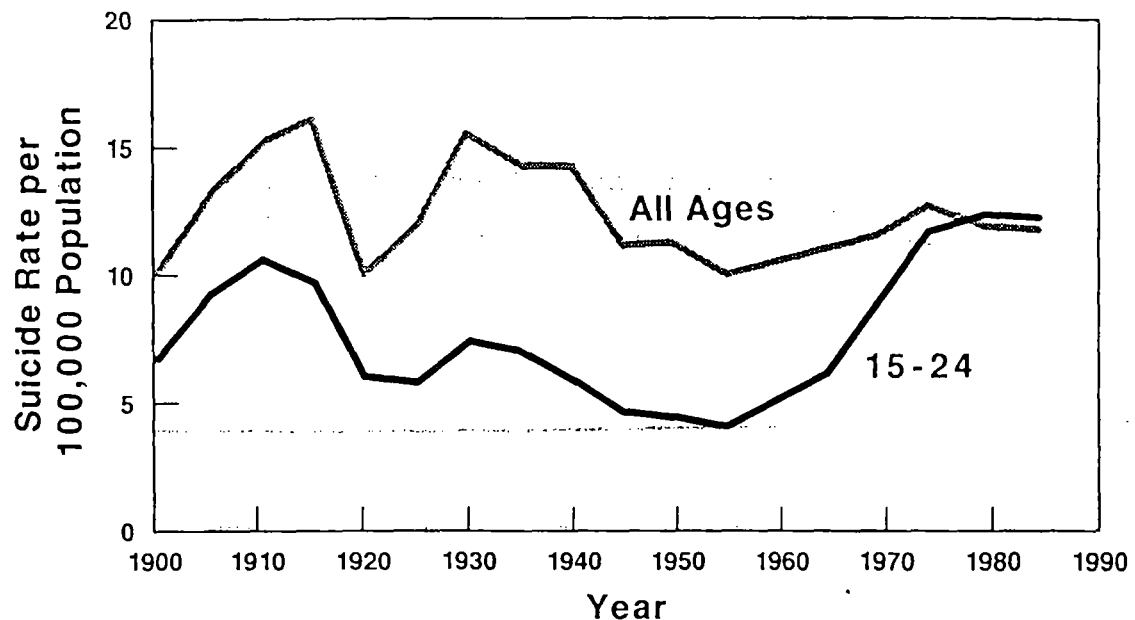


Figure 1. Youth suicide rates. 1900–1987 suicide rates for persons aged 15 to 24, compared with suicide rates for the general population in the United States. Data are from the National Center for Health Statistics, Vital Statistics of the United States. (From Buda M, Tsuang M: The epidemiology of suicide: Implications for clinical practice. In Blumenthal SJ, Kupfer DJ (eds): *Suicide Over the Life Cycle*. Washington, American Psychiatric Press, 1990; with permission.)

were about half that of their nonstudent agemates. Furthermore, these investigators demonstrated that there was no relationship between the academic standards and prestige of the university and rates of college student suicide. Additionally, institutional size and class standing were unrelated to student suicide rates.

Although the suicide rates for young people have plateaued since 1980, it is not yet clear if they have begun to decline. Nonetheless, the United States now has one of the highest suicide rates for young men in the world, surpassing Japan and Sweden, countries long identified with high rates of suicide. Although reports of completed suicide among very young children are rare (0.7/100,000 population), the rate has nevertheless doubled since 1960,⁵⁴ with 232 cases reported in 1987.¹⁸² Suicidal behavior among children, however, is more common. As many as 12,000 children, aged 5 to 14, may be hospitalized in this country every year for deliberate self-destructive acts.^{62, 178}

Sex

The overwhelming majority of completed youth suicides are committed by males. They comprise approximately three fourths of the total, with white males accounting for about 70% of the number. This is not the case in Asian countries such as India and Singapore, where the suicide rates for adolescent males and females are similar.^{43, 135, 208}

Method

Well over half of young male suicide victims in the U.S. shoot themselves, and the use of guns is increasing rapidly. Young women attempt suicide three times as frequently as men, using potentially less lethal means including medications and wrist slashing. Guns, however, are the predominant method used for completed suicide in young women: one third of women who complete suicide and over half of the 15- to 29-year-old group use this method. This has been an alarming trend since the 1970s when the use of firearms became the primary method of suicide for young people, increasing at a faster rate than any other method.^{33, 41, 42, 45, 53} In one study, adolescent suicide victims were 2.5 times more likely to have guns accessible in their homes than did hospitalized suicidal adolescents.⁴⁴ College students who have a 50% lower suicide rate than their non-university-attending peers, use guns less frequently as a method of suicide.²¹²

Ethnic Groups

Among racial groups, Caucasians commit suicide twice as frequently as Blacks. However, sharp increases in the suicide rate among young black men have been recently reported. The difference between white and black suicide rates is most striking in the southeastern United States and less pronounced in the urban North and Midwest.²¹⁸ Perhaps, greater cultural assimilation by Northern blacks with loss of social support networks and escalating pressures may in part explain the higher suicide rates.⁴³ Native American youth also have a very high rate of suicide, with the highest rates being young people in those tribes undergoing faster cultural assimilation.^{29, 43} This pattern of increased youth suicide rates in societies undergoing rapid transformation and assimilation has also been demonstrated in Micronesia.²⁰⁴ Although Hispanics have a lower suicide rate than whites, more than 1 in 3 Hispanic men and more than 1 in 4 Hispanic women who commit suicide are under the age of 25.²²⁸ Religious groups with the highest rates of suicide are Protestants followed by Jews and Catholics.

Other Sociodemographic Factors

Other important sociodemographic risk factors for adult suicide include being separated, divorced, losing a job, living alone, and being recently bereaved.³⁷ For adolescents, early marriage is associated with an increased risk of suicide, particularly for young women.¹³⁴ Additionally, unwed pregnant adolescents, delinquents, and young people in chaotic family situations are also at increased risk.⁴³

Epidemiologic Trends

Why has an increase in youth suicide occurred over the past three decades? A number of explanations have been proposed to account for the rise in the youth suicide rate. Increasing rates of suicide appear to parallel the rise in other risk factors associated with suicide in young people, including depression, conduct disorders, and substance

abuse.^{127, 193, 235} Epidemiologic research from Canada, Australia, and the United States has demonstrated that large birth cohorts experience more stress over their life span and higher suicide rates at every age level.^{33, 91, 160} It has been suggested that as the post World War II generations move into the older age groups, suicide is likely to become an even more significant problem for these birth cohorts.^{91, 106, 253}

Holinger and Offer¹¹² suggest that the rise in youth suicide is related to population effects. They hypothesize that when the proportion of youth in the society is high, a rise in suicide will occur. These authors propose that large numbers of young people in a society result in increased competition for scarce resources, including jobs and educational experiences, which in turn may lead to failure to achieve goals. This may lead to hopelessness, despair, and suicidal ideation and behavior.⁴³

Other theories link the dramatic rise in youth suicide rates to the increase in violent behavior and access to violent methods.⁴⁷ Between 1933 and 1982, the suicide rates by firearms in the 15- to 19-year-old group tripled compared with suicide by other methods. For the 20- to 30-year-old age group, the use of firearms increased tenfold.¹⁸⁰ Additionally, research has shown that states with strict gun control laws have lower suicide rates.⁴¹

Others postulate that the increased rates of both depression and suicide shifting to younger age groups in recent years may be due to certain social influences, such as the increased divorce rate, geographic mobility (with its loss of attachments), changes in family structure, increased urbanization, and decreased religious affiliation. These environmental changes may then interact with individual genetic vulnerability increasing suicide risk in certain young people.^{235, 127a}

Suicide Attempters and Completers

Research findings provide evidence for the delineation of two separate but overlapping groups of people who engage in suicidal behavior across the life cycle—those who attempt and those who complete suicide.^{33, 34, 48, 140} However, only a few systematic studies of completed suicide among youth have been conducted.^{44, 215, 220–222} Therefore, our understanding of youth suicide attempts and completions is still incomplete. What we do know from the research literature is that attempters tend to be younger and more often women, and their attempts tend to be more impulsive and ambivalent. Completers are most often male, older, and use more lethal methods for self-destruction.^{33, 62, 85}

A history of a previous suicide attempt is one of the most powerful predictors of suicide.^{14, 140, 234} About 1% of adult suicide attempters will go on to kill themselves each year; 10–20% of suicide attempters eventually end their lives by suicide.¹⁴ Studies of adolescents have demonstrated that 1–9% of boys who made a previous attempt and 0.1%–1% of adolescent girl suicide attempters will eventually end their lives by suicide.²¹⁷

Research has also suggested that different psychiatric disorders

are associated with suicide attempts and completions across the life cycle. In adult populations, nonfatal attempters are more likely to have personality disorders, chemical dependence, and situational disorders. Those who actually kill themselves have shown a predominance of major affective disorders, alcoholism, schizophrenia, and, in young people, conduct disorders and depression. The co-occurrence of one of these illnesses with certain personality disorders, including antisocial and borderline personalities, appears to significantly increase suicidal risk.^{33-35, 37, 83, 84} However, attempts to predict suicide based on these demographic variables has limitations.¹⁵⁵ Using these factors to predict suicide, Pokorny¹⁸⁵ found many false positives, that is, people who had a number of risk factors but who did not go on to kill themselves. Nonetheless, despite the low base rate of suicide in the general population, the clinician and patient are best served when all symptoms and clues of suicidal behavior are assessed and rapid intervention is undertaken.

SOCIOCULTURAL AND PSYCHOLOGIC EXPLANATIONS OF SUICIDE

The physician is no stranger to death. Clearly, one goal of the practice of medicine is to avert untimely mortality. Therefore, the clinician may be particularly perplexed by patients, particularly young people, who willfully want to end their lives. There is *no one reason* why young people decide to kill themselves. Suicide is a complex human behavior and is the final common pathway for many human problems. This self-destructive act can reflect many motivational determinants—personal and interpersonal, biologic, familial, and cultural. For many, it is a response to loss, separation, and abandonment. For some young people it may represent a release from the despair of what seems to be a barren future or the hopelessness of being a victim of child abuse. For others, it may be an impulsive act, experienced as revenge for rejection. For yet others, it may symbolize the desire to be reunited with a lost loved one. Suicide can also be a response to the disordered thinking of psychoses, a toxic state such as drug use, or the cognitive distortions that occur with depressive illness or schizophrenia.^{33, 34}

Suicides have been reported throughout history with several biblical references to self-destructive acts. Reports of suicidal behavior have been found in most ancient literary texts, but the root of the religious prohibition against suicide comes from the Judeo-Christian tradition.¹⁰³ As the frequency of suicide among early Christians began to increase, the Church introduced the concept that suicide was both a sin and a crime, in that it precluded the possibility of individual repentance and violated the Fifth Commandment relating to killing.²⁰⁹

The contemporary study of suicide began around the turn of the

century with the contributions of two major streams of thought, sociology and psychology.²⁰⁹ In 1897, Durkheim⁷³ examined society's affect on individual behavior and posited that suicide was the result of society's influences and control over the individual. In his book *Le Suicide*, Durkheim formulated four types of suicide. The first, *altruistic* suicide, occurs as a result of society's expectations of the individual. An example of this would be hari-kira, where the society's customs dictate that the honorable action for the individual is to end one's own life. In the United States, the most frequent form of suicide would be *egoistic*. In this case, the individual has poor social supports and few connections to society. For example, an adolescent moves to a new community, his parents divorce, and he has few friends. The third category of suicide according to Durkheim's theory is *anomic* suicide, where the individual's relationship to society is suddenly shattered, such as when a young person is confronted by the law or unexpectedly loses a job. *Fatalistic* suicides, the fourth type described by Durkheim, occur when individuals lose control over their own destiny.²⁰⁹

Psychologic explanations of suicide were first developed by Freud. Whereas Durkheim conceptualized the explanation of suicide in terms of societies' influences on the individual, Freud⁸⁷ postulated that the reasons for suicide were intrapsychic.²⁰⁹ Freud theorized in his work, *Mourning and Melancholia*, that suicide represents unconscious hostility aimed at the introjected (ambivalently viewed) love object. Freud also suggested that incest may be a precipitating factor. For Freud, suicide was viewed as "murder in the 180th degree."²⁰⁹

Other psychoanalysts have extended Freud's perspective. In 1936, Zilboorg proposed a cultural-ethnologic model that suggested that people at highest risk for suicide unconsciously identified with a dead person and wished to be reunited with them. Menninger,¹⁵³ in his book *Man Against Himself*, formulated the psychodynamics of hostility, postulating that the hostile drive in suicide had three components: (1) the wish to kill, (2) the wish to be killed, and (3) the wish to die.²⁰⁹ Interpersonal theorists including Sullivan, Horney, and Fromm rejected Freud's drive theory and stressed the importance of the social and cultural context affecting the individual in understanding suicidal behavior. Object relations theorists further extended the psychoanalytic formation of suicidal behavior suggesting that suicidal acts represent a developmental failure to negotiate the transition from the symbiotic phase of attachment to mother to the separation/individuation phase.¹²⁹ Kohut¹²⁹ suggests that self-destructiveness is often precipitated by failures that elicit intense feelings of shame. The suffering ego attempts to do away with the self in order to erase the disappointing reality of failure. The products of narcissistic injury (i.e., fragmentation and narcissistic rage) lead to self-destructive acts. Kernberg¹²² describes three types of self-destructive patients: (1) the borderline whose self-mutilation is a means of control over inner chaos; (2) the pathologic narcissistic who is at extremely high risk because of grandiosity that is particularly vulnerable to trauma and heightened by

aggression; and (3) those patients with psychotic features whose suicide attempts may correspond to autistic fantasies about somatic or psychologic transformations.

Other contemporary theorists have examined the role of additional emotional states such as hopelessness^{19, 20, 22-26} and helplessness²¹⁴ in the pathogenesis of depression and suicide. Beck^{19, 20, 22-26} has related the "negative triad" of depression to suicide, explaining that a depressed individual's thinking becomes distorted: the person has a negative view of himself, the future, and the world. Asch^{13a} stressed the dyadic nature of suicides—i.e., the suicidal act often occurs in relationship to another person and often transfers the pain to the survivor. Adam² proposed an attachment model for understanding suicidal behavior that posits that suicidal people are more sensitive to threats of separation and abandonment. He suggests that early deficiencies in parental care are predisposing factors to suicidal behavior; current threats to attachment figures are precipitating factors, and associated mental illness and alcohol and drug abuse are contributing factors that allow pathologic attachments to be unmasked.²

Although there have been numerous portrayals of suicide among children and adolescents in literary texts (Shakespeare's *Romeo and Juliet*, Goethe's *Young Werther*, and Kipling's *Punch*)¹⁸⁰ the first psychiatric reports of suicidal children appeared in the nineteenth century. Pfeffer¹⁸⁰ provides an historical review of scientific interest in youth suicide. In 1885, Durand-Fardel's study described 21 cases of children under 14 years of age who committed suicide followed by Morselli's paper published in 1881 of completed childhood suicides in European nations.¹⁸⁰ Scientific papers published by Persier in 1899, Siegart in 1893, and Baer in 1901 concluded that suicide among children and adolescents increased with age and occurred more frequently in cities rather than in rural communities.¹⁸⁰ In 1910, Baer's treatise, *Suicide in Childhood*, was discussed by members of the Vienna Psychoanalytic Society. Major points emphasized at this meeting included the fact that suicide was rare in this age group, represented an abnormal condition, and probably was precipitated by factors unique to this population. Speculation about children's motives for suicide included the death of family members, family conflict, academic failures, lack of love, identification with a significant person who had committed suicide, or exposure to suicide in the media.¹⁸⁰ Pfeffer¹⁸⁰ comments that these factors resemble those that contribute to youth suicide today. Bender and Schider²⁸ hypothesized that suicidal behavior in children represented an attempt to escape unbearable family situations, such as being the victim of child abuse. For the ensuing 30 years, very little was written about youth suicide, until the 1960s when a number of clinical reports appeared in the literature. It was not until the 1970s, however, that more systematic research investigations of suicidal behavior in young people were conducted.

Yet another way of explaining suicidal behavior has been the philosophical.²⁰⁹ Camus^{52a} wrote in *The Myth of Sisyphus* that the

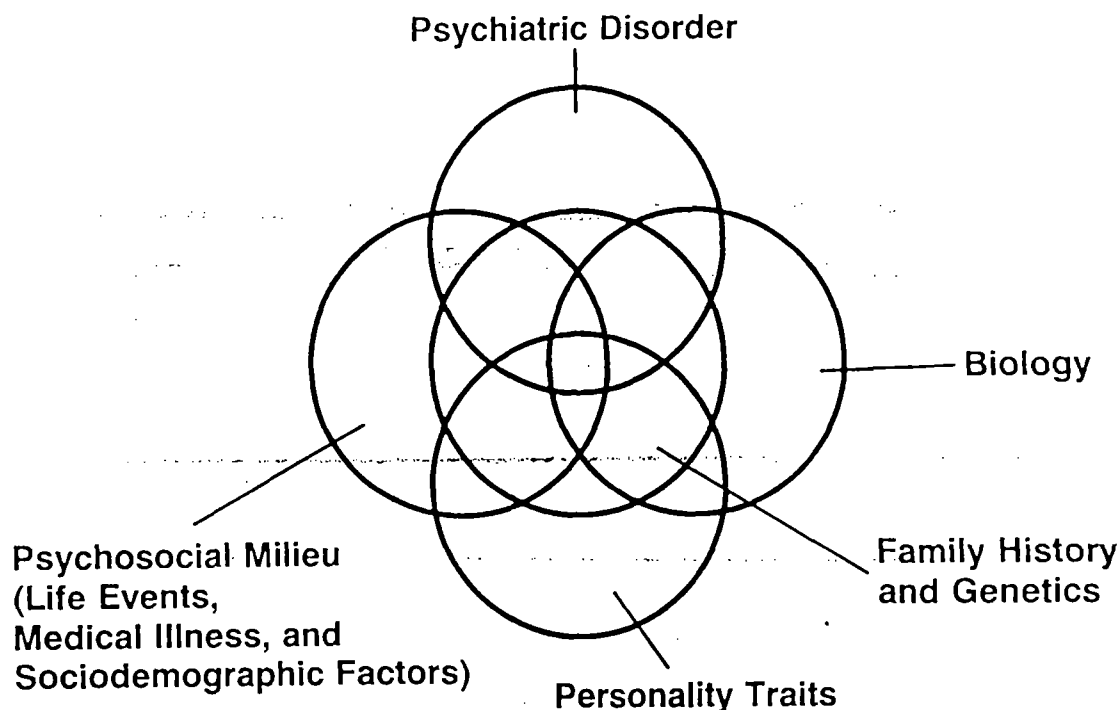


Figure 2. Overlap model for understanding youth suicidal behavior. (From Blumenthal SJ, Kupfer DJ: Generalizable treatment strategies for suicidal behavior. *Ann NY Acad Sci* 487:327-340, 1986; with permission.)

most important task of man is to respond to life's apparent absurdity, meaninglessness, and despair. Other philosophers, including Hume, Sartre, Heidegger, Kant, and Nietzsche, considered suicide to be a primary ethical problem for man.

Over the past two decades, another model for understanding suicide has emerged: one that focuses on the biomedical aspects of self-destruction, emphasizing its relationship to psychiatric illness, familial and genetic factors, and biologic abnormalities. It is my view that an overlap model (Fig. 2) incorporating the psychobiologic contributions of all of these explanatory models and factors is the most comprehensive and useful framework for understanding suicidal behavior in young people.

THE OVERLAP MODEL: RISK FACTOR DOMAINS FOR SUICIDAL BEHAVIOR

The Overlap Model

Five domains of risk factors, including psychiatric diagnosis, personality disorders and traits, psychosocial and environmental factors, genetic and familial variables, and biochemical factors, comprise a theoretical overlap model for understanding youth suicidal behavior. This overlap model of risk, shown graphically as a series of interlocking Venn diagrams (see Fig. 2), represents an important alternative to

notions of final common pathways or single explanatory schemes.³⁵ These risk factor domains for suicide appear to operate across the life cycle for all age groups.²³⁵ They represent not only risk factors but also spheres of vulnerability. This model posits that the presence and interaction of contributory factors from each of these domains increases the risk for suicide and helps explain why only certain patients suffering from particular psychiatric disorders attempt or complete suicide. What remains to be determined however, is at what level and in what degree do each of these factors contribute to suicide potential. Is it the degree of overlap of all of the factors that is most significant? It is known, for example, that 15% of people who suffer from an affective disorder end their lives by suicide, but the other 85% do not. The reasons for this phenomenon might be explained by application of the overlap model. For example, in applying this model, the break-up of an important relationship might be a final humiliating experience that triggers a depressive episode in a young person with a family history of affective disorder. Such an adolescent may also be very impulsive, get into frequent fights, have poor social supports, and abuse alcohol. Using this model, what may emerge, for example, is that the subgroup of affective disorder patients who commit suicide have a greater overlap of other risk domains, such as increased hopelessness, impulsivity, decreased social supports, certain biologic abnormalities, a recent humiliating life experience, and/or an increased family history of affective disorder or suicidal behavior.³⁷

As mentioned previously, there are five domains that comprise this risk factor model. The first is a *careful, clinical description according to psychiatric diagnosis*. Most young people who end their lives by suicide have suffered from a psychiatric disorder.^{43, 180, 217, 222} Suicide is one of the most common complications of mental illness, carrying with it a ten times greater risk than in the general population.^{18, 31, 68, 90, 96, 108, 153a, 154, 186} Over 90% of adults who end their lives by suicide have an associated psychiatric illness.^{18, 31, 68, 101, 197, 192} The few studies on adolescent suicide suggest high percentages as well.^{60, 215, 217, 220-222} Current research shows that conduct disorders, depression, and substance abuse in young people are the most highly associated psychiatric diagnoses with suicide.

Second, *personality traits* relating to suicide, such as aggression, impulsivity, cognitive rigidity, excessive perfectionism, and hopelessness are important contributory factors in that personality styles appear to cross diagnostic groupings and have biologic correlates. In addition, this domain includes certain *personality disorders*, such as borderline personality and antisocial personality disorders, which are more highly correlated with suicidal behavior. The comorbidity of antisocial and depressive symptoms is a particularly lethal combination in both adults and young people.^{35, 37, 84, 85, 92}

The third domain is concerned with *psychosocial factors, social supports, life events, and chronic medical illness*. For example, early

loss, increased negative life events, exposure to suicide (both intra- and extrafamilial), being physically abused, and poor social supports increase the risk for youth suicide. In addition, most young people who end their lives have had a recent humiliating life experience.^{2, 33, 34, 35, 109}

The fourth area is *genetic and familial factors* that predispose an individual to suicide. Investigators have suggested that the genetics of suicide may be independent of the genetics of having a family history of specific psychiatric disorders such as affective disorder or alcoholism.^{124, 197, 198, 211, 232} The final domain in the overlap model are *neurochemical and biochemical variables* currently being studied to identify either a biologic abnormality or a vulnerability state for suicide. In particular, a deficiency in the neurotransmitter (serotonin) appears to be associated with aggressive, violent suicidal behavior across psychiatric diagnoses.^{4, 9-13, 48-50, 146, 165, 167, 230, 231} Other biologic variables, including decreased growth hormone secretion,²⁰⁶ decreased corticotropin releasing factor,¹⁶³ and perinatal factors²⁰⁷ have also been described. Future research is needed on these biologic factors in youth suicide.

It is hoped that the following discussion of these five risk factor domains will provide the clinician with a rubric for the early detection of adolescent and young adult youth suicide and help the clinician develop effective intervention and treatment strategies.

Psychiatric Diagnosis

Substantial evidence from psychologic autopsy studies of adult^{18, 68, 100, 191, 192} and adolescent suicides^{43, 60, 215, 217, 218, 220-222} reveals that most people who commit suicide were suffering from a major psychiatric illness at the time of their death, although only a small percentage were being treated.^{191, 192, 220-222} The risk for suicidal behavior and suicide is increased with almost every major psychiatric disorder.^{18, 30, 33, 40, 51, 68, 101, 126, 153a, 154, 186, 191, 192} As mentioned earlier in this chapter, studies of both adult and adolescent populations reveal that over 90% of suicide victims suffered from a psychiatric disorder; less than 10% of people who kill themselves have no documentable psychiatric illness.^{18, 33, 68, 101, 188, 192, 217, 221, 222} Affective disorders followed by alcoholism are the major psychiatric diagnoses associated with suicide in adults.^{18, 68, 100, 191, 192, 248} A recent study²⁴³ reports that 20% of patients with panic disorder and 12% of patients with panic attacks have made suicide attempts. For adolescent populations, between 63-95% of suicide victims suffer from psychiatric illness,^{46, 222} with one study demonstrating that one fifth of the suicide victims had a diagnosis of bipolar disorder.⁴⁶ Using the psychologic autopsy method, Rich¹⁸⁸ examined differences between 133 consecutive suicide victims under the age of 30 and 150 consecutive suicides over the age of 30. Although both groups were characterized by 90% of the victims having suffered from a psychiatric disorder, the younger suicide vic-

tims had more substance abuse disorders, less affective and organic illness, and more antisocial personality disorder. These findings of greater substance abuse and conduct disorder in young suicide victims parallels findings from other studies of adolescent populations.^{111, 217, 219, 222} Shafii and colleagues found that 95% of adolescent suicide victims suffered from a major diagnosable psychiatric illness and 81% had two or more comorbid mental disorders, compared with 29% of controls. Mood disorders such as major depression and dysthymic disorder coexisted with either alcohol and drug abuse, conduct disorders, or other mental disorders in 76% of the victims, compared with 24% of controls. In contrast, Shaffer analyzed preliminary data from a large psychologic autopsy study of 160 adolescent suicides and found that most of the victims did not meet DSM-III criteria for a depressive disorder although dysphoric symptoms were present.^{219, 220} His study revealed the presence of conduct disorder in a large number of adolescent suicide victims often complicated by depression, substance abuse, and previous suicidal behavior. Shaffer delineated three psychologic patterns in adolescent suicide completers, each comprising one third of the sample: (1) impulsiveness; (2) compulsive perfectionistic personality; and (3) no specific pattern.

Suicide is the most serious and tragic complication of affective disorders; 15% of people suffering from these illnesses will end their lives by suicide.^{30, 96, 123, 153a} Suicidal thoughts and plans are often symptoms of major depression and treatment of the illness should be associated with remission of suicidal ideation in most adolescents and adults.⁴³ Other symptoms include a sad mood and the persistence and clustering of several other complaints for longer than a 2-week period, including appetite changes, sleep disturbance, psychomotor agitation or retardation, loss of interest or pleasure in usual activities, loss of energy and fatigue, feelings of worthlessness, self-reproach, or excessive or inappropriate guilt, difficulty concentrating, and hopelessness. In children and adolescents, the symptoms of depression are quite similar to those in adults, but in addition, young people often have vague somatic complaints, school problems, low self-esteem, and "act out" aggressive behaviors.

Specific subtypes of affective disorders may differentially impact on prognosis and treatment of suicidal patients.^{35, 37, 44, 78, 115} Patients who suffer from hypomania or mania are at particularly high risk for suicide and suicidal behavior,^{14, 44, 115, 118, 229} as are those patients with a mixed state (cycling between depression and mania), particularly at the time of the switch.^{78, 115} Brent and colleagues⁴⁴ have suggested that the association between suicide and bipolar affective disorder may contribute to the seasonality of suicide rates (highest in April and May and September and October),^{33, 136, 161, 171, 252} perhaps corresponding to the seasonal patterns of bipolar illness.^{44, 171} They further hypothesize that the seasonality of suicide rates may also be related to another type of affective disorder known as seasonal affective disorder,¹⁹⁵ which is characterized by hypersomnia, hyperphagia, and a depressive

syndrome in the winter months that can be treated by phototherapy. The clinician is advised to take a careful menstrual history because it has been reported that the course of affective disorders may be exacerbated premenstrually^{1, 102, 169} and that suicidal behavior in women may be increased during this period.^{44, 80, 169} Furthermore, patients who suffer from psychotic depression have a five times greater risk for completed suicide than nonpsychotic depressed patients.¹⁹⁴ This is particularly true in college students.²¹² Studies have suggested that the risk for suicide may be related to the delusional component of the illness in these patients as well as to the affective state.¹⁹⁴ Additionally, the comorbidity of affective disorders with other psychiatric disorders, particularly antisocial personality and substance abuse, are particularly lethal combinations in both adults and young people.^{33-37, 83, 84, 188, 217, 221, 222} These patients are particularly difficult to treat and have a greater incidence of relapse.^{5, 56, 242}

Therefore, the early detection and treatment of affective disorders represents a major suicide prevention strategy for completed suicide.^{33, 34, 37, 95, 126} Treatment of affective disorders includes psychotherapeutic approaches including psychodynamic, cognitive/behavioral, and interpersonal therapies, which aim to decrease hopelessness and alter the cognitive distortions that may occur. Medications, including tricyclic antidepressants, monoamine oxidase inhibitors, lithium, and other somatic treatments may also be used.^{17, 27, 32, 66, 115a, 131, 159, 205} Strengthening the young person's social supports, promoting better interpersonal relationships, and patient and family education efforts are also important elements of the treatment of depression in adolescents and young adults.^{33-35, 43, 86}

Alcohol and substance abuse also represent major risk factors for youth suicide.⁷⁹ Alcohol use is associated with 25-50% of adult suicides.^{18, 68, 85, 100, 191, 192} The relationship of suicide and substance abuse in young people is also very significant. Substance abuse has been diagnosed in over one third of youthful suicide victims, both alone and in combination with affective disorder.^{44, 188, 221, 222} A recent study of adolescent suicide found that 70% of victims suffered from alcohol or substance abuse problems.^{88, 221, 222}

Alcohol and drug abuse can be a complication of other psychiatric disorders, including affective and anxiety disorders, schizophrenia, and certain personality disorders.⁴⁴ In fact, it is estimated that 60-70% of alcoholics have an additional psychiatric diagnosis.^{85, 157} Additionally, it is likely that substance abuse exacerbates the course of psychiatric illnesses^{44, 85, 157, 210} and may predispose to depressive symptomatology. Many young psychiatrically ill persons use alcohol and other drugs to self-medicate. Alcohol may also potentiate other methods of suicide, such as drug overdose. Many adolescent and young adult victims of single motor car accidents, thought to be suicides, have been drinking. Additionally, chronic alcohol abuse may contribute to the disruption of social relationships, which increases social isolation.¹⁵⁷ Furthermore, the biologic effects of chronic alcohol

consumption include depression and central serotonergic depletion, both of which are risk factors for suicide.^{85, 157, 210}

For drug abusers, where the incidence of suicide is twenty times greater than that of the general population, the increased incidence of suicide may be related to a depressive reaction to the individual's dismal life circumstances, to certain vulnerable personality traits, to the lack of social supports, or to certain biologic factors related to drug use.⁸⁵ The clinician's ability to prevent suicide in chemically dependent young people is associated with accurate diagnosis and appropriate treatment of the substance abuse and any other concurrent psychiatric disorder as well as the mobilization and strengthening of the patient's social supports.^{85, 157, 210}

Schizophrenia, a disease that afflicts one percent of the population, carries with it a high incidence of suicide. Fifteen per cent of schizophrenic patients end their life by suicide.^{116, 220, 201} Most schizophrenic suicides are by young males who are unemployed and who had been functioning at a high level prior to the onset of the illness.⁴⁴ The risk is greatest for those patients who are hopeless, fear mental disintegration, have made previous suicide attempts, have a chronic relapsing course to their illness, and who are not compliant with treatment.^{44, 72, 116, 201, 237} Many have been suffering from symptoms of akathisia.^{44, 71, 224} The co-occurrence of alcohol or drug abuse in these patients also contributes to suicidal risk.^{6, 70-72, 116, 162} Additionally, there is a high incidence of nonpsychotic depression in schizophrenic patients at the time of suicidal behavior.^{71, 117, 151, 201} Some clinicians report that the addition of antidepressant medication to the treatment regimen may help eliminate suicidal ideation in these patients.^{187, 201, 226} It should be emphasized that early intervention and appropriate psychotherapeutic and psychopharmacologic treatment is critical to the prevention of suicide in young schizophrenic patients. Importantly, attention must be paid to community interventions that link schizophrenic youths to treatment and social services as well as occupational and recreational activities.

In summary, systematic research studies are beginning to reveal a diagnostic picture associated with suicides in young people that resemble what has been found for adults. A recent study by Shafii and colleagues²²¹ found that 95% of the adolescent suicide victims had an associated psychiatric disorder. A high percentage of these young people had an affective disorder; 76% had a major affective disorder or dysthymia, compared with 28% in the control group. This research also demonstrated that 70% of youngsters who end their lives by suicide have associated substance abuse; 70% have a history of antisocial behaviors; 65% have "inhibited" personality traits; and 50% have made a previous suicide attempt. Preliminary data from a large ongoing psychologic autopsy study²²⁰ of adolescents suggest that at least one third of the young people in the study who ended their lives by suicide had an associated conduct disorder and that one quarter of the sample population suffered from a depressive disorder. In addition, a high percentage abused alcohol or drugs. Approximately 50% of these

young people had a family history of suicidal behavior. Furthermore, suicide attempts in this age group have been linked to depression symptoms.^{52b, 55, 59, 60} Many of these youngsters are angry, impulsive, recently stressed, and have problems with low self-esteem.

In summary, certain psychiatric illnesses are strongly associated with an increased risk for suicide in adolescents and young adults. Almost all young people who commit suicide are suffering from a psychiatric disorder. The symptom triad of antisocial behavior, substance abuse, and depressive symptomatology represents a major contribution to risk for suicide in this age group.^{33-35, 37, 43} Early detection and treatment of these illnesses by the mental-health care professional is an important suicide prevention strategy.

Personality Traits and Disorders

Personality traits and disorders have been found to be important contributory risk factors to suicide.⁸⁴ Antisocial and borderline personality disorders are particularly associated with suicidal behavior in adults,^{83, 84} whereas conduct disorders and borderline personality disorders are associated with youth suicide.^{43, 58, 84, 215, 218, 220} Additionally, the co-occurrence of depression with conduct disorder, antisocial personality, or borderline personality disorder and substance abuse represents an extremely lethal combination of factors in this age group.^{33-35, 37, 83, 84}

Although patients with borderline personality disorder often engage in self-destructive behavior without lethal intent, a substantial number (at least 5–10%) eventually commit suicide.^{83, 84} The presence of concurrent major affective disorder or substance abuse increases the risk of suicide in these patients.⁸³ An estimated 5% of patients with antisocial personality disorder die by suicide and as many as 46% make suicide attempts.^{85, 153a} Antisocial personality disorder and criminality have been reported as predictors of recurrent suicide attempts.⁸³ One half of these attempts are preceded by a crisis in a significant relationship, using a nonviolent method, and can be seen as an effort to change others people's behavior. It may be that the 5% of persons with this disorder who complete suicide also have concurrent affective disorder, substance abuse, or other personality traits or environmental stressors that increase suicide risk.⁸³

Research studies of young people who commit suicide point to specific personality traits, including the tendency to be withdrawn, perfectionistic, impulsive, or aloof.^{111, 215} Preliminary findings from an ongoing large psychologic autopsy study of adolescents²²⁰ suggest that at least one third of the young people in the study who committed suicide had an associated conduct disorder—a disorder characterized by and thought to be associated with the development of an antisocial personality disorder late in life. In fact, there appears to be a continuum of the personality traits and disorders associated with suicidal behavior in adolescence with such behavior in adulthood, suggesting stability in personality characteristics such as impulsivity and aggressivity over the life cycle.^{35, 83, 84, 193}

The importance of the relationship of suicide and aggression during adolescence must be underscored. The study of this association stems originally from psychodynamic formulations of depression and suicide that emphasize hostility and murderous impulses turned against the self.^{83, 87} In addition, these personality variables appear to have biologic correlates, including evidence of a serotonin deficiency.^{4, 9, 12, 48, 50, 146, 165, 167, 230, 231} Vaillant and Blumenthal²³⁵ hypothesize that the simplest exogenous method to increase depression, hostility, and impulsivity is by alcohol and hypnotic substance abuse.

Other studies of the relationship of specific personality traits and adolescent suicide have found that suicidal young people are more socially withdrawn, have more interpersonal difficulties, lower self-esteem, and are less trusting than nonsuicidal youth.¹⁰⁹ Other personality traits identified in young suicide victims include inhibition, perfectionism, and explosiveness.^{215, 221} Negativity and the expectation of undesirable events have been repeatedly associated with youthful suicide attempts.⁸³ Excessive risk-taking behaviors have also been found in some suicidal persons.²⁴¹

The relationship of personality variables to cognitive style has been another focus of suicide research.²⁴⁰ One study¹⁷² found cognitive characteristics of rigidity, impulsivity, and field dependence in a group of suicide attempters, compared with a group of nonsuicidal psychiatric controls, supporting the hypothesis of a cognitive predisposition to attempting suicide. Other research¹⁶⁴ has suggested that cognitively rigid individuals faced with naturally occurring life stress are unable to generate or imagine alternative solutions to their problems; as a result, they are inclined to develop ideas of helplessness and hopelessness, which in turn heightens the risk of suicidal ideation or behavior. ~~Powerlessness and an external locus of control~~ have also been identified in suicidal populations.⁸³ Studies of hysterical traits in suicide have yielded conflicting results. To date, little evidence supports increased histrionic characteristics in suicide completers.^{83, 84}

Another important factor in suicide is *hopelessness*. Vaillant and Blumenthal²³⁵ emphasize the importance of hope as a protective factor against suicidal behavior. Kasdin and colleagues¹²⁰ studied 66 pre-adolescent psychiatric patients and found a greater degree of hopelessness in suicide attempters than in nonsuicidal subjects. A 10-year-follow-up study of hospitalized adult patients with suicidal ideation found that only hopelessness and pessimism items of the Beck Depression Inventory correctly predicted 91% of the eventual suicides. Taken in conjunction with previous studies showing the relationship between hopelessness and suicidal intent, these findings indicate the importance of degree of hopelessness as an indicator of long-term suicidal risk across psychiatric diagnoses.^{19-26, 74, 245} Yet we know little of hope's determinants, its biologic correlates, or how to generate hopeful thoughts and feelings.²³⁵

In summary, specific personality disorders, including antisocial and borderline personality disorders, are more highly associated with suicide in young adulthood. Most likely, the combination of certain personality traits that cut across traditional diagnostic categories (i.e., impulsivity, hopelessness, perfectionism, cognitive rigidity) are better predictors of suicidal behavior and completed suicide than specific personality disorders.^{35, 37, 83, 84}

Psychosocial and Environmental Factors

In addition to the important role of psychiatric diagnosis, personality variables, family history, and biologic factors associated with suicidal behavior, it is important for the clinician to consider the critical role of psychosocial, environmental, and specific life events in understanding and preventing suicidal behavior in young people.² Recent bereavement, separation, early loss, and poor social supports are all potentially important factors that can affect the lethality of a young person's suicide attempt.^{33-35, 37, 40, 109, 176, 177} Shaffer²¹⁵ reported a high prevalence of marital disruption among the parents of adolescent suicide victims. Adolescents who end their lives by suicide also have a higher degree of parental absence and abuse than controls.²²¹ Precipitants of suicidal behavior in adolescents and young adults are generally humiliating life events that include interpersonal discord (particularly the break-up of an important relationship or discord with parents), loss of a job, impending disciplinary crisis, or the threat of incarceration.^{33, 35, 37, 57, 109, 158, 215} The shame and humiliation for the young person associated with these events is of particular importance in understanding suicide attempts and completions. Situational factors, such as a chaotic family life or being the victim of physical abuse, also increase the likelihood of suicidal acts if the young person is not removed from these stressors.^{37, 109} A study of 159 adolescents aged 13 to 17 treated in an emergency room for attempted suicide found that suicide attempters were three to six times more likely to have been abused.⁶⁴

Additionally, there is evidence that knowing someone who committed or attempted suicide or exposure to suicide through the media may render some young people more vulnerable to imitating suicidal behavior.^{33, 34, 39, 93, 94, 183, 189, 220, 221} Exposure to suicide appears to be a particularly important factor in cluster suicides.¹⁸⁹ Shaffer and colleagues²²⁰ found that many adolescent suicide victims had known a relative or friend who exhibited suicidal behavior. Studies have demonstrated that the reporting of a suicide on the front page of newspapers and on multiple television channels increases the rate of suicide for a 7-day period.¹⁸³ Additionally, television movies about suicide have been associated with an increased rate of suicide shortly after the movies were shown.⁹⁴ This increase appears to be proportional to the amount and type of coverage¹⁸³ and varies with locale.

However, a recent report analyzing two suicide clusters⁶¹ did not find evidence of direct or indirect exposure to suicide as a significant factor. Risk factors for completed adolescent suicide that were identified in these clusters were previous suicide attempts, a previous history of self-destruction or self-mutilatory acts, knowing someone who died violently, violence or antisocial behavior, a history of substance abuse, and having recently broken up with a boyfriend or girlfriend. Gould⁹³ has proposed an "infectious disease model" to explain the mechanism of contagion that appears to operate in suicide clusters. Interventions aimed at deromanticizing portrayals of suicide in the media, so that the likelihood of identification is decreased, should help prevent imitation.

The strength of social supports is also an important area to assess in suicidal young persons. It has been well documented that the strength and quality of these supports are important in the etiology of psychiatric problems, compliance with treatment,^{86, 97} and response to treatment regimens.^{110, 126} Young people suffering from psychiatric illnesses may be more vulnerable to environmental stressors or to a loss of social support systems. Adolescent suicide attempters have more life stress, more losses (particularly early loss), and significant changes within the nuclear family compared with other psychiatrically disturbed youngsters, depressed adolescents, and the general population.¹⁰⁹ They have also had both physical and psychiatric illnesses. Precipitating events are often humiliating and are almost invariably interpersonal problems between the adolescent and his parents or peers.^{33, 34, 35, 37, 109} The social and familial background of these adolescents is marked by parental death, divorce, and separation. Adolescents who attempt suicide have a greater number of negative life events, fewer social supports, and have a higher incidence of abuse, running away from home, unwanted pregnancies, and fewer personal resources than adolescents who do not.^{33, 34, 37, 109} In fact, 30% of adolescent runaways have attempted suicide, and an additional 28% have suicidal ideation.²¹⁶

It should be noted that the increase in suicide rates for young people is also associated with a rise in other risk-taking behaviors in this age group, including substance abuse, delinquency, and crime—all indicators of social stress. Some theorists suggest that a possible source of this stress is the rise between 1955 and 1980 in the percentage of youth in the total population. It has been hypothesized that these increased numbers of young people may heighten competition for desirable options such as jobs or educational experiences, with a resulting increase in all types of stress and violent behavior.^{43, 112} A similar pattern of high youth suicide rates occurred at the beginning of the twentieth century when young people also comprised a higher proportion of the total population.^{91, 106, 112}

Medical Illness

Another important risk factor for suicide across all age groups is the presence of a medical illness.¹⁴⁴ In particular, diseases with

chronic debilitating courses are frequent "stimuli" to suicidal behavior.^{18, 33, 34, 67, 109, 143, 144, 175, 191, 192, 246} The prevalence of physical illness in adult suicide victims varies from 25–70% of cases and appears to be an important contributory cause in 11–51%^{18, 67, 144, 191, 192, 246} Among those disorders most frequently associated with suicide are cancer, Huntington's chorea, epilepsy, musculoskeletal disorders, and peptic ulcer disease (which is often related to alcohol abuse).^{67, 144, 246, 248} With respect to youth suicide, the association with medical illness is less clear. The only medical illnesses that have been conclusively linked to suicide in adolescents and young adults are epilepsy and AIDS.^{43, 144, 148} Shafii and colleagues²²² found that 48% of the adolescent suicide victims in their study had a history of some form of physical disorder, such as asthma, allergies, seizures, or congenital birth defects. This finding, however, was also true for 43% of the control group and, therefore, was not statistically significant.

The clinician must carefully evaluate suicidal risk in adolescent and young adult patients suffering from these medical illnesses in his or her practice. Because health and mental health professionals encounter patients suffering from these diseases, a more detailed exploration of the association of these particular illnesses with suicide is provided.

The suicide rate in epileptic patients is about four times that of normal controls.¹⁵⁰ Among patients with temporal lobe epilepsy, the rate is 25 times greater than would be expected. Epilepsy appears to be one of the medical illnesses capable of causing suicidal behavior without the patient first experiencing a period of severe depression and may be related to a sudden urge to suicide as part of an ictus.¹⁰⁵ Conversely, depression may occur postictally causing some patients to become suicidal. The use of phenobarbital as an anticonvulsant appears to increase the risk of depression and suicidal behavior in children with epilepsy.⁴³ Characteristics of the illness such as the unpredictable nature of the attacks and certain social restrictions and occupational limitations may also be contributory factors.^{44, 105, 145, 150}

Acquired immunodeficiency syndrome (AIDS), a disease that affects young adults more frequently than older people, is a fatal and incurable illness characterized by a profound disturbance in the immune system. There is evidence that suicide may be increased in people suffering from this illness. A recent study revealed a 36 times greater incidence of suicide in AIDS victims than in the general population.¹⁴⁸ To date, there have been over 100,000 deaths from AIDS and it is estimated that 1 to 1.5 million people in the United States are infected with the human immunodeficiency virus (HIV). Depression frequently accompanies the disease and, in some cases, symptomatology and cognitive disturbances are the first signs of illness. Additionally, AIDS dementia complex, a syndrome characterized by progressive cognitive and motor impairment, occurs in over half of AIDS patients and for 10–20%, may be the presenting manifestation of the disease. Given the high incidence of depression, dementia, and extreme debilitation associated with AIDS along with the disruption in

social supports that may accompany the illness, it can be understood why young adult patients suffering from this illness may be at increased risk for suicide.

The health-care professional should also be alert for the onset of depressive symptoms, with possible suicidal behavior in medically ill patients being treated with certain medications (i.e., steroids, exogenous hormones, anticancer drugs, and antituberculin agents). The clinician should administer doses of these medications, which keep psychiatric side effects to a minimum, and be sure to change drugs if severe symptomatology persists.

Studies of the relationship between medical illness and suicide suggest that severe or incapacitating medical status when associated with depression, alcoholism, organicity, and neurologic impairment are important contributing factors leading to diminished judgment and increased impulsivity in medically ill patients.¹⁴⁵ Medical illnesses may contribute to youth suicidal behavior in several ways: (1) by precipitating severe depression and/or initiating or exacerbating a psychiatric illness; or (2) by producing an organic mental disorder (i.e., delirium) that leads to perceptual, cognitive, and mood changes, which may predispose to impaired judgment, impulsivity and suicidal behavior; whereas in some cases, suicide may appear to be a rational act when the prospect of suffering and loss of dignity become intolerable. However, research evidence suggests that suicide in the physically ill rarely occurs in the absence of a psychiatric disorder.^{67, 145, 191, 192} Medical illness may be a less likely risk factor for suicide in children and adolescents because of the presence of specific protective factors operating in this age group, including more cohesive social supports that buffer the risk and the absence of other associated risk factors such as depression or substance abuse.³⁴

As mentioned earlier in this article, most people who commit suicide have seen a health care professional shortly before their death. In these cases it must be assumed that the psychiatric state of the patient was not adequately assessed or the impact of the illness not fully appreciated. The clinician then must carefully evaluate suicidal risk in chronically ill patients and be aware of the psychiatric side effects of medications. Attention to these factors will help prevent patient suicides.

Family History and Genetics

A family history of suicide is a significant risk factor for youth suicide.¹²⁵ Explanations for this association include identification with and imitation of a family member who has committed suicide, family stress or contagion, transmission of genetic factors for suicide, and/or psychiatric disorders such as affective disorders.^{33, 34, 37, 124, 160, 197, 198, 211, 217, 232, 233, 250} Lines of evidence for these findings come from several types of research, including twin and adoption studies, studies of familial risk, and epidemiologic research. For example, a study of

psychiatric inpatients revealed that (1) half of the persons with a family history of suicide had attempted suicide themselves, and (2) more than half of all patients in this study with a family history of suicide had a primary diagnosis of affective disorder.^{197, 199} In another study, a greater incidence of suicide was found in the relatives of psychiatric patients who committed suicide than in the relatives of the control group.²⁵⁰ An investigation of suicide in the general population found that 6 of 100 suicide completers also had a parent who committed suicide. This rate was 88 times higher than predicted.⁷⁷ A study of the Amish, a religious group with a history of nonviolence, no alcohol or drug abuse, a high degree of social cohesion, no divorce or family dissolution, and a philosophy of suicide as the ultimate sin, has demonstrated, quite unexpectedly, that suicides do occur among this group. Twenty-six suicides have been documented among the Amish of southeastern Pennsylvania between 1880 and 1980. Twenty-four of the 26 individuals who committed suicide were diagnosed with a major affective disorder, with the suicides occurring in four primary pedigrees. This research further suggests possible genetic factors in both the transmission of affective disorders and suicide.⁷⁶

Other investigations have suggested a high concordance rate for suicide in twins. A Danish study of monozygotic twins found that in 20% of the cases in which one twin was a suicide, the other twin had also died by suicide.¹⁰⁶ Additionally, a study of 149 twin pairs (60 were identical and 98 fraternal) found that 9 of the identical twin pairs were concordant for suicide, whereas none of the fraternal twins both died by suicide.^{98, 99} In a major Danish adoption study comparing the incidence of suicide in the biologic and adoptive relations of adoptees who killed themselves, a six times greater incidence of suicide was found in the biologic relatives of adoptees who committed suicide than in their adoptive relatives as compared with adoptee controls.²¹¹ A study of adolescent suicide completers found that over 50% had a family history of suicidal behavior.²²⁰ Additionally, suicidal behavior among youth has been associated with chronic emotional disorders in parents, including depression, substance abuse, and suicidality.¹⁷⁹

Issues of family history and genetic factors are complicated not only by the genetics of the transmission of particular psychiatric diagnoses in families but also by the environment in terms of identification and imitation of suicidal behavior by family members.^{34, 35}

Biologic Factors

Little information exists on biologic abnormalities associated with suicidal behavior in young people. Research has generally focused on biochemical variables associated with adolescent depression. Most of what we know about the biology of suicide comes from adult studies.

Recent biochemical investigations of suicidal behavior have shown that adult suicide victims and violent suicide attempters have a deficit in the functioning of a brain neurotransmitter, serotonin.^{230, 247}

There have been a number of studies measuring serotonin metabolites (5-HIAA) in the cerebrospinal fluid (CSF) and serotonin and imipramine binding in the brains of suicide victims that appear to confirm this finding.^{3, 4, 9-13, 16, 48, 50, 139, 141, 146, 165, 167, 230, 231} Much of this research has emphasized the close association between suicide and the propensity toward violence, attempting to identify behavioral and biologic factors related to suicide that are not specific to any one psychiatric diagnosis. These studies have found a common biochemical association among aggression, impulsivity, and reduced serotonergic function. Furthermore, reduced central serotonergic activity is associated with suicidal behavior, not only when there is a diagnosis of unipolar depressive disorder but also in association with a range of other psychiatric disorders.⁴⁸⁻⁵⁰ Some studies suggest that the finding of decreased serotonin in violent suicide attempters may increase the risk of completed suicide tenfold at 1-year follow-up.^{12, 13} Similar findings have been reported by other investigators.^{198, 201} Interestingly, murderers have a suicide rate several hundred times greater than individuals the same age who have not killed anyone.²⁴⁴ Similarly, arsonists, a group with high degrees of aggressivity and impulsivity and low serotonin levels, show a very high incidence of violent suicide attempts.¹⁴¹

It should be noted that although low 5-HIAA levels are associated with violent suicide attempts and completions, low 5-HIAA levels are found in patients with diverse psychiatric illnesses and also in groups of normal controls.^{15, 48-50} Studies suggest that serotonin may play an important role in alcohol abuse.²⁴⁹ Also, an increased incidence of depressive illness has been found in the relatives of both patients and normals with decreased CSF 5-HIAA levels.^{202, 213, 236}

Studies underway are examining biologic variables, including serotonergic functioning in adolescent suicide attempters and completers. Such studies should increase our knowledge about the etiology of adolescent suicidal behavior and its similarities or dissimilarities with adult suicidal acts. Given the evidence that serotonin may be a common underpinning to suicidal behavior, medications such as the serotonin reuptake blockers may prove useful in the treatment of adolescent suicide attempters, particularly those who are impulsive, depressed, and abusing alcohol.

Although the serotonergic data represent the most compelling current evidence for a biologic correlate of suicidal behavior, other biologic factors (i.e., neuroendocrine and neurophysiologic) are also being actively investigated.^{130, 152} One recent study found reduced binding of corticotropin releasing factor (CRF) in the frontal cortex of suicide victims.¹⁶³ This result is consistent with the hypothesis that CRF is hypersecreted in depression with resulting receptor down regulation.⁸ Some studies have indicated a relationship between specific maternal and perinatal factors, such as hypoxia at birth, and eventual adolescent suicide.²⁰⁷ Other research has demonstrated decreased growth hormone secretion in adolescent suicide attempters.²⁰⁶ These

biologic findings offer the promise of new pharmacologic detection and treatment methods for youth suicidal behavior.

ASSESSMENT AND TREATMENT OF THE SUICIDAL PATIENT

In the assessment and treatment of young suicidal patient, the clinician will translate knowledge about the risk factors for suicide into a coherent plan for the careful evaluation and clinical management of the young person. The clinician will then target interventions to the various risk domains he or she has identified to be operating in a particular adolescent or young adult patient.³³⁻³⁵

Assessment of the Suicidal Patient

The young suicidal patient may present with many different clinical signs and symptoms. Mood disturbances are frequently present and so are somatic complaints. This may take many forms, from a request for a physical examination, complaints of fatigue, weight loss, insomnia, and school problems to specific physical symptoms including persistent headaches and gastric problems. Sometimes suicidal youth will present to the health-care professional with physical complaints for which there is no apparent medical cause. Warning signs of suicide include sudden changes in behavior, including a dramatic brightening of mood after a period of despondency, social withdrawal, impulsivity, excessive risk taking, having multiple "accidents," changes in appetite, sleep disturbances, a humiliating life experience, persistent feelings of guilt, acting out behaviors, recent aggression, self-reproach and hopelessness; alcohol or drug abuse; loss of interest in usual activities such as work, school, social activities or sports, decreased concentration, suicide "talk," and giving away prized possessions.³⁴ When several of these warning signs persist and cluster, the clinician should be alert to a risk of suicidal behavior in his or her patient.

The clinician's most important skill in assessing youth suicidal behavior is the ability to interview patients effectively. The major goals of the interview include (1) establishing a relationship between the patient, the family, and the clinician; (2) gaining the necessary clinical data; and (3) developing a therapeutic alliance.¹⁰⁷ The clinician's interviewing approach will vary depending on whether the patient is a child, an adolescent, or a young adult.¹⁰⁷ One clinical problem that arises in the assessment of the child and young adolescent is the difficulty in obtaining information about their suicidality. The child may be unable to verbalize his or her suicidal intent or may be anxious or secretive. It has been hypothesized that although children may have suicidal intent, they may lack the cognitive maturity to plan and carry out the act until late adolescence or young adulthood.²¹⁵ In this regard, it is interesting that young adolescents with an IQ over

130 have an increased rate of suicide, perhaps because their precocity over-rides this developmental protective factor.²¹⁵

The clinician must adapt the interview to the youngster's ability to verbalize and understand language. Play and fantasy are important techniques in establishing rapport and allow the young child to express feelings. This approach often reveals information that cannot be obtained in a verbal interview with a child.¹⁰⁷ Pfeffer¹⁸¹ has described four characteristics of play associated with increased suicidal risk in children: (1) jumping, hiding, and throwing often reflect the child's conflicts with separation and autonomy, revealing themes of loss and retrieval; (2) repeated dangerous, risk-taking behaviors using the child's own body as a play object; (3) breaking and hitting toys and other play objects; and (4) life-threatening acting out of these suicidal thoughts.¹⁰⁷ Although these play behaviors may be present in nonsuicidal children, it is their persistence and association with other risk factors that signals increased suicidal risk.¹⁸¹

Those children who can use and understand language are best assessed with a verbal interview adapted to their developmental stage. The clinician helps the child identify painful feelings and explore new coping strategies. Suicidal children often report feelings of sadness, hopelessness and worthlessness.¹⁸¹ Hendren¹⁰⁷ reviews the important elements of the interview with the suicidal child. He suggests that the interviewer explore with the child what his death would mean and review the child's previous experiences with death of friends, pets, and relatives. Additionally, the child's reasons for attempting suicide should be determined—was this an act meant to hurt someone else? What is death? Did the child really mean to die?¹⁰⁷

Most suicidal adolescents will talk about their feelings to someone. A psychologic autopsy study of 20 children and adolescents aged 12 to 19 years who committed suicide showed that 85% of these young people had expressed suicidal ideation to others.²²⁰ Therefore, the detection of suicidal thoughts and feelings in the adolescent depends on the clinician's sensitivity and skill and the establishment of a therapeutic alliance with the adolescent patient. Hendren suggests that questions be asked directly and simply. Most adolescents will respond well to questions that are clearly stated and will be put off by the clinician who tries to gather information with open-ended questions.¹⁰⁷ Hendren cautions that the clinician should also be careful not to distance the adolescent with empty statements such as "You have so much to live for" or "Lots of kids feel suicidal but they all grow out of it."¹⁰⁷

The physician should take a careful medical and psychiatric history from the young person and the family, paying specific attention to the mental status examination and the psychosocial history, including the presence of psychiatric disorder, any recent humiliations, losses, life stresses, previous suicide attempts, and substance use or abuse (Table 1). As in any medical examination, the clinician begins with an exploration of the chief complaint and a review of the present illness, including what brought the adolescent or young adult to the office or

Table 1. *Assessing the Emotionally Troubled Adolescent and Young Adult*

Chief complaint
History of present illness
History of past emotional illness
Family history of psychiatric disorder and/or substance abuse
Nonpsychiatric medical history
Assessment of family functioning
Mental status examination
Appearance and behavior
Mood and affect
Speech
Content of thoughts
Mental function
Insight
Judgment
Physical examination
Laboratory tests

emergency room. Attention should be paid to any medical problems and medications used. The patient should have a physical examination and pertinent laboratory tests to rule out medical causes for psychiatric complaints.

In performing a mental status examination, the mental-health professional should determine the quality of the patient's mood, the content of their thoughts (i.e., whether hallucinations or delusions are present), and whether the patient's speech is pressured or slow. Other areas of inquiry include asking about a history of previous psychiatric problems, the clinical course and treatment of these disorders, and determining whether a family history of affective disorders, substance abuse, and suicidal behavior is present. It should be underscored that all suicidal impulses in children must be taken seriously, particularly because many of these youngsters may not be able to verbalize their feelings or intentions.

A thorough assessment of the family situation should be undertaken. Family members should be interviewed to gather additional pertinent data and to evaluate the home environment. This includes a family history, developmental history, and an assessment of recent stressors or losses. Family turmoil, parental depression and other psychopathology, and suicidal behavior in other family members are important risk factors for suicidal behavior in children and adolescents.^{107, 144, 180} Attention must be paid to eliciting potential parental emotional, physical, or sexual abuse of the child.

Contrary to popular lore, directly questioning the young person about suicidal thoughts and plans will not result in the patient taking suicidal actions; rather, most young people who have come to the clinician thinking about suicide wish to be stopped from carrying out their self-destructive impulses. Most patients experience relief when the clinician inquires about these feelings. The clinician must remember that many young patients may deny suicidal thoughts at first, so the interviewer must reassess suicidality at several points during the as-

essment.¹⁰⁷ Explicit questions about suicidal ideation, plans, attempts, suicide notes, and giving away prized possessions must be asked in a direct and compassionate manner. One of the most important questions to be asked is whether the patient feels that he or she can promise to control his or her behavior and not act on impulses. If the patient cannot do this, immediate psychiatric hospitalization is indicated.²³⁹

Table 2. *Assessment of the Suicidal Young Person: Factors the Clinician Must Consider in Evaluating the Patient*

Assessing circumstances of an attempt
Precipitating humiliating life event
Preparatory actions—acquiring a method; putting affairs in order; suicide “talk”; giving away prized possessions; suicide note
Use of violent method or more lethal drugs/poisons
Understanding lethality of chosen method
Precautions taken against discovery
Presenting Symptoms
Hopelessness
Self-reproach, feelings of failure and unworthiness
Depressed mood
Agitation and restlessness
Persistent insomnia
Weight loss, slowed speech, fatigue
Social withdrawal, loss of interest in usual activities
School and/or disciplinary problems
Suicidal thoughts and plans
Psychiatric illness
Previous suicide attempt
Affective disorder
Conduct disorder
Alcohol and/or substance abuse
Combinations of the above
Psychosocial history
Recent loss, separation, bereavement
Family chaos, lack of confidence, poor social supports
Unemployed, recent job change or loss
Running away from home
Unwanted pregnancy
Multiple life stresses (move, early loss, breakup of important relationship, school problems, threat of disciplinary crisis)
Victim of physical or emotional abuse
Chronic medical illness
Excessive drinking or substance abuse
Exposure to suicide
Personality factors
Impulsivity, aggressivity, and hostility
Cognitive rigidity and negativity
Excessive perfectionism
Hopelessness
Low self-esteem
Borderline or antisocial personality disorder
Family history
Family history of suicidal behavior
Family history of affective disorder and/or alcoholism

Specific questions aimed at eliciting information about risk factors for suicidal behavior are a critical part of the clinician's evaluation of the patient.^{104, 132} The clinician must also assess the child, adolescent, or young adult's coping abilities including (1) their ability to abstain from suicidal behavior; (2) their ability to express feelings; (3) their cognitive flexibility and problem solving skills; (4) their capacity to plan and carry out a suicidal act; and (5) their willingness to call you or another source of help if feeling acutely suicidal.^{34, 107}

Factors the health-care professional must consider in the assessment of the young suicidal patient are listed in Table 2.

Clinical Management of Adolescent and Young Adult Suicidal Patients

Once the clinician has determined that serious suicidal ideation or plans are present, there are several essential components of good clinical management. Interventions should be targeted at the entire system in which suicidal behavior occurs, i.e., for the individual patient, the family, and the community where possible. The treatment plan should include psychologic, medical, and environmental interventions including detoxification of the home, community support, and public health measures (Table 3). The clinician should consider developmental and life cycle issues that impact on the patient and design interventions consistent with these developmental concerns.^{43, 107, 212} Most importantly, the clinician must determine if the patient is receiving adequate treatment for any psychiatric disorder that has been diagnosed.^{119, 240} This is a crucial element in the prevention of youth suicide.

The psychologic aspects of clinical management of the young suicidal patient are critical (see Table 3).^{119, 240} As mentioned earlier, one of the most important factors in the management of the suicidal young person is the therapeutic alliance. The clinician provides supportive care by allowing the young person to ventilate painful feelings through discussions that help him or her discover alternatives, improve interpersonal relationships, and change negative thinking, refocusing on the future. This can be achieved by listening intently and empathically to what the patient says, by asking pertinent questions that help the patient to share suicidal feelings, and by providing hope. The clinician's therapeutic style must be flexible and supportive during this time, and he or she must provide the patient with reassurance. This is *not* the time for a more distant approach. The clinician must communicate to the patient that he or she cares. The mental-health professional or designated substitute should be available around the clock to maintain frequent contact with the patient, through office visits and by telephone. This provides an important life line to the patient. Through repeated telephone contacts at moments of crisis when the patient fears loss of control, the physician helps the patient recognize the difference between experiencing an impulse and carrying out an act.²³⁹

Psychosocial interventions during this crisis period should focus

Table 3. *Clinical Management of Suicidal Youth*

General Points
Inquire about suicidal thoughts and plans at every visit
Frequent appointments and contact by telephone
Follow-up missed appointments
Document positive and negative findings in the chart
Seek consultation when necessary
Sensitivity to patient's developmental level and issues
Assessment and involvement of family in the treatment plan
Psychologic Aspects
Establish therapeutic relationship and alliance
Allow expression of painful feelings
Use a flexible, empathic, and supportive therapeutic style
Provide reassurance and hope
Rectify cognitive distortions
Strengthen social supports and interpersonal relationships
Form a no-suicide contract
Develop and administer follow-up plan
Family treatment and interventions
Medical Components
Importance of symptomatic relief
Adequate doses
No refills
Supervision by a trusted relative
Assess patient compliance
Obtain serum levels when appropriate
Pay attention to side-effects
Environmental Interventions
Detoxification of the home
Close supervision
Work/school interventions
Community support, involvement, and mobilization

on ameliorating the cognitive distortions that accompany depressive illness, helping the patient to become more flexible and hopeful, improving interpersonal relationships, and strengthening school, work, family, and social functioning. Many patients experience a state of hopelessness and cannot imagine any other alternative but suicide. The clinician helps the young person to problem solve in order to find alternative resolutions to the crisis.²⁴⁰ Studies have shown that treatment programs consisting of cognitive-behavioral interventions targeting specific skill deficits with an active outreach component appear to decrease suicidality.^{43, 104, 172} Brent and Kolko⁴³ report that cognitive-behavioral techniques, including monitoring negative automatic thoughts through the use of diaries, behavioral experiments, distraction, self-statements, activity scheduling, and rewards to re-enforce social participation, are of particular importance in altering negative cognition such as dichotomous thinking, overgeneralization, pessimism, and selective abstraction. The clinician encourages the young person to engage in a situation that had previously caused

humiliation or discomfort in order to observe their reactions, to discover new alternatives, develop greater flexibility, and enhance problem-solving skills.

Brent and Kolko⁴³ review how problem-solving skills training can be an effective treatment for depressed and suicidal children by its effects on improving hopelessness. Additionally, by focusing on deficits in interpersonal relationships, social skills training attempts to enhance the young person's coping strategies and their ability to influence other people with behavior other than suicide. In this training, "young people learn how to become more assertive, to negotiate difficult situations, to express a range of emotions including sadness and anger, and to develop ways of eliciting help from friends, family and health care professionals. The therapist engages in role-playing and modelling behaviors with the young person to encourage behavioral rehearsal of difficult situations and to evaluate different alternatives and outcomes in a non-threatening environment."⁴³

Another essential component of the treatment of suicidal young people is to involve the family in treatment. This includes educating family members about the young person's illness, assessing family functioning, referring the parents for psychiatric treatment if appropriate, teaching problem-solving skills and conflict resolution, and enhancing communication among family members.⁴³

Additionally, medication can relieve some of the initial suffering that accompanies the biologic symptoms of psychiatric illness in adolescents and young adults (i.e., weight loss, sleep disturbance, cognitive distortions, agitation, and loss of pleasure) giving the patients more energy to explore feelings and to problem solve. The choice of whether to use psychopharmacologic interventions depends on the appropriateness of these agents for the illness that has been diagnosed.⁴³ When prescribing psychopharmacologic agents for young people, the physician must be careful to (1) provide the patient with information about their illness, the drugs, and their side effects; (2) make sure that doses are adequate; (3) assure supervision of the medication by a family member; (4) prescribe medicine only in small quantities to prevent overdose (i.e., no more than a 5-day supply) and *not* permit refills without writing another prescription (see Table 3). Careful attention to these details helps prevent tragedies, keeping in mind that many suicidal people end their lives with medicine prescribed by their doctors. Additionally, it gives the patient the feeling that the physician cares, that the clinician is taking precautions to keep the patient alive. If the situation is extremely precarious, however, immediate hospitalization is essential.

The clinician must also pay attention to his or her own feelings and attitudes (countertransference).^{34, 119} Suicidal youth are often difficult to treat and their families can be quite demanding. Initially, the clinician may be seen as the person who can immediately solve *all* problems, and when this does not happen, a great deal of anger may come his or her way. Also, families may resist the health-care professional's

treatment recommendations. These factors can combine to make the clinician feel helpless, causing many mental-health practitioners to retreat from active involvement or convey negative messages to their patients. Therefore, it is very important that the clinician manage his or her own feelings and reactions and be able to handle the anxiety generated by working with suicidal young people and their families in order to ensure the provision of quality treatment.

Disposition and Clinical Interventions

There are several options available to the clinician in the management of suicidal young people. First, the patient presents in crisis. The clinician must gather all the information discussed earlier in the section on assessment, formulate a differential diagnosis, and develop a plan for management of suicidal behavior. Given the data gathered from the diagnostic evaluation, the clinician must decide whether the crisis can be managed in an outpatient setting or whether the patient will need to be hospitalized.

For most acutely suicidal adolescents and young adults (those who have made an attempt or have a serious plan), an inpatient psychiatric hospital is the best place to manage the patient. It provides a safe environment, immediate removal from environmental stressors often related to family interactions, and an opportunity for a careful diagnostic work-up and intensive psychotherapeutic and psychopharmacologic interventions. Additionally, compliance to the medication regimen can be assessed, the strength of social supports and interpersonal relationships evaluated, and a follow-up plan after discharge constructed. These are all critical reasons to hospitalize a young person on a psychiatric inpatient unit. Sometimes when the patient is acutely suicidal and refuses hospitalization or the family does not comply with your recommendations, involuntary commitment may be necessary.

When a suicidal young person is hospitalized on a general medical or surgical ward where there is less supervision, it is crucial that the patient be protected from jumping from upper-story windows and from falling down open stairwells, since jumping from heights is the most common method of suicide by hospitalized general medical patients.^{144, 239} Scissors, razors, and other potentially lethal objects should also be removed and plastic utensils used. Suicidal patients may be quite impulsive and therefore constant staff supervision is required. The patient's bed should be located close to the nursing station within easy view. Flagging the beds and charts of these patients might help to alert ward personnel.²³⁹ Consultations with the hospital staff and family should be held to deal with their reactions and feelings about the suicidal young person and to assure a consistent approach to the patient.^{144, 239} The clinician should pay particular attention to the nurse's notes, which often report the patient's talk of wanting to die or symptoms of depression manifested by crying spells, anorexia, apathy, insomnia, and social withdrawal.²³⁹ When the patient's suicidal risk

poses a greater threat than the medical condition, transfer to an inpatient psychiatric unit is indicated.²³⁹

Some suicidal young people can be managed in an outpatient setting. The clinician will make this decision based on evaluation of the young person's absolute risk of suicide, the strength and quality of social support available from family and friends, the patient's wishes, an appraisal of the patient's ability to comply with a treatment plan, the strength of the therapeutic alliance between patient and clinician, how quickly the patient is responding to treatment, and how available the clinician is for consultation with the patient.

There are some general points that are helpful to remember in managing suicidal youth, and they should be underscored (see Table 3):

1. *Accurate diagnosis and appropriate treatment for associated psychiatric disorders* is a major prevention strategy for suicidal behavior. Rapid and intensive treatment is particularly important.

2. The clinician should always *inquire about suicidal thoughts and plans* as a routine part of every diagnostic evaluation and in every visit with a suicidal or depressed young person. The clinician should *document in the chart* both positive and negative findings.

3. If the clinician does not feel comfortable or does not wish, for whatever reason, to either explore suicidal risk or to treat the patient, he or she still has the moral and legal obligation to *refer the patient* for psychiatric treatment elsewhere.²³⁹ When suicides do occur in practice, mental-health care professionals may encounter medicolegal difficulties if they have not documented their clinical management of the patient or if they have failed to take action in the presence of clear-cut suicidal intent.^{7, 203} Waltzer²³⁹ has remarked that "failure to take an EKG in the presence of chest pain would be considered an inadequate medical work-up, below the standard medical practice. Similarly, sending a patient home without exploring immediate suicidal potential would be considered inadequate treatment, below standard acceptable medical care."

4. The clinician must strive to *establish a therapeutic alliance* with the patient. The strength of this alliance is an important "life line" for the young person. Some clinicians find the use of a "no-suicide contract" to be helpful. This "contract" involves an exchange of the patient's agreement to refrain from suicidal actions and to promise that if suicidal thoughts or plans are contemplated the patient will call the clinician. In exchange, the patient receives the assurance that the mental-health care practitioner or designated replacement will be available at all times to consult with the patient.

5. The clinician must instruct the family to *remove all potentially lethal objects* from the house, including guns, knives, and medications. This conveys the important message that steps have been taken to help keep the young person alive.

6. The clinician should always inquire about the patient's *compliance with medications* and use serum levels when necessary to monitor.

7. The clinician should always immediately *follow-up on missed appointments* with an acutely suicidal young person. Clinical experience reveals that suicides often occur during this missed office visit or therapy session.

8. *Consultation* with a psychiatric colleague may be helpful in the management of a particularly difficult suicidal adolescent or young adult, particularly when there are countertransference problems or complicated treatment issues.

The mental-health care professional should also be aware of several important public health interventions that may help prevent youth suicide (Table 4).^{37, 166, 170} Studies have shown that states that have strict gun control laws have lower suicide rates.^{41, 42, 44, 45, 137, 138, 147} Restricting availability of these weapons and other lethal methods becomes an important youth suicide prevention strategy.¹³² Similarly, alcohol and drug use are associated with as many as 80% of suicides and are particularly important factors in youth suicide. Intervention strategies such as educational campaigns and community involvement to decrease substance abuse are indicated. Additionally, the media plays an important role in suicide prevention given the evidence that exposure to a suicide through newspapers and television may enhance suicide risk, particularly for young people.^{94, 183} Portrayals of suicide in television movies must be devoid of romanticization and reports of suicides in newspapers may best be relegated to back page news. These interventions should help prevent identification with the victims by vulnerable youth. Additionally, the media can make valuable educational contributions through increasing public and health-care professional awareness.

Educational measures and curricula on suicide in the schools require further development and evaluation.^{47, 170, 217} Currently, there is a paucity of knowledge about the effects of school-based education on suicidal behavior.²¹⁷ Perhaps the most sensible approach to suicide

Table 4. Youth Suicide Prevention: Public Health Interventions

Gun control and decreased availability of lethal weapons
Educational campaigns to decrease alcohol and substance abuse
Educational campaigns to increase public awareness about depression and suicide
Deromanticization of the reporting and portrayal of suicides in the media
Community youth-at-risk clinics combining expert clinical assessment and treatment with strong community supports
Increased health-care professional education through training programs and continuing medical education about diagnosis and treatment of depression and suicidal behavior in children, adolescents, and young adults
Development and implementation of suicide prevention community response plans
Decrease barriers to treatment for young people
Increased insurance benefits for psychiatric disorders and substance abuse

education is to integrate teaching about suicide into curricula on general mental health topics, focusing on increasing self-esteem in adolescents and strengthening their coping skills. The development of "At-Risk Clinics" in communities may also be helpful in preventing youth suicide. Such clinics might offer expert clinical assessment and treatment combined with strong community links, increased social support, school liaison, family education, and hotlines staffed by mental health professionals. Finally, public and health-care professional education is needed to increase knowledge about the warning signs of youth suicide and appropriate intervention strategies. Mental-health care professionals have an important role to play in spearheading these efforts in their communities.

CONCLUSION

This article has reviewed risk factors for adolescent and young adult suicidal behavior. Five overlapping spheres of vulnerability for youth suicidal behavior have been described, including psychiatric disorders, personality traits, psychosocial, medical, and environmental factors, and biologic and genetic variables. The point has been underscored that the presence and interaction of several of these domains increases the risk of suicide. Assessment and treatment strategies for suicidal behavior in young people targeted at these risk domains have been discussed. Figure 3 provides a way of applying the overlap model (see Fig. 2) to a framework the clinician can use for the early detection and treatment of suicidal adolescent and young adult patients.

In this threshold model for suicidal behavior, certain predisposing factors, such as a family history of suicide and biologic vulnerability, interact with risk factors developed later in life, including psychiatric illnesses (i.e., depression, conduct disorder, or substance abuse) or exposure to a suicide. When a young person with these risk factors undergoes a humiliating life experience and when there is an available method for suicide, the threshold for suicidal behavior may be lowered; however, the presence of certain protective factors, including cognitive flexibility, hopefulness, strong social supports, removal from stressors, and receipt of appropriate treatment for an associated psychiatric disorder contribute to maintaining a barrier to suicidal behavior, helping to explain why some young people do not become suicidal given certain conditions and why others do. The clinician has an important role to play in the early detection of risk factors for suicidal behavior and in strengthening these protective factors in his or her patients. Interventions that target as many risk factor domains as possible (including family treatment, environmental modification, and treatment of the associated psychiatric disorder) will maximize prevention of youth suicidal behavior by heightening the barriers to suicide.³⁷

Clinicians need to be certain that treatment for adolescent and

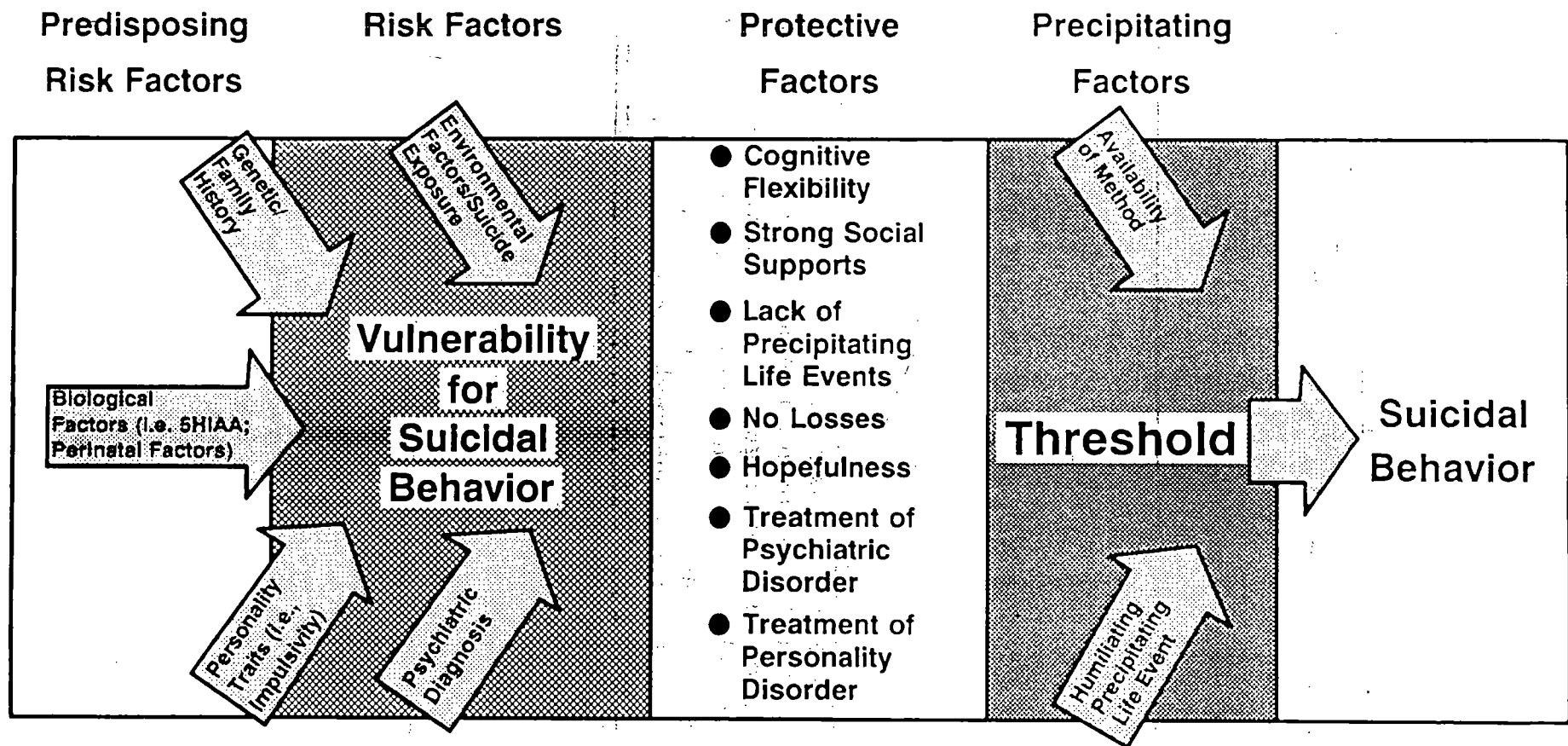


Figure 3. Threshold model for youth suicidal behavior. (From Blumenthal SJ, Kupfer DJ: Overview of early detection and treatment strategies for suicidal behavior in young people. J Youth Adolesc 17:1-24, 1988; with permission.)

young adult suicidal patients in their practice includes state-of-the-art psychotherapeutic and psychopharmacologic techniques geared to the treatment of specific psychiatric disorders as well as to suicidal behaviors. This is critical insofar as many psychiatrically ill suicide victims never receive proper treatment. Therefore, the proper identification, assessment, and treatment of psychiatric disorders is a key element in the prevention of youth suicide.

Other important components in the clinical management of adolescent and young adult patients at high risk for suicide include providing the patient with support and hope, helping the young person to problem solve, involving the family to enhance compliance to treatment and decrease the chance of relapse, referring parents for treatment where appropriate, reducing environmental stressors, appropriately using hospitalization and aggressive outreach, developing and using a network of community social supports, and restricting the availability of lethal methods.^{33-35, 43, 44, 239} Careful attention must be paid to the patient's environment and support systems. In this regard, a comprehensive follow-up plan is critical to preventing youth suicide—creating a lifeline and meaningful link to people who care and who can help in both the treatment and community settings.

A final point: it is crucial that curricula in health and mental-health care professional education and in continuing education programs contain information about the diagnosis and treatment of psychiatric disorders and complex human behaviors such as suicide. As mentioned earlier in this chapter, many mental-health care professionals will evaluate suicidal young people in their offices during the weeks when these patients are deciding whether to live or die. Waltzer²³⁹ emphasizes that "it is incumbent upon us . . . whenever and wherever possible, to try to avert the patient's carrying out of a suicidal act. If one is to err, then let it be on the safe side, since it is impossible to predict with absolute certainty which individuals will end their lives by suicide. Tragically, mistakes in prediction are irreversible."²³⁹ Therefore, clinicians must become trained in the life-saving aspects of assessing suicide risk in their patients, become more vigilant in recognizing the warning signs of suicide, and actively intervene by providing support, alternative choices, and appropriate treatment to suicidal young people and their families.

It is hoped that this review of risk factors for youth suicide and strategies for assessment and treatment of suicidal behavior in young people will be a useful guide for the mental-health care professional in preventing this tragic loss of human life in clinical practice.

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Youth Suicide: Public Policy and Research Issues

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INTEREST IN THE DEVELOPMENT and implementation of public policy recommendations for suicide has intensified as our nation has experienced an extraordinary rise in youth suicide over the past 30 years. While the suicide rates for other age groups of the population have remained relatively stable over this time period, the epidemic of teenage suicide has precipitated a burst of public attention and has raised a panoply of policy and research questions. The public wants to know why young people are killing themselves at an increased rate and what can be done to prevent these tragedies. Unfortunately, few systematic research studies have been undertaken to determine the risk factors for suicide in this age group, and interventions have not been well tested for their efficacy. It is also unclear whether conclusions drawn from research on adult suicide can be applied to understanding this phenomenon in young people. In this chapter, we will focus on public policy issues relevant to youth suicide, with particular emphasis on nosologic and diagnostic concerns, using this age group as a model for the types of recommendations needed generally in suicide research, training, and prevention over the life cycle.

In 1959, searching for papers on youth suicide, Motto (1984) found only one report of four cases of suicide attempts by young people. Although there was an increase in the number of reports on adolescent suicide in the 1960s, these were mostly theoretical papers or clinical case studies focusing on suicidal ideation and attempts

rather than on completed suicide. From 1960 to 1980, only two data-based investigations of the characteristics of youth suicide completers were undertaken (Shaffer et al. 1988; Shafii et al. 1985, 1988). Shafii and Shafii (1982) attributed this underreporting of completed suicides in children and adolescents to an insensitivity to the "world of children and youth." In the 1980s, new studies were undertaken to determine the risk factors for suicide in this age group. Brent and Kolko (Chapter 11, this volume) provide a thorough review of childhood and adolescent suicide, as do Schwartz and Whitaker (Chapter 12, this volume) on college student suicide.

Paralleling an increased awareness about rising rates of teenage suicide has been the resurgence and virtual revolution in psychiatric research over the past decade. This research excitement has clearly benefited the field of suicidology. In recent years, systematic research studies have been undertaken to study this problem. Indeed, the breadth of approaches characterizing contemporary suicide research described in the chapters of this volume parallels the breadth of approaches in psychiatric research generally.

Additionally, several major policy groups were formed to respond to this public health crisis among our nation's youth. In 1984, the leadership of the National Institute of Mental Health worked with the Secretary of Health and Human Services to appoint a Department of Health and Human Services Task Force that identified the main issues and secured the best advice for appropriate societal and research responses to youth suicide. This Task Force on Youth Suicide held several conferences and developed a comprehensive set of recommendations for research, intervention, and prevention (Alcohol, Drug Abuse, and Mental Health Administration 1989). Additionally, states like New York instituted their own Commissions on Youth Suicide; in the private sector, groups such as the National Committee for Youth Suicide were established. The work of all these groups has resulted in a consensus: The study of youth suicide demands a multifaceted, multidisciplinary approach to its etiology, treatment, and prevention, one that incorporates diverse public and health care professional input from both the public and private sectors. Several major policy and research issues, which are described in the remainder of this chapter, have emerged from the deliberations of these groups.

RESEARCH ISSUES

Nosology

A major issue in suicide research involves the use of specific and uniform criteria to describe and classify the range of self-destructive

behaviors. Suicide is underreported in this country, in part due to a lack of uniform reporting criteria. Social stigma and personal considerations (e.g., loss of insurance benefits) may also be factors. Statistically based investigations of suicide have been hampered by many methodological problems, such as this underreporting and the lack of control groups in studies. Additionally, there has not been adequate agreement nor clarity in past studies about distinguishing the population who attempt suicide from those who complete suicide (Robins 1985). The way in which these two population groups of suicide attempters and suicide completers are conceptualized has important research, educational, and prevention implications.

Robins (1985) pointed out that attempted suicides and completed suicides are distinct phenomena that occur in "overlapping, but different populations." Annually, 1% to 2% of attempters go on to complete suicide. Attempts, which occur in far greater numbers than completed suicides, may often be symptoms of other problems rather than necessarily representing precursors to future suicide (Robins 1985). Shafii et al. (1985) saw much greater connectiveness between these two phenomena, particularly among youth, stating that "in our study a large majority of children and adolescents who have committed suicide had previously verbalized their wish to die or threatened suicide. Only a small number of victims had not expressed the wish to die or threatened suicide." In this study, frequently the "talkers" became the "doers." Likewise, Brent et al.'s (1988) findings support a continuum of suicidality from ideation to completion. While acknowledging that suicide attempters and completers have different demographic characteristics, Shaffer et al. (1988) underscored the importance of a prior suicide attempt as a powerful risk factor for later suicide in adolescents. These investigators found a high frequency of discussed, threatened, or attempted suicide in those youth with current suicidal behavior. These researchers emphasized the possibility of interactive effects (e.g., implying that in some instances the attempts may be more significant than in others). In contrast, Motto (1984) found no significant differences between those adults who committed suicide, those who reported previous suicide attempts, and those who reported never having made a previous suicide attempt. He also emphasized other studies of completed suicides that revealed little evidence of prior suicide attempts.

Our review of research findings on the relationship of suicide attempters and completers suggests that 1) attempters should be considered as a distinct high-risk population; 2) the relationship between attempters and completers must be more carefully refined, looking for particular subgroups that may be at the highest risk; and 3) greater attention must be paid both clinically and scientifically to

youth suicide attempters, since there appears to be considerable overlap between the attempter and completer populations.

Diagnostic Issues

The evolution of research on suicide has occurred in the context of a changing conceptual framework for psychiatric diagnosis. In their review, Black and Winokur (Chapter 6, this volume) found that the number of suicide victims across studies with psychiatric illness ranged from 73% to 100%. In a large, retrospective study of completed suicide (Robins 1981), 94% of the 134 cases of adult suicides had a diagnosable psychiatric disorder: 67% had an affective disorder and 25% had alcoholism.

However, the diagnostic issue for youth suicide has been less clear. Lack of systematic research studies about adolescent suicide has created controversy in the field, with diverse opinions being expressed about the explanation for the increasing rates of youth suicide. Is suicide a behavioral response of normal adolescents to life stresses, an adverse effect of broad social trends, a result of a psychiatrically ill youngster attempting to end his or her pain, or a phenomenon dependent largely on teenagers' propensities for imitating or copying other people's actions? The answer to this question has implications for all of the involved sectors concerned with suicide, including researchers and community and health care organizations, and affects the nature of preventive and intervention efforts. As the number of systematic data-based studies increases, the answer may soon become clear. From recent research evidence, it appears that a far greater number of youth suicides have diagnosable psychiatric illnesses than had been thought in earlier years (Brent and Kolko, Chapter 11, this volume; Shaffer et al. 1988; Shafii et al. 1988). Shafii et al. (1988), noting the results of Robins' (1981) earlier study, highlighted the methodological weaknesses in previous research on teen suicide (Stearns 1953) that found youth suicide to occur "in the midst of what usually seems to be a well-adjusted life." In their study of 24 youth suicides, Shafii et al. found that 95% of the suicide victims as compared to 48% of the matched pair controls had at least one serious diagnosable psychiatric disorder. Further, 81% of the suicide victims had two or more mental disorders as compared with 29% of the control group. Additionally, 76% of the suicide victims as compared to 24% of the controls had a primary or secondary diagnosis of major depression and/or dysthymia. In this study, the youth suicide victims had a greater frequency of major depressive disorder and a primary or secondary diagnosis of alcohol and/or drug abuse. The investigators concluded that "completed suicide in children and adolescents does

not occur on the spur of the moment or as an impulsive act of an otherwise healthy child as a reaction to a personal crisis. In almost all of our cases suicide was the final outcome of serious emotional disorders" (p. 232). Further, they emphasized that psychiatric disorders in these children were often not recognized. The authors underscored the need to educate health care professionals and the general public about the early detection and treatment of these illnesses.

In a larger study using the psychological autopsy method, Shaffer et al. (1988) also found a strong association between psychiatric disorder and youth suicide. Symptoms of major depressive disorder were found in approximately one-quarter of the youngsters, drug and alcohol abuse in about one-third of the sample, and a history of aggressive and antisocial behavior in almost one-half of the victims. Learning disorders were also noted to be common. Other groups found to be at risk were youngsters with perfectionistic characteristics who become excessively anxious in the face of certain kinds of stresses, and who can usually meet the diagnostic criteria for over-anxious disorder. In another study, Cohen-Sandler et al. (1982) suggested three subgroups of young people who commit suicide: 1) adolescents with conduct disorders complicated by drug abuse; 2) depressed adolescents; and 3) perfectionists who feel threatened by certain academic or social challenges.

Comparisons of the association between psychiatric diagnosis and suicide in teenagers and adults reveal similarities but also important differences. For example, alcohol dependence plays a far greater role in adults, but alcohol abuse is associated with a very large percentage of youth suicides (Shaffer et al. 1988; Shafii et al. 1988). Although major affective disorder is an important risk factor in adult suicides, it is not necessarily the major risk factor in young people. In part, this may be attributable to the increasing incidence of depression with age (Klerman and Weissman 1989; Shaffer et al. 1988; Vaillant and Blumenthal, Chapter 1, this volume). Blumenthal and Kupfer (1988) suggest a continuum between psychiatric disorders associated with suicide in adolescence and adulthood. For example, conduct disorders, impulsivity, and aggressivity are important risk factors in youth suicide, and antisocial personality disorder along with these aforementioned personality traits are contributory factors in adulthood. Furthermore, the phenomenon of suicide among the ostensibly "well" may, in fact, represent patients suffering from psychiatric illness who did not manifest symptoms of the disorder in a typical form (Robins 1985).

Shaffer et al. (1988) also stressed the critical role of precipitants, demonstrating that most teenage suicide victims had a disciplinary confrontation only a short time before their death and feared un-

known consequences of that trouble. Blumenthal (1988) pointed out that this precipitating life event is generally humiliating in nature, with the young person being unable to face the shame, guilt, or ramifications of the event.

Conclusions derived from these research findings have important implications for health policy related to youth suicide. The first is to underscore that more research is needed to clarify precisely the number and characteristics of youngsters who are vulnerable to suicidal behavior. Given the numerous risk factors for youth suicide, the stresses affecting youth, and the different environmental settings in which young people may become suicidal, education is needed for those people in a position to detect vulnerable teenagers in a range of settings. As a health policy recommendation, it is necessary for pediatricians, school health officials, teachers, and family members to be knowledgeable about the warning signs of suicidal behavior. Additionally, prevention strategies must be devised that are targeted to various high-risk settings.

RESEARCH FRONTIERS

Increased public and health care professional awareness about suicide has broadened research approaches to the problem. This growth in suicide research has occurred in the increasingly fertile arena of psychiatric research generally. The contemporary study of suicide is consistent with another trend in today's psychiatric research, the finer-tuned disaggregation of psychiatric phenomena. Investigators are steadily enhancing our capacity to refine psychiatric disorders into more discrete subtypes. This work is likely to be enhanced further by current work on genetics, brain imaging, and the identification of biologic markers and trait factors in psychiatric disorders. In light of recent research discoveries, scientists may soon be able to examine whether suicidal risk is greater in people with particular chromosomal abnormalities. There may, in fact, be a genetic factor contributing to suicidal behavior independent of psychiatric diagnosis. This topic is explored by Kety (Chapter 5, this volume). Research is now under way to determine whether the abnormally low level of metabolites of the neurotransmitter serotonin found in violent suicide attempters and completers is also found in teenagers (see Winchel et al., Chapter 4, this volume). Scientists are examining the extent to which this biologic variable is a meaningful measure in individual suicides across psychiatric disorders.

Additionally, epidemiologic studies have been sharpened to examine suicide in both adults and children. The psychological autopsy method has been used with renewed vigor in studies of teenage

suicide. In cases of youth suicide, there are greater opportunities than with adults to interview the entire family, friends, teachers, and health care professionals. Thus the possibility for reconstruction of the events leading to the suicide is increased and makes psychological autopsy in this population a particularly fruitful diagnostic tool. Research studies have also helped identify high-risk groups of young people, including children of parents who have made suicide attempts, runaway youth, young women undergoing an unwanted pregnancy, truants, and teenagers in trouble with the law (Blumenthal and Kupfer 1988). Investigators have focused more closely on determining the particular risk factors for each of these groups and on targeting intervention strategies specifically for these high-risk populations.

Of particular importance to the problem of teenage suicide is the issue of "copycat" or imitative phenomena (see Gould, Chapter 19, this volume). The adolescent period is well described as a time when young people are in the process of self-definition and individuation and often choose role models from their peers. This increases the likelihood of emulating peer behavior, whether it be constructive or destructive. Conflicting reports about the impact of fictional suicide portrayals on television increasing the youth suicide rate have motivated investigators to examine this phenomenon further. Gould and Shaffer (1986) concluded that current evidence strongly supports the existence of imitative suicides following media coverage of nonfictional suicides and that in some instances media presentations and fictional suicide stories may also increase the incidence of attempted and completed suicides. They suggest that either an interaction effect with geographic location or some dose-response effect explains what at first seem like contradictory findings (i.e., the excess of suicides following broadcast of fictional suicide television films in the New York and Cleveland region, but not in the Dallas or Los Angeles areas) (Gould et al. 1988). A recent report (Davidson et al. 1989), however, did not find that exposure to suicide was a significant risk factor in two adolescent suicide clusters.

Another important aspect of a comprehensive approach to teenage suicide is the need to evaluate current suicide prevention efforts for their effectiveness. This should be considered both under the overall research agenda and as a part of any institutional, clinical, or educational intervention strategy.

STRATEGIES FOR SUICIDE PREVENTION

Most suicide research is designed to enhance our ability to predict who will actually commit suicide. Pokorny (1983) emphasized the difficulty of prediction due to the large numbers of false positives

identified by certain risk factors (i.e., gender, marital status). It focused on the differences between prediction in clinical practice and that based on prospective research. For example, Pokorny stressed the need for clinicians to pay greater attention to suicide as a clinical phenomenon and to integrate their evaluations of patients with knowledge of risk factors from the research literature. The clinician should conceptualize the subsequent assessment process as a search for additional warning signs to determine what course of action is warranted. This type of approach to suicidal patients needs to be emphasized in clinical training and in continuing medical education programs as well. Pokorny also provided an important message to lawyers, judges, the courts, and to the general public: it is unrealistic to assume that clinicians can predict with complete certainty who will eventually suicide. However, research findings do suggest certain factors, settings, and conditions when the likelihood of suicide is increased (Blumenthal, Chapter 26, this volume). For example, alcoholic patients who suffer rejection and interpersonal loss are at high risk for suicide (Robins 1985) as are boys who have made a previous suicide attempt serious enough to be admitted to a psychiatric inpatient facility (Shaffer et al. 1988). By assessing factors from several domains using our current best knowledge about psychological, genetic, and biochemical correlates of suicide, an enhanced predictive capacity should be achieved (Blumenthal, Chapter 26, this volume). Studies that integrate these various streams of research and test interventions that target all of the risk domains must be encouraged.

One problem facing planners of suicide prevention programs is the lack of substantial and convincing data about the efficacy of existing programs. In the past, little systematic research has been undertaken to compare and test different interventions (Bridge et al. 1977; Hirsch 1981; Shaffer et al. 1988). Evaluation studies of suicide prevention centers have generally not found much of an impact on preventing suicide (Shaffer et al. 1988). In a review of the literature, Shaffer et al. documented the existence of 1,000 suicide prevention programs operating in the United States in 1976, reaching about 150,000 teenagers. The greatest numbers of calls received by these hotlines dealt with matters other than suicide. Findings from studies evaluating these programs suggest that most callers were not actually suicidal and may have been better served by more individualized treatment approaches. Efforts to conduct evaluation research have also been complicated by the underreporting of suicides, the geographic mobility of people being studied, difficulties in measuring the delayed effects of programs, the lack of comparable measures and methods across research studies, problems in the follow-up of anonymous hotline callers, the rarity of suicide, and ethical problems in

withholding interventions from high-risk individuals. Before costly broad-based suicide prevention programs are undertaken, model preventive and treatment interventions in communities should be evaluated and tested.

One possible focus for prevention is community-based suicide prevention programs closely tied to the educational system. Shaffer et al. (1988) concluded that a large problem with school-based programs is that they are not targeted to high-risk groups because they are based on the assumption that any normal adolescent may commit suicide. Therefore, all teenagers are targeted for the preventive intervention. For example, given the adolescent suicide rate of 12.5 per 100,000, 100 high-school-based suicide prevention programs that reach 150,000 young people would prevent 18 of the 2,000 youth suicides (if maximally successful) reported annually in the United States. One can see the weakness in this approach, since at best only 18 of the 2,000 potential suicides could be saved. Further, the notion that suicide can affect any adolescent creates a nondiscriminating mental health focus, ignoring data that demonstrate that most teenagers who commit suicide have some psychiatric problem.

More extensive and refined evaluation of suicide prevention programs is needed to shed light on their efficacy and on what components of the intervention are most helpful. The results of these studies should be used to modify the nature of extant programs. Increased focus on high-risk groups to enhance the productivity of prevention efforts should be a prime target of such studies.

Additionally, collaborative efforts are needed between researchers, clinicians, media experts, and policymakers to explore methods to modify the portrayal of suicide in the media to eliminate the potential role of imitation as a contributory factor. Deromanticizing stories about suicide in the press, minimizing the coverage of suicide stories, accompanying media presentations with information about available sources of help, and avoiding the details of the suicide method all have been suggested (Gould, Chapter 19, this volume) as ways of preventing potential tragedies.

Other policy issues for suicide prevention relate to environmental and societal contributions to suicidal behavior. For example, the availability of firearms has been noted to be an important factor. Boyd and Mosicki (1986) reported that the dramatic increase in the teenage suicide rate is paralleled by an increase in the availability of firearms. Moreover, the use of firearms as a means of suicide has been associated with intoxication of the victim at the time of death. In fact, the proportion of youth who suicide having blood levels of alcohol indicative of intoxication has increased nearly fourfold since 1960 (Brent et al. 1987).

PUBLIC POLICY RECOMMENDATIONS

Suicide prevention efforts should benefit immensely from today's increased attention by researchers, educators, and policymakers. The following research and policy recommendations represent a compilation of the recommendations *taken directly* from the Youth Suicide Task Force Report (Alcohol, Drug Abuse, and Mental Health Administration 1989) and the National Institute of Mental Health's (1988) program announcement on suicide and suicidal behavior. The reader is advised to consult these documents for a more in-depth discussion of these excellent recommendations. Greater public, health care professional, and societal attention to these recommendations should contribute to reducing this public health problem.

Research

There is an urgent need to increase our knowledge about suicidal behavior and suicide through enhanced systematic research efforts, including further attention to the following issues:

Suicide Surveillance Data. The collection of accurate data on suicide is essential to research, services, and educational programs. Uniform and consistent standards for classifying suicidal behavior should be developed and utilized. Surveillance systems must be improved to identify and report attempted and completed suicides at the local, state, and national levels. Collaborative efforts need to be established between mental health professionals and the medical examiner's office to conduct systematic psychological autopsy studies on suicidal deaths.

Definitions of Suicidal Behavior. Most studies of suicide have employed different terms and definitions, which complicates the comparison of research findings across studies. Careful attention must be paid to ensure the validity and reliability of instrumentation and methodologies used to assess and classify suicidal behavior in research studies (i.e., suicidal ideation needs to be differentiated from a carefully planned suicidal act) (NIMH 1988).

Instrumentation and Methodology. In studies of suicidal behavior where psychopathology will be assessed, standardized diagnostic methods should be employed. Interdisciplinary research that broadens perspectives and methods from other fields of study should be applied to suicide research. Studies that incorporate biological and psychosocial approaches to the study of risk factors and treatment

should also be encouraged. This includes clinical investigations of psychosocial, psychiatric, and biological factors (including genetic, familial, and biochemical approaches) with a broad array of psychometric instruments (including standardized questionnaires, self-reports, clinical interviews, and postmortem assessments). New valid and reliable research instruments for assessing suicidal behavior and its epidemiology over the life cycle must be developed. Attention must be paid to the selection of cases for studies and the representativeness of appropriate control or comparison groups (NIMH 1988).

Multidisciplinary Research. Broad-based, multidisciplinary research efforts on suicide are needed. More research should be undertaken on the epidemiology of suicide, on its short- and long-term risk factors, and on protective factors. In this regard, population-based, prospective longitudinal studies are needed. Researchers should be encouraged to "piggyback" questions about suicide onto ongoing, longitudinal data sets originally collected for other purposes.

Risk Factor Definition and Assessment. Attention must be paid to the reliability and validity of risk factor assessment, particularly to data obtained from retrospective studies where poor recall, selective nonreporting, and bias may influence outcome. Research is needed to determine the contribution of significant risk factors, such as human immunodeficiency virus (HIV) infection, substance abuse, previous suicide attempts, and humiliating life events, in increasing the risk of suicidal behavior over the life cycle. Investigations of the relative contribution of particular risk factors at different stages of the life span and protective factors that may operate at each stage to modify risk are needed. In this regard, research on the developmental precursors, predictors, and correlates differentiating child and adolescent suicidal behavior from these behaviors in adults and elderly populations should be undertaken (NIMH 1988).

Basic Biological Mechanisms. Studies are needed "to increase our understanding of the underlying brain systems and mechanisms hypothesized to be related to suicidal behavior, including the role of serotonin in the brain, the mechanism of action of psychotropic drugs used to treat psychiatric disorders associated with suicide, neuroendocrine studies examining systems implicated in depression, and suicide, and basic brain studies in animal models of self-destructive behavior. In postmortem biological studies, attention must be paid to the quality of the case and control specimens, the handling procedures, and the quality of the available clinical information" (NIMH 1988, p. 6).

Genetic Factors. Research is needed on the biochemical and molecular genetic determinants of suicide and their phenotypic expression to improve diagnostic classification of the psychiatric disorders. Studies should be undertaken of the genetic epidemiology of suicidal behavior and suicide, including the elucidation of the contributions and interactions of environmental factors and individual biological vulnerability (NIMH 1988).

Psychosocial Studies. Studies of the psychosocial correlates of suicidality at different stages of the life cycle should be encouraged, including exploration of vulnerability to emotional separation, early loss of parents and/or significant others, and premorbid character configuration. Recent stressful life events further require examination.

Association With Psychiatric and Personality Disorders. More research is needed on the relationship of antecedent conditions to suicidal behavior and suicide, including mood, conduct, substance abuse, and personality disorders as well as schizophrenia. Studies on the contribution of traits and/or behavior patterns (e.g., aggressivity, impulsivity, aggression, excessive perfectionism) to suicidal behaviors are needed.

Association With Medical Illnesses. Studies of the association of medical illnesses (e.g., AIDS, epilepsy, cancer, diabetes) and suicidal behavior are needed. Variables to be examined include the contribution of neurological and neurochemical predictors of suicide (i.e., neurotransmitters, neuroendocrine modulators, and neuropathological correlates) and immunological variables. The mechanisms by which mood and behavioral changes are affected in medical illnesses require further examination. Additionally, the role of specific protective factors in people with medical illnesses, including the strength of social supports and specific personality traits, must be studied. Research on the interaction of these variables and the mechanisms by which suicidal behavior is precipitated in medically ill persons over the life cycle is needed.

Comorbidity. Studies of diagnostic comorbidity predictive of suicidal behavior throughout the life span and the mechanisms underlying the production of self-destructive behavior are needed (e.g., mood and personality disorders; substance abuse, depression, and medical illness).

Protective Factors. Studies must be encouraged of protective

factors that buffer the risk of suicidal behavior, including the role of social supports and receiving appropriate treatment.

Suicide Clusters. Studies are needed of suicide clusters and the mechanisms of contagion, including the role of the media.

Treatment Research. Research on the full range of short- and long-term treatments, including psychosocial, psychopharmacological, and environmental interventions and their combinations at different stages of the life cycle should be undertaken.

Research Advocacy. Policymakers, health care professionals, and the general public must be encouraged to advocate for suicide research in both the public and private sectors.

Prevention and Interventions

Establishment of a Suicide Prevention Data Bank. The full range of suicide prevention methods, including information about their efficacy, should be coalesced into an authoritative document to communicate to the general public and to the health, regulatory, and legal systems the facts regarding the scope of the problem and intervention and prevention strategies. Uniform procedures and protocols should be developed and tested for detecting, assessing, and treating suicidal people (Alcohol, Drug Abuse, and Mental Health Administration 1989).

Studies of Preclinical Preventive Interventions. Studies of preventive interventions that precede clinical diagnosis are needed. Research is also needed on "promotive interventions that aim to develop, maintain, and enhance healthy psychosocial functioning." Such interventions should be based on empirically derived theoretical models, with a research design and procedures appropriate to the developmental and sociodemographic characteristics of the target group. Studies should have a sufficiently long duration to determine the efficacy of the intervention (National Institute of Mental Health 1988).

High School Education Prevention Programs. Mental health information regarding self and peer recognition of psychiatric symptoms, coping strategies, stress management, and the value of appropriate mental health treatment should be incorporated into high school education programs.

Evaluation Studies. Comprehensive evaluation of prevention efforts should be undertaken to ensure that prevention programs are effective and to enable refinement and modification as new information is gathered. "Interventions should particularly focus on high-risk groups for suicide, including middle-aged and elderly white males, male youth, and persons with chronic medical illnesses. Types of preventive interventions include interpersonal cognitive problem solving, group skills training, life skills training, social competence promotion, stress management, and assertiveness training. Such interventions can be implemented in a range of settings, including the workplace, family, and educational, health services, and community institutions." The efficacy of multiple interventions to prevent suicidal behavior requires testing (National Institute of Mental Health 1988).

Preventive Interventions in Primary Health Care Settings. Studies of the effectiveness of primary care practitioners (i.e., physicians, nurses) in detecting patients across the life cycle who are at high risk for suicide are needed. In this regard, systematically designed research interventions aimed at enhancing the identification and management of these patients in primary care settings should be encouraged (National Institute of Mental Health 1988).

Service Utilization Research. Studies of service utilization and the follow-up care received by suicide attempters in health and mental health settings are needed (NIMH 1988).

Development of Community Suicide Response Plans. Communities should develop a response plan to deal with the problem of suicide both before tragedies occur and to employ when suicides take place in the community. Suicide attempt and completion clusters must be quickly identified so that this plan can be rapidly implemented. This involves developing an early warning surveillance system for unusual patterns of suicide attempts and completions (O'Carroll, Chapter 18, this volume). Particular attention should be given to special high-risk groups and/or situations including children of parents who have made a suicide attempt, runaway youth, pregnant teenagers, teenage males who are hospitalized for a serious suicide attempt, and others. A composite of these various high-risk individuals and situations should be formulated and distributed to those persons who are in positions to detect these situations and to intervene. State and local health organizations should collaborate to develop pilot intervention programs for these groups. Comprehensive mental health services linked to crisis hotlines should be developed and publicized (ADAMHA 1989; O'Carroll, Chapter 18, this volume).

Suicide Prevention Advocacy. Advocacy is needed to limit the availability of firearms, the number one method for suicide in the United States.

Education and Training

Clinical Training Curricula. Directors of training programs for health and mental health care professionals must ensure that the educational curricula contain state-of-the-art knowledge about risk factors, assessment, and treatment of suicidal behavior.

Broad-Based Training Programs. Education and training programs on suicide should be developed for medical examiners, coroners, and other public health state officials to help facilitate more accurate reporting. Persons who have frequent contact with teenagers (e.g., teachers, pediatricians, counselors) should be educated regarding the warning signs of suicidal behavior and referral practices (ADAMHA 1989).

Media Education. Concerted efforts should be made to bring together scientists, clinicians, policymakers, and media specialists to develop guidelines about effective ways to minimize the potentially adverse effects of both nonfictional and fictional media coverage of suicide.

Enhanced Awareness and Coalition Building. Educational efforts are needed to promote awareness among policymakers, civic leaders, health care professionals, and the general public, that they all play a key role in the prevention of suicide and can form coalitions to enhance support of suicide research and prevention programs.

CONCLUSION

The problem of suicide, like other issues of concern to the mental health field, is benefiting from new research technologies, advances in the neurosciences and clinical psychiatry, and our society's increased attention and readiness to deal more openly with mental illness. Research to date has identified specific risk factors for suicide that can serve as a basis for carefully designed prevention efforts. There is strong epidemiologic and clinical evidence that the diagnosis of a psychiatric disorder is a powerful risk factor for suicidal behavior across the life cycle. Other important risk factors include gender, age, lower socioeconomic status, substance abuse, a family history of suicidal behavior, exposure to suicide, certain biological factors, spe-

cific personality traits, lack of social supports, and access to lethal methods.

As has been emphasized throughout this volume, suicide is a complex, multifaceted behavior: there is no one reason why a person ends his or her life. The trend toward disaggregation of psychiatric phenomena into subtypes (in more refined and differentiated ways) is contributing to our increased knowledge about suicide. Strikingly, suicide is the most serious complication of psychiatric illness. Most assuredly, enhanced research efforts and greater clinical and educational attention to this public health problem and to psychiatric disorders generally will benefit the health of our nation. It is unfortunate that we have to wait until public health problems such as youth suicide take on epidemic proportions before our society takes notice. While this has been too often true of other major social problems, the good news is that we now appear ready to intervene decisively. For policymakers, the richness of the research menu outlined in this chapter should be understood: increased support in fiscal, person power, and other resources is needed to mount a full-fledged attack on this public health problem. This will lead us to more intensive examinations of suicide over the life cycle, built on the strong foundation and excitement in psychiatric research occurring in our country today.

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Suicide:

A Guide to Risk Factors, Assessment, and Treatment of Suicidal Patients

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A major clinical problem facing the clinician is the prediction and prevention of suicide. Most physicians see at least six seriously suicidal patients each year and will encounter many more patients in their practices who have suicidal thoughts and feelings. As many as 50 per cent of people who commit suicide have seen a doctor in the weeks to month prior to their death and often use medications prescribed by them to end their lives.^{15, 65, 101, 196, 197} This disturbing fact can change through increased health care professional education about suicide. This article stresses that prevention of completed suicide depends on the medical practitioner's early detection and intervention with patients at risk for such behavior.

The physician should be aware that most suicidal patients suffer from a psychiatric disorder. In fact, suicide is one of the most common complications of mental illness carrying with it a 10-times greater risk than in the general population.^{15, 65, 90, 96, 111, 158, 160, 189} More psychiatric patients are generally treated by primary care physicians than by psychiatrists; over 80 per cent of patients experiencing a first psychiatric crisis seek medical rather than psychiatric treatment. Moreover, it has been estimated that 25 to 30 per cent of ambulatory patients in general medical practices have a diagnosable psychiatric condition,³⁰ and a further 10 to 15 per cent of people suffering from major psychiatric illnesses such as affective disorder, schizophrenia, and alcoholism will end their lives by suicide.¹⁵⁹ Unfortunately, physicians detect only one out of six patients who proceed to kill themselves even though information about warning signs may have been available from others.^{15, 169} For many of these patients, the physician has missed the psychiatric diagnosis or, if recognized, has undertreated the illness. Therefore, attempts at targeting efforts to prevent successful sui-

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cide—that is, to detect all behavior that leads to a final common pathway, which is suicide completion—is best done if there is an understanding of the various risk factor domains through which suicidal behavior emerges. Since these domains can be detected and manipulated, they represent important opportunities for the clinician to intervene. The physician, then, has a critical role to play in the early detection and clinical diagnosis of mental illness which is a cornerstone to prevention, effective intervention, and treatment of suicidal behavior.

This article will review the epidemiology of completed suicide and current knowledge about its risk factors including psychosocial, psychiatric, genetic, and biological variables and will then attempt to translate this information into practical considerations for the physician on how to assess and treat suicidal patients.

EPIDEMIOLOGY OF SUICIDE

Suicide is currently the eighth leading cause of death in the United States and the second leading killer of young people. In 1987, 29,453 suicides were recorded; 5121 of these by young people, ages 15 to 24. Alarming, the rate of suicide for our nation's youth has tripled over the past 30 years.^{30, 49} The actual number of suicides may be two to three times higher because of the underreporting that occurs. Also, many single automobile accidents and homicides are, in fact, suicides. At least 1000 suicides occur in the world each day and 645,680 years of productive life are lost each year alone in the United States due to deaths by suicide. Seventy-one percent of these productive years lost attributable to suicide occur among white males; white females account for another 19 per cent.³⁰

Suicide crosses all age, racial, occupational, religious, and social groups.^{30, 231} Considerable research efforts have been made to determine specific demographic risk factors for suicide and important differences have been found in sociodemographic variables including age, race, and sex. The most pronounced shifts in suicide rates are occurring for particular age groups. Suicide rates are known to increase steadily with age, but current rates for young adults (aged 25 to 34) are rivaling those in older age groups. While the overall base rate of suicide (12.3 per 100,000) has remained about the same over the past 20 years, it has soared for young people aged 15 to 24 and has declined slightly for the elderly.^{49, 50} Since 1980, however, the rates for young people have plateaued, although it is unclear if they have actually begun to decline. Nevertheless, the United States now has one of the highest suicide rates for young people in the world, surpassing Japan and Sweden, countries long identified with high rates of suicide. Reports of suicide among very young children are rare, but suicidal behavior is not. As many as 12,000 children, aged 5 to 14, may be hospitalized in this country every year for deliberate self-destructive acts.^{185, 231}

Despite the rapid increase in youth suicide, the highest suicide rates and greatest number of suicides are in older people. While this group comprises 26 per cent of the total United States population, it accounts for approximately 39 per cent of deaths by suicide. White males over the age

1997 29,725
 1997 death rate 11.1
 age adjusted death rate 10.3
 1996 " " 10.8
 -4.6 % change

of 50 represent the preponderance of these deaths.²³¹ Epidemiologic research has showed that large birth cohorts demonstrate higher stress levels over their life span and higher suicide rates at every age level.^{30, 91} As the post World War II generations move into the older age groups, suicide may become an even more significant problem for these birth cohorts.^{30, 91, 110}

The overwhelming majority of completed suicides are males. They comprise approximately 75 per cent of the total, with white males accounting for about 70 per cent of the number. Well over 50 per cent of male suicides shoot themselves and the use of firearms is increasing rapidly. Women attempt suicide three times as frequently as men using potentially less lethal means including medications and wrist slashing. However, one-third of women who complete suicide and over half of the 15- to 29-year-old group use firearms. This has been an alarming trend since the 1970s when the use of firearms became the primary method of suicide for younger people.^{30, 36, 37, 39, 49, 50} Among racial groups, Caucasians commit suicide twice as frequently as blacks. However, sharp increases in the suicide rate among young black men have also been reported. Religious groups with the highest rates of suicide are Protestants followed by Jews and Catholics. Other important sociodemographic factors include being separated, divorced, losing a job, living alone, or being recently bereaved.^{49, 50, 231}

Research findings provide evidence for the delineation of two separate but overlapping groups of people who engage in suicidal behavior—those who attempt and complete suicide.^{30, 44, 144} Attempters tend to be younger and more often women, and their attempts tend to be more impulsive and ambivalent. Completers are most often male, older, and use more lethal methods for self-destruction.^{30, 83, 231} A history of a previous suicide attempt is one of the most powerful predictors of suicide.^{30, 144, 237} Approximately 1 per cent of suicide attempters will go on to kill themselves each year; 10 to 20 per cent of suicide attempters eventually end their lives by suicide. Additionally, persons who threaten suicide have higher rates of completed suicide.^{82, 188}

It has also been suggested that different psychiatric disorders are associated with suicide attempts and completions. Nonfatal attempters are more likely to have personality disorders, chemical dependence, and situational disorders. Those who actually kill themselves have shown a predominance of major affective disorders, alcoholism, schizophrenia, and in young people, conduct disorders and depression. The co-occurrence of one of these illnesses with certain personality disorders including anti-social and borderline personalities appears to significantly increase suicidal risk.^{30, 32, 33, 83, 84, 231}

There are limitations, however, in predicting suicide based on these demographic variables. In one study of predictive factors for suicide, Pokorny¹⁹⁰ found many false positives, that is, people who had many risk factors but who did not go on to kill themselves. Despite the low base rate of suicide in the general population, the clinician and patient are best served when all symptoms and clues of suicidal behavior are assessed and rapid intervention is undertaken.

SOCIOCULTURAL AND PSYCHOLOGICAL EXPLANATIONS OF SUICIDE

The physician is no stranger to death. Clearly, a major goal of medicine is to avert untimely mortality. Therefore, the clinician may be particularly perplexed by patients who willfully want to end their lives. There is *no one reason* why people decide to kill themselves. Suicide is a complex human behavior and the final common pathway for many human problems. This self-destructive act can reflect many motivational determinants: personal and interpersonal, biologic, familial, and cultural. For many, it is a response to loss, separation, and abandonment. For some people, it may represent a release from the despair of what seems to be a barren future or the hopelessness of old age, and for others, it may be an impulsive act, experienced as revenge for rejection. For yet others, suicide may symbolize the desire to be reunited with a lost loved one. Suicide can also be a response to the disordered thinking of psychoses, a toxic state such as drug use, or the cognitive distortions that occur with depressive illness or schizophrenia.³⁰

Suicides have been reported throughout history with several biblical references to self-destructive acts. Reports of suicidal behavior have been found in most ancient literary texts but the root of the religious prohibition against suicide comes from the Judeo-Christian tradition.¹⁰³ As the frequency of suicide among early Christians began to increase, the Church introduced the concept that suicide was both a sin and a crime. In the fourth century, St. Augustine rejected suicide as an option and reasoned that it precluded the possibility of individual repentance and violated the Fifth Commandment relating to killing.²¹⁰

The contemporary study of suicide began around the turn of the century with the contributions of two major streams of thought: sociological and psychological. In 1897, Durkheim examined society's effects on individual behavior and posited that suicide was the result of society's influences and control over the individual. In his book, Durkheim formulated three types of suicide.⁷⁰ The first, the "altruistic" suicide was a result of society's expectations of the individual. An example of this would be harakiri, where the society's customs dictate that the honorable action for the individual is to end one's own life. In the United States, the most frequent form of suicide is the "egoistic" type, where the individual has poor social supports and poor ties to the society. An example of this type of suicide is the older man without children who is recently divorced. The third category of suicide according to Durkheim's theory is the "anomic" suicide, where the individual's relationship to society is suddenly shattered, such as when a person unexpectedly loses a job.²¹⁰

Psychological explanations of suicide were first developed by Freud. Where Durkheim conceptualized the explanation of suicide in terms of societies' influences on the individual, Freud postulated that the reasons for suicide were intrapsychic.⁸⁷ He theorized⁸⁷ that suicide represents unconscious hostility aimed at the introjected (ambivalently viewed) love object; for Freud, suicide was viewed as "murder in the 180th degree."²¹⁰ Other psychoanalysts have extended Freud's perspective. Karl Menninger¹⁵⁷

delineated the psychodynamics of hostility, postulating that the hostile drive in suicide had three components: (1) the wish to kill; (2) the wish to be killed; and (3) the wish to die.²¹⁰ Other contemporary theorists have examined the role of additional emotional states such as hopelessness¹⁸⁻²⁴ and helplessness²¹⁶ in the pathogenesis of depression and suicide. Beck has related the "negative triad" of depression to suicide in that the individual's thinking when depressed becomes distorted: the person has a negative view of himself, the future, and the world.¹⁸⁻²⁴

Another way of explaining suicidal behavior has been the philosophical or existential. Albert Camus⁴⁷ wrote that the most important task of man was to respond to life's apparent absurdity, meaninglessness, and despair. Other philosophers have posited that suicide is the primary ethical issue for man.^{117, 210}

Over the past two decades, another model for understanding suicide has emerged: one which focuses on the biomedical aspects of suicide, emphasizing its relationship to psychiatric illness, familial and genetic factors, and to biological abnormalities. The author believes that an overlap model that incorporates the psychobiological contributions of all of these explanatory models and factors is the most comprehensive and useful framework for understanding suicidal behavior.

THE OVERLAP MODEL:

RISK FACTOR DOMAINS FOR SUICIDAL BEHAVIOR

The Overlap Model

Five domains of risk factors including psychiatric diagnosis, personality disorders and traits, psychosocial and environmental factors, genetic and familial variables, and biochemical factors comprise a theoretical overlap model for understanding suicidal behavior.³² It is suggested that these five domains organized as a matrix or multiaxial approach provide a simple model for considering risk factors for suicide that can assist the physician in clinical intervention and prevention of suicide as well as for research purposes (Fig. 1).

This overlap model of risk, shown graphically as a series of interlocking Venn diagrams, represents an important alternative to notions of final common pathways or single explanatory schemas.³² These risk factor domains for suicide appear to operate across the life-cycle for all age groups. They represent not just risk factors but also spheres of vulnerability. This model posits that the presence of contributory factors from each of these domains increases the risk for suicide and helps explain why only certain patients suffering from particular psychiatric disorders attempt or complete suicide. In applying this model, for example, the loss of a job might be a final humiliating experience that triggers a depressive episode in a person with a family history of affective disorder. Such an individual may also be very impulsive, have poor social supports, and abuse alcohol. These factors then interact with the other identified risk factors to increase the individual's

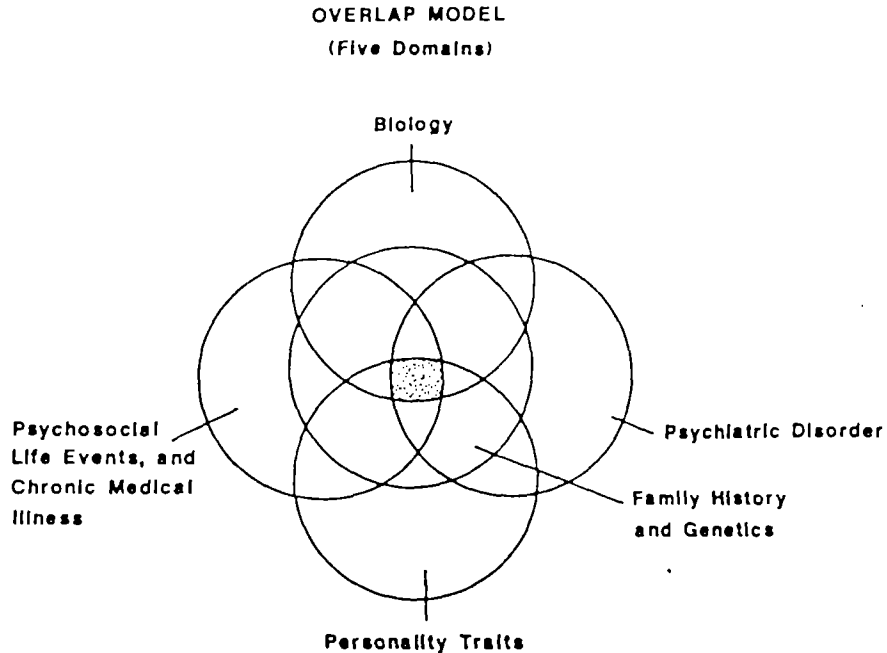


Figure 1. Overlap model for understanding suicidal behavior. (From Blumenthal SJ, Kupfer DK: Generalizable treatment strategies for suicidal behavior. *Ann NY Acad Sci* 487:327-340, 1986; with permission.)

vulnerability for suicide. However, what remains to be determined is at what level and in what degree do each of these factors contribute to suicide potential. Is it the degree of overlap of all the factors that is most significant? It is known, for example, that 15 per cent of people who suffer from an affective disorder end their lives by suicide, but the other 85 per cent do not. The reasons for this phenomenon might be explained by application of the overlap model. Using this model, what may emerge (for example) is that the subgroup of affective disorder patients who commit suicide have a greater overlap of other risk domains such as increased hopelessness, impulsivity, decreased social supports, certain biological abnormalities, a recent humiliating life experience, and/or an increased family history of affective disorder or suicidal behavior.³²

The five domains that comprise this risk factor model are:

1. A careful clinical description according to psychiatric diagnosis. Over 90 per cent of adults who end their lives by suicide have an associated psychiatric illness.^{15, 65, 100, 196, 197} The few studies on adolescent suicide also suggest high percentages.^{58, 217, 219, 220} Current research shows that affective disorders and substance abuse in adults and conduct disorders and depression in young people are the most highly associated psychiatric diagnoses with suicide.

2. Personality traits relating to suicide, such as aggression, impulsivity, and hopelessness, are important in and of themselves in characterizing suicide since they may represent personality styles that cross diagnostic

groupings. In addition, this domain includes certain personality disorders, such as borderline personality disorder and antisocial personality disorders, which are more highly correlated with suicidal behavior and represent risk factors. The co-morbidity (or co-occurrence) of antisocial and depressive symptoms appears to be a particularly lethal combination in both adults and young people.^{31, 33, 83, 84}

3. Psychosocial factors, social supports, life events, and chronic medical illness are critical contributory factors. For example, early loss, increased negative life events, the presence of a chronic medical illness, exposure to suicide (both intra- and extrafamilial), and decreased social supports increase the risk for suicide. In addition, most people who end their lives have had a recent humiliating life experience.^{30, 32, 113}

4. Identification of both genetic and familial factors that predispose an individual to suicide. Investigators have suggested that the genetics of suicide may be independent of the genetics of having a family history relating to specific psychiatric disorders such as affective disorder or alcoholism.^{130, 202, 204, 214, 234}

5. Specification of neurochemical and biochemical variables currently under active investigation in an attempt to identify either a biological abnormality or a vulnerability state for suicide. In particular, a deficiency in the neurotransmitter, serotonin, appears to be associated with aggressive, violent suicidal behavior across psychiatric diagnoses.^{3, 7-11, 42-44, 150, 173, 174, 228, 233}

In summary, the following discussion of the five risk factor domains for completed suicide should provide the clinician with a rubric for the early detection of suicidal behaviors. The physician, knowledgeable of the factors in these domains, will then be well equipped to assess suicidal patients and to appropriately intervene and treat these patients.

Psychiatric Diagnosis

The risk for suicidal behavior and suicide is increased with almost every major psychiatric disorder.^{15, 30, 65, 100, 131, 158, 160, 189, 196, 197} Evidence from psychological autopsy studies of adult^{15, 65, 101, 196, 197} and adolescent suicides^{58, 217-219, 220} reveal that most people who commit suicide were suffering from a major psychiatric illness at the time of their death, although only a small percentage were being treated.^{196, 197, 217, 220} These studies reveal that over 90 per cent of people who end their lives by suicide suffered from a psychiatric disorder; less than 10 per cent of people who kill themselves have no documentable psychiatric illness.^{15, 30, 65, 100, 196} Affective disorders followed by alcoholism are the major psychiatric diagnoses associated with suicide.^{15, 65, 101, 196, 197, 257} Of the 90 per cent of adult suicide completers with a psychiatric disorder in these studies, 60 to 80 per cent suffered from a major affective illness.

Suicide is the most serious and tragic complication of affective disorders with 15 per cent of people suffering from these illnesses ending their lives.^{96, 129, 158} Suicidal thoughts and plans are often symptoms of major depression, and treatment of the illness should be associated with remission of suicidal ideation in most people. Other symptoms include a sad mood and the persistence and clustering of several other complaints for greater than a 2-week period including appetite changes, sleep disturbance, psy-

chomotor agitation or retardation, loss of interest or pleasure in usual activities, loss of energy and fatigue, feelings of worthlessness, self-reproach or excessive or inappropriate guilt, difficulty concentrating, and hopelessness. In children and adolescents, the symptoms of depression are quite similar but, in addition, young people often have vague somatic complaints, school problems, low self-esteem, and "acting out" of aggressive behaviors.

Over 10 million Americans suffer from depressive disorders. Twenty-five percent of all women and 10 per cent of men in the United States will suffer from a clinical depression at some time in their life. Depressive disorders are painful illnesses that affect thoughts, feelings, bodily functions, and behaviors. They come in various forms with some people experiencing disabling symptoms being unable to eat, sleep, or work. Some people may have one episode in their lifetime, others may have recurrent episodes; other individuals may suffer from bipolar affective disorder (also known as manic depressive illness) that is characterized by cycles of depression and mania.

The clinician should be aware that specific subtypes of affective disorder have differential influences on prognosis and treatment.^{30, 40, 76, 77, 119} Patients who suffer from hypomania or mania are at particularly high risk for suicide and suicidal behavior^{40, 119, 123, 227} as are those patients with a mixed state (cycling between depression and mania), particularly at the time of the switch.^{76, 77, 119} Brent and colleagues⁴⁰ have suggested that the association between suicide and bipolar affective disorder may contribute to the seasonality of suicide rates (highest in April/May and September/October)^{30, 139, 170, 177, 259} perhaps corresponding to the seasonal patterns of bipolar illness.^{40, 177} They further hypothesize that the seasonality of suicide rates may also be related to another type of affective disorder known as seasonal affective disorder¹⁹⁹ characterized by hypersomnia, hyperphagia, and a depressive syndrome in the winter months that can be treated by phototherapy. The clinician should also take a careful menstrual history since it has been reported that affective disorder is exacerbated premenstrually.^{1, 30, 102, 175} and that suicidal behavior in women is increased during this period.^{30, 40, 81, 175} Furthermore, patients who suffer from psychotic depression have a five-times greater risk for completed suicide than nonpsychotic depressed patients.¹⁹⁶ Studies have suggested that the risk for suicide may be related to the delusional component of the illness in these patients as well as to the affective state.¹⁹⁶ Additionally, the co-morbidity (co-occurrence) of affective disorders with other psychiatric disorders, particularly antisocial personality and substance abuse, are particularly lethal combinations in both adults and young people.^{30-33, 83, 84, 183, 220} These patients are particularly difficult to treat and have a greater incidence of relapse.^{5, 53, 249}

The early detection and treatment of affective disorders, therefore, represents a major prevention strategy for completed suicide.^{30, 33, 131} Treatment of affective disorders includes psychotherapeutic approaches including psychodynamic, cognitive/behavioral, and interpersonal therapies aimed at decreasing hopelessness and altering the cognitive distortions that may occur and/or medications including tricyclic antidepressants, monoamine oxidase inhibitors, lithium, and other somatic treatments including electroconvulsive shock therapy (ECT). Moreover, strengthening social

supports, promoting better interpersonal relationships, and patient and family education efforts are also important elements of the treatment of depression.^{30, 32, 86}

Alcohol and substance abuse also represent major risk factors for suicide across the life-cycle in both alcoholic and nonalcoholic populations. Alcohol use is associated with 25 to 50 per cent of suicides^{15, 63, 85, 101, 196, 197} and its contribution is second only to that made by affective disorders. Between 5 and 27 per cent of all deaths of alcoholics are caused by suicide^{85, 165} with the lifetime risk for suicide estimated to be 15 per cent.^{85, 96, 158, 165} The relationship of suicide and substance abuse in young people is also very significant. A recent study of adolescent suicide found that 70 per cent of the victims suffered from alcohol or substance abuse problems.²²⁰ When patients are suffering from alcohol dependence, suicide frequently occurs late in the disease and is often related to rejection or some interpersonal loss as well as to the onset of medical complications of the illness.^{13, 85, 158, 165, 196, 197} This is in direct contrast to affective disorders where suicide often occurs earlier in the course of the illness.¹³¹

Alcohol and drug abuse can be a complication of other psychiatric disorders including affective and anxiety disorders, schizophrenia, and certain personality disorders.⁴⁰ In fact, it is estimated that 60 to 70 per cent of alcoholics have an additional psychiatric diagnosis.^{85, 165} Additionally, it is likely that substance abuse exacerbates the course of psychiatric illnesses^{40, 85, 165, 213} and may predispose to depressive symptomatology. Many patients use alcohol and other drugs to self-medicate. Alcohol may also potentiate other methods of suicide such as drug overdose. Many victims of single automobile accidents thought to be suicides have been drinking. Chronic alcohol abuse may also contribute to the disruption of interpersonal relationships increasing social isolation.¹⁶⁵ Furthermore, the biological effects of chronic alcohol consumption include depression and central serotonergic depletion, both of which are risk factors for suicide.^{85, 165, 213}

For drug abusers, where the incidence of suicide is 20-times greater than the general population, the increased incidence of suicide may be related to: (1) a depressive reaction to the individual's dismal life circumstances; (2) certain vulnerable personality traits; (3) the lack of social supports; and/or (4) certain biological factors related to drug use.⁸⁵

The clinician's ability to prevent suicide in chemically dependent persons is associated with accurate diagnosis and appropriate treatment of the substance abuse and any other concurrent psychiatric disorder as well as mobilizing and strengthening the social supports of these patients.^{85, 165, 213}

Schizophrenia, a disease that afflicts 1 per cent of the population, carries with it a high incidence of suicide. Fifteen percent of schizophrenic end their life by suicide^{122, 201, 205}; the risk is greatest for those who are hopeless, suicidal, fear mental disintegration, have made previous suicide attempts, have a chronic relapsing course to their illness, and who are not compliant with treatment.^{40, 66, 122, 201} Most schizophrenic suicides are by young unemployed males who had been functioning at a high level prior to the onset of the illness. Many have been suffering from symptoms of akathisia.^{40, 67, 221} The co-occurrence of alcohol or drug abuse in these patients also contributes to suicidal risk.^{66-68, 122, 171} In addition, there is a high incidence of nonpsy-

chotic depression in schizophrenic patients at the time of suicidal behavior.^{68, 121, 201} Some clinicians report that the addition of antidepressant medication to the treatment regimen may help eliminate suicidal ideation in these patients.^{192, 201} It should be emphasized that early intervention and appropriate psychotherapeutic and psychopharmacologic treatment is critical to the prevention of suicide in schizophrenic patients. Attention should also be paid to community interventions that link the patient to treatment and social services as well as occupational and recreational activities.

For suicides occurring in young people, the diagnostic picture is less clear but bears resemblance to that found in adults. A recent study by Shafii and coworkers²²⁰ found that 95 per cent of the adolescent suicide victims had an associated psychiatric disorder. A high percentage of these young people had an affective disorder: 76 per cent had major affective disorder or dysthymia as compared to 28 per cent in the control group. This study also demonstrated that 70 per cent of youngsters who end their lives have associated substance abuse, 70 per cent have a history of antisocial behaviors, 65 per cent have "inhibited" personality traits, and 50 per cent have made a previous suicide attempt. Preliminary data from a large ongoing psychological autopsy study of adolescents²¹⁷ suggest that at least one-third of the young people in the study who commit suicide had an associated conduct disorder and that 25 per cent of the sample population were suffering from a depressive disorder. In addition, a high percentage of the youth suicides abused alcohol or drugs. Approximately 50 per cent of these young people had a family history of suicidal behavior. Furthermore, suicide attempts in this age group have likewise been linked to depressive symptoms.⁵⁸ Many of these youngsters are angry, impulsive, recently stressed, and have problems with low self-esteem.

In summary, certain psychiatric illnesses are strongly associated with an increased risk for suicide. Almost all persons who commit suicide are suffering from a psychiatric disorder. Additionally, the symptom triad of aggressivity, impulsivity, and depressive symptomatology represents a major contribution to risk for suicide over the life-cycle.³⁰⁻³³ Early detection and treatment of these behaviors and illnesses by the physician is an important suicide prevention strategy.

Personality Traits and Disorders

Personality traits and disorders have been found to be important contributory risk factors to suicide across the life-cycle. Research studies suggest that antisocial and borderline personality disorders are particularly associated with suicidal behavior in adults.^{83, 84} This is also true for adolescent suicide where conduct and borderline personality disorders are highly associated with suicide.^{57, 84, 217-219} Additionally, the co-occurrence of depression with conduct disorder, antisocial personality, or borderline personality disorder across all age groups represents an extremely lethal combination of factors.^{30-33, 83, 84}

Although patients with borderline personality disorder often engage in self-destructive behavior without lethal intent, a substantial number (at least 5 to 10 per cent) eventually commit suicide.^{83, 84} The presence of concurrent major affective disorder and/or substance abuse increases the

risk of suicide in these patients.⁶³ An estimated 5 per cent of patients with antisocial personality disorder die by suicide and as many as 46 per cent attempt suicide.^{63, 158} Antisocial personality disorder and criminality have been reported as predictors of recurrent suicide attempts.⁶³ Fifty percent of these attempts are preceded by a crisis in a significant relationship (using a nonviolent method) and may represent an effort to change other people's behavior. It is possible that the 5 per cent of persons with this disorder who complete suicide also have concurrent affective disorder, substance abuse, and/or other personality traits or environmental stressors that increase risk for suicide.⁶³

Research studies of young people who commit suicide indicate specific associated personality traits including the tendencies to be withdrawn, perfectionistic, impulsive, or aloof.²¹⁹ Preliminary findings from an ongoing large psychological autopsy study of adolescents²¹⁷ suggest that at least one-third of the young people in the study who committed suicide had an associated conduct disorder—a disorder characterized by and thought to be associated with the development of antisocial personality disorder late in life. In fact, there appears to be a continuum of the personality traits and disorders associated with suicidal behavior in adolescence with such behavior in adulthood suggesting stability in some personality characteristics such as impulsivity and aggressivity over the life-cycle.^{63, 84, 195}

The importance of the relationship of suicide and aggression must be underscored. The study of this association stems originally from psychodynamic formulations of depression and suicide that emphasize hostility and murderous impulses turned against the self.^{63, 87} In addition, these personality variables of impulsivity and aggressivity appear to have biological correlates including evidence of a serotonin deficiency.^{3, 7, 11, 42, 44, 150, 173, 174, 228, 233}

Other studies of the relationship of specific personality traits and suicide have found suicidal people to be more socially withdrawn, have more interpersonal difficulties, lower self-esteem, and to be less trusting than nonsuicidal individuals.¹¹³ Negativity and the expectation of undesirable events has been repeatedly associated with suicide attempts.⁶³ Excessive risk taking behaviors have also been found in some suicidal persons.²⁵⁰

The relationship of personality variables and cognitive style has also been another focus of suicide research. In one study,¹⁷⁸ cognitive characteristics of rigidity, impulsivity, and field dependence characterized a group of suicide attempters as compared to a group of nonsuicidal psychiatric controls, supporting the hypothesis of a cognitive predisposition to attempting suicide. Other research¹⁷² has suggested that cognitively rigid individuals faced with naturally occurring life stress are unable to generate or imagine alternative solutions to their problems; consequently, they are inclined to develop ideas of helplessness and hopelessness which, in turn, heighten the risk of suicidal ideation and/or behavior. Powerlessness and an external locus of control have also been identified in suicidal populations.⁶³ Studies of hysterical traits in suicide have yielded conflicting results. To date, there is little evidence to support increased histrionic characteristics in suicide completers.^{63, 84}

Another important factor in suicide is hopelessness. A study of hospi-

talized patients with suicidal ideation found that after a 5- to 10-year follow up period, 14 of the 207 patients in the study committed suicide. Of all the data collected during hospitalization, only the Hopelessness Scale and the pessimism item of the Beck Depression Inventory predicted the eventual suicides, correctly identifying 91 per cent of the completed suicides. These findings, in conjunction with previous studies showing the relationship between hopelessness and suicidal intent, indicate the importance of the degree of hopelessness as an indicator of long term suicidal risk across psychiatric diagnoses.¹⁸⁻²⁵

In summary, there are specific personality disorders including antisocial and borderline personality disorders that are more highly associated with suicide. However, it is most likely the combination of certain personality traits that cut across traditional diagnostic categories (that is, impulsivity, hopelessness, cognitive rigidity) that are better predictors of suicidal behavior and completed suicide than specific personality disorders.^{83, 84}

Psychosocial and Environmental Factors

In addition to the important role of psychiatric diagnosis, personality variables, family history, and biological factors associated with suicidal behavior, it is important for the clinician to consider the critical role of psychosocial, environmental, and specific life events in understanding and preventing suicidal behavior. Recent bereavement, separation or divorce, early loss, and decreased social supports are all potentially important factors that can affect the lethality of a suicide attempt.^{30-33, 113} Precipitants of suicidal behavior are generally humiliating life events that include interpersonal discord (particularly the breakup of an important relationship), loss of a job, impending disciplinary crisis, or the threat of incarceration.^{30-33, 55, 113, 168, 183, 219} The shame and humiliation for the individual associated with these events is of particular importance in understanding suicide attempts and completions. Situational factors such as a chaotic family life or being the victim of physical abuse also increases the likelihood of suicidal acts if the individual is not removed from these stressors.¹¹³ For older people who comprise the largest number of deaths by suicide, crises such as death of loved ones, retirement, and one's own physical decline are contributory factors.^{30, 113} However, the vast majority of older people who are bereaved, depressed, or suffering from medical illness do not end their life by suicide. A history of poor adaptation to life stress, vulnerability to loss and disruptions, loss of mastery and control, and cognitive impairment caused by organic mental disorders are factors that have been identified in suicidal older people.¹³²

Moreover, there is evidence that knowing someone who committed or attempted suicide or exposure to suicide through the media may render some people, particularly adolescents, more vulnerable to suicidal behavior.^{30, 92, 166, 194, 217, 220} This appears to be a particularly important factor in cluster suicides.¹⁹⁴ Studies have demonstrated that the reporting of a suicide on the front page of newspapers and on multiple television channels increases the rate of suicide for a 9-day period.¹⁸⁶ Television movies about suicide have also been associated with an increased rate of suicide shortly after the movies were shown.⁹² Interventions aimed at deromanticizing

portrayals of suicide in the media so that the likelihood of identification is decreased should help prevent imitation.

The strength of social supports is also an important area to assess in suicidal persons. It has been well documented that the strength and quality of these supports are important in the etiology of psychiatric problems, compliance with treatment,^{86, 97} and response to treatment regimens.^{115, 131} Individuals suffering from psychiatric illnesses may be more vulnerable to environmental stressors or to a loss of social support systems. Conversely, recent losses, a humiliating life event, or recent exposure to suicide may precipitate psychiatric vulnerability.^{30-33, 113}

Although the database is limited, there is considerable convergence of findings in the area of family and environmental factors in relation to youth suicidal behavior.¹¹³ Adolescents who make suicide attempts are characterized by considerably increased life stress and have had many losses (particularly early loss) and significant changes within the nuclear family as compared with other psychiatrically disturbed youngsters, depressed adolescents, and the general population.¹¹³ They have also had more physical and psychiatric illnesses. Precipitating events are often humiliating and are almost invariably interpersonal problems between the adolescent and his parents or peers.^{30-33, 113} The social and familial background of these adolescents is marked by parental death, divorce, and separation. Adolescents who attempt suicide have a greater number of negative life events, fewer social supports, higher incidence of being abused, running away from home, unwanted pregnancies, and fewer personal resources than those who do not.^{30, 31, 33, 113}

Finally, it should be noted that the increase in suicide rate for young people is also associated with the rise in other risk taking behaviors in this age group including substance abuse, delinquency, and crime—all indicators of social stress. Some theorists suggested that a possible source of this stress is the rise between 1955 and 1980 in the percentage of youth in the total population. It is hypothesized that these increased numbers of young people may heighten competition for desirable options such as jobs or educational experiences, with a resulting increase in all types of stress and violent behavior.^{30, 116} A similar pattern of high youth suicide rates occurred at the beginning of the century when young people also comprised a higher percentage of the total population.^{30, 91, 110, 116}

Medical Illness

The presence of a chronic medical illness is another important risk factor for suicide across all age groups. In particular, diseases with chronic debilitating courses are frequent "stimuli" to suicidal behavior.^{15, 30-33, 64, 113, 148, 149, 181, 196, 197, 256} The prevalence of physical illness in suicides varies from 25 to 70 per cent of cases and appears to be an important contributory cause in 11 to 51 per cent.^{15, 64, 149, 196, 197, 256} Among those disorders most frequently associated with suicide are cancer, Huntington's chorea, epilepsy, musculoskeletal disorders, and peptic ulcer disease.^{64, 149, 256, 257}

Medical illnesses appear to contribute to suicidal behavior in several ways including: (1) precipitating severe depression and/or initiating or exacerbating a psychiatric illness; and/or (2) producing an organic mental

disorder (such as delirium) that leads to perceptual, cognitive, and mood changes that may predispose to impaired judgment, impulsivity, and suicidal behavior. In some cases, the choice to die by suicide may be a rational act where the prospect of suffering and loss of dignity is intolerable. However, research evidence suggests that suicide in the physically ill rarely occurs in the absence of psychiatric disorder.^{64, 149, 196, 197}

The physician must, therefore, carefully evaluate suicidal risk in patients suffering from these medical illnesses. Since the physician will treat many patients suffering from these diseases, a more detailed exploration of their association with suicide is provided.

The suicide rate in epileptic patients is about four times that of normal controls.¹⁵³ Among patients with temporal lobe epilepsy, the rate is 25 times greater than would be expected. Epilepsy appears to be one of the few medical illnesses capable of causing suicidal behavior without the patient experiencing a period of severe depression and may be related to a sudden urge to suicide as part of an ictus.¹⁰⁴ Conversely, depression may occur postictally causing some patients to become suicidal. Mood impairing side effects of treatment with phenobarbital may also predispose to suicidal behavior in both adults and children,^{40, 149} and other pharmacologic factors may contribute. Additional characteristics of the illness such as the unpredictable nature of the attacks, certain social restrictions, and occupational limitations may act as contributory factors.^{40, 104, 149, 153}

Cancer has been associated with increased rates of suicide in several reports,^{46, 64, 147, 149, 256} and its prevalence in suicide victims has been shown to be several times higher than in the general population.^{46, 64, 147, 149, 256} The risk appears to be highest immediately following diagnosis and in those people receiving chemotherapy.^{79, 147, 149, 256} While suicide in people suffering from malignancies may in part be related to having a potentially terminal, painful illness requiring prolonged and difficult treatment,²²² there may be additional explanations including the association of other risk factors for suicide with specific types of cancer (for example, the association of alcohol abuse with gastrointestinal carcinoma).^{40, 147, 256} Some cancers, such as pancreatic tumors, are associated with depressive symptoms before overt signs of the medical disease are apparent.⁴⁰ Additionally, people with a severe and morbid fear of cancer are also at increased risk.^{64, 149, 256}

Other medical illnesses also have an increased risk of suicide. The high rates of peptic ulceration among people who commit suicide is probably related to the prevalence of alcoholism as a cause of ulceration and gastritis.^{133, 256} Patients who have had surgery for their illness have higher rates of suicide.^{149, 256} Furthermore, there is a six-fold increase in the rate of suicide among people suffering from Huntington's chorea and in family members who do not yet have overt symptoms of the disease as compared to the general population.^{60, 149, 256} Patients undergoing renal dialysis often experience depression; reports have shown a 10 to 100 times greater incidence of suicide in these patients as compared to rates for the general population.^{149, 256} This may be explained in part by the loss of pleasure experienced by some patients on renal dialysis, the diminished quality of life, the dependency on a machine for survival, the associated depression, and the higher age of patients receiving the treatment. There is also

evidence of increased rates of suicide in people who have suffered spinal cord injuries and have multiple sclerosis.¹⁴⁹ Cushing's disease, thyroid disorders, and hyperparathyroidism are endocrinopathies that may be complicated by severe depression and, if not diagnosed and treated, may result in suicidal behavior.

Acquired immune deficiency syndrome (AIDS) is a fatal and incurable illness characterized by a profound disturbance in the immune system. There is evidence that risk and rate of suicide is significantly increased in people suffering from this illness.¹¹⁴ To date, there have been over 50,000 deaths from AIDS and it is estimated that 1.5 to 2.0 million persons in the United States are infected with the human immunodeficiency virus (HIV). Depression frequently accompanies the disease and is often the first sign of illness. Evidence exists that AIDS directly invades the brain. Additionally, AIDS dementia complex, a syndrome characterized by progressive cognitive and motor impairment, occurs in over half of AIDS patients and for 10 to 20 per cent may be the presenting manifestation of the disease. Given the high incidence of depression, dementia, and extreme debilitation associated with AIDS, it can be hypothesized that patients suffering from this illness may be at increased risk for suicide.

The physician should also be alert for the onset of depressive symptoms with possible suicidal behavior in medically ill patients being treated with certain medications. Antihypertensive medications such as propranolol and reserpine have been associated with depression. Steroids can also produce depressive or manic symptoms.^{149, 256} Other drugs that may produce severe mood changes include antiparkinsonian agents such as levodopa, exogenous hormones, anticancer drugs, and antituberculin agents. The clinician should administer doses of these medications that keep psychiatric side effects to a minimum and change agents if severe symptomatology persists.

Studies of the relationship of medical illness and suicide suggest that severe or incapacitating medical status when associated with depression, alcoholism, organicity, and neurological impairment are important contributing factors leading to diminished judgment and increased impulsivity in medically ill patients.¹⁴⁹ As mentioned earlier in this article, most people who commit suicide have seen a doctor shortly before their death and often kill themselves with medications prescribed during these visits. Thus, it can be assumed in these cases that the psychiatric state of the patient was not adequately assessed or the impact of the illness not fully appreciated. The physician must therefore carefully evaluate suicidal risk in chronically ill patients and be aware of the psychiatric side effects of medications prescribed. Attention to these factors will help prevent suicide in their patients.

In summary, there are a number of important psychosocial factors including suffering from a medical illness that operate as contributory weights in the overlap model of suicidal behavior helping to explain individual differences across high risk groups.

Family History and Genetics

A family history of suicide is a significant risk factor for suicide. Explanations for this association include identification with and imitation of

a family member who has committed suicide, family stress or contagion, transmission of genetic factors for suicide, and transmission of genetic factors for psychiatric disorders such as affective disorders.^{30, 33, 130, 202, 204, 214, 234, 236, 258} Lines of evidence for these findings come from several types of research including twin and adoption studies, studies of familial risk, and epidemiologic research. For example, a study of psychiatric inpatients revealed that (1) 50 per cent of the persons with a family history of suicide had themselves attempted suicide; and (2) more than half of all patients in this study with a family history of suicide had a primary diagnosis of affective disorder.^{203, 204} In another study, a greater incidence of suicide was found in the relatives of psychiatric patients who committed suicide than in the relatives of the control group.²⁵⁸ An investigation of suicide in the general population found that 6 of 100 suicide completers also had a parent who committed suicide; this rate was 88 times higher than predicted.⁷⁵ A study of the Amish—a religious group with a 100-year history of nonviolence, no alcohol or drug abuse, a high degree of social cohesion, no divorce or family dissolution, and a philosophy of suicide as the ultimate sin—has demonstrated quite unexpectedly that suicides do occur among this group. Twenty-six suicides have been documented among the Amish of southeastern Pennsylvania between 1880 and 1980. Twenty-four of the 26 individuals who committed suicide were diagnosed with a major affective disorder, with the suicides occurring in four primary pedigrees. This research further suggests possible genetic factors in both the transmission of affective disorders and suicide.⁷²

Other investigations have suggested a high concordance rate for suicide in identical twins.^{98, 99} A Danish study of monozygotic twins found that in 20 per cent of the cases in which one twin was a suicide, the other twin had also died by this means.¹¹⁰ Additionally, there have been reports of nine sets of identical twin pairs where both twins have committed suicide but no report in which both fraternal twins have died by suicide, again suggesting a genetic component to suicidal behavior.²⁵⁸ In a major Danish adoption study comparing the incidence of suicide in the biological and adoptive relations of adoptees who killed themselves, a six-times greater incidence of suicide was found in the biological relatives of these adoptees than in their adoptive relatives as compared to adoptee controls.²¹⁴

These studies suggest that it may be possible to distinguish the contribution of having a family history of suicide and/or affective disorder in order to isolate high risk groups for both research and clinical purposes. Issues of family history and genetic factors are complicated not only by concordance for psychiatric diagnoses in families but also by the environment in terms of identification and imitation of suicidal behavior by family members over long periods of time.³²

Biological Factors

Recent biochemical investigations of suicidal behavior have shown that suicide victims and violent suicide attempters have a deficit in the functioning of a brain neurotransmitter, serotonin. There have been a number of studies measuring a major serotonin metabolite (5-HIAA) in the cerebrospinal fluid (CSF) and serotonin and imipramine binding in the brains of

suicide victims that appear to confirm this finding.^{3, 4, 7-11, 14, 42, 44, 143, 146, 150, 173, 174, 225, 233}

Much of this research has emphasized the close association between suicide and the propensity towards violence, attempting to identify behavioral and biological factors related to suicide that are not specific to any one psychiatric diagnosis. These studies have found a common biochemical association among aggression, impulsivity, and reduced serotonergic function. Furthermore, reduced central serotonergic activity is associated with suicidal behavior, not only when there is a diagnosis of unipolar depressive disorder but also in association with a range of other psychiatric disorders.⁴²⁻⁴⁴

Some studies suggest that the finding of decreased serotonin and violent suicide attempts may increase the risk of completed suicide 10-fold at 1-year follow up.^{9, 11} Interestingly, murderers have a suicide rate several hundred times greater than individuals the same age who have not killed anyone.²⁵³ Similarly, arsonists, a group with high degrees of aggressivity and impulsivity, show a very high incidence of violent suicide attempts.¹⁴⁶ However, it should be noted that while low 5-HIAA levels are associated with violent suicide attempts and completions, they also are found in patients with diverse psychiatric illnesses and in groups of normal controls.⁴²⁻⁴⁴ Furthermore, an increased incidence of depressive illness has been found in the relatives of both patients and normals with decreased CSF 5-HIAA.^{206, 215, 241} While the serotonergic data represent the most compelling current evidence for a biological correlate of suicidal behavior, other biological factors (neuroendocrine and neurophysiological) are also being actively investigated.^{134, 156} These biological findings offer the promise of new pharmacologic detection and treatment methods for suicidal behavior.

ASSESSMENT AND TREATMENT OF THE SUICIDAL PATIENT

In the assessment and treatment of the suicidal patient, the clinician will translate knowledge about the risk factors for suicide into a coherent plan for the careful evaluation and clinical management of suicidal patients. He or she will then target interventions to the various risk domains identified to be operating in a particular patient.³⁰⁻³³

Assessment of the Suicidal Patient

The suicidal patient may present with many different clinical signs and symptoms. Mood disturbances are frequently present and so are somatic complaints. This may take several forms, from a request for a physical examination, complaints of fatigue, weight loss, insomnia, to specific physical symptoms including persistent headaches and gastric problems. Often a suicidal person may present to the doctor with physical complaints for which there is no apparent medical cause. Warning signs of suicide include sudden changes in behavior including a dramatic brightening of mood after a period of despondency, social withdrawal, impulsivity, excessive risk taking, having multiple "accidents," changes in appetite, sleep disturbances, a humiliating life experience, persistent feelings of guilt, self-reproach and

Table 1. *Assessing the Emotionally Troubled Patient*

Chief complaint
History of present illness
History of past emotional illness
Family history of psychiatric disorder and/or substance abuse
Social history
Nonpsychiatric medical history
Mental status examination
Appearance and behavior
Mood and affect
Speech
Content of thoughts
Mental function
Insight
Judgment
Physical examination
Laboratory tests

hopelessness, alcohol or drug abuse, loss of interest in usual activities such as work, school, social activities or sports, decreased concentration, suicide "talk," making a will, and giving away prized possessions.³⁰ When several of these warning signs persist and cluster, the physician should be alert to a risk of suicidal behavior in the patient.

A careful medical and psychiatric history should be taken, paying specific attention to the mental status examination and the psychosocial history, including any recent humiliation, losses, life stresses, and substance use or abuse (see Table 1).

As in any medical examination, the clinician begins with an exploration of the chief complaint and a review of the present illness including what brought the patient to the physician's office or to the emergency room. Attention should be paid to any medical problems and medications used. A physical examination should be performed and pertinent laboratory tests ordered to rule out medical causes for psychiatric complaints. Empathic, attentive listening on the part of the physician is a key element of the assessment.

In performing a mental status examination, the physician should determine the quality of the patient's mood, the content of their thoughts (whether hallucinations or delusions are present), and whether the patient's speech is pressured or slow. Other areas of inquiry include asking about a history of previous psychiatric problems, the clinical course and treatment of these disorders, and determining whether a family history of affective disorders, substance abuse, and/or suicidal behavior is present (see Table 1). Contrary to popular lore, directly questioning the patient about suicidal thoughts and plans does not normally result in the patient taking suicidal actions; rather, most people who have come to the doctor thinking about suicide wish to be rescued and stopped from carrying out their self-destruction. Most patients will experience relief when the physician inquires about these feelings. Explicit questions about suicidal ideation, plans, attempts, suicide notes, putting one's business affairs in order, and giving away prized possessions must be asked in a direct and compassionate manner. One of the most important questions to be asked is whether the

Table 2. *Assessment of the Suicidal Person:
Factors the Physician Must Consider in Evaluating the Patient*

<i>Assessing Circumstances of an Attempt</i>
Precipitating humiliating life event
Preparatory actions: acquiring a method; putting affairs in order; suicide "talk"; giving away prized possessions; suicide note
Use of violent method or more lethal drugs/poisons
Understanding of lethality of chosen method
Precautions taken against discovery
<i>Presenting Symptoms</i>
Hopelessness
Self-reproach; feelings of failing and unworthiness
Depressed mood
Agitation and restlessness
Persistent insomnia
Weight loss
Slowed speech, fatigue, social withdrawal
Suicidal thoughts and plans
<i>Psychiatric Illness</i>
Previous suicide attempt
Affective disorders
Alcoholism and/or substance abuse
Conduct disorders and depression in adolescents
Early dementia and confusional states in the elderly
Combinations of the above
<i>Psychosocial History</i>
Recently separated, divorced, or bereaved
Lives alone
Unemployed; recent job change or loss
Multiple life stresses (move; early loss; breakup of important relationship; school problems; threat of disciplinary crisis)
Chronic medical illness
Excessive drinking or substance abuse
<i>Personality Factors</i>
Impulsivity, aggressivity and hostility
Cognitive rigidity and negativity
Hopelessness
Low self-esteem
Borderline or antisocial personality disorder
<i>Family History</i>
Family history of suicidal behavior
Family history of affective disorder and/or alcoholism

patient feels that he or she can promise to control his or her behavior and not act on impulses. If the patient cannot do this, immediate psychiatric hospitalization is indicated.²⁴⁵

Specific questions aimed at eliciting information about risk factors for suicidal behavior are a critical part of the physician's evaluation of the patient. Factors the physician must consider in the assessment of the suicidal patient are listed in Table 2.

Clinical Management of Suicidal Patients

Once the physician has determined that serious suicidal ideation and/or plans are present, there are several essential components of good clinical management that should be followed. Interventions should be targeted at

Table 3. *Clinical Management of Suicidal Patients*

<i>General Points</i>
Inquire about suicidal thoughts and plans at every visit
Frequent appointments and contact by telephone
Follow up missed appointments
Document positive and negative findings in the chart
Seek psychiatric consultation when necessary
<i>Psychological Aspects</i>
Establish therapeutic relationship (alliance)
Allow expression of painful feelings
Use a flexible, empathic and supportive therapeutic style
Provide reassurance and hope
Rectify cognitive distortions
Strengthen social supports and interpersonal relationships
Form a no-suicide contract
Develop and administer follow up plan
<i>Medical Components</i>
Importance of symptomatic relief
Adequate doses
No refills
Supervision by a relative when possible
Assess patient compliance
Obtain serum levels when appropriate
Pay attention to side effects
<i>Environmental Interventions</i>
Detoxification of the home
Close supervision
Family therapy
Community support
Work/school interventions

the entire system in which suicidal behavior occurs—that is, for the individual patient, the family, and the community, where possible. They include psychological and/or medical components as well as environmental interventions including detoxification of the home, community support, and public health measures (see Table 3). Most importantly, the physician must determine if the patient is receiving adequate treatment for any psychiatric disorder that has been detected. This is a cornerstone to the prevention of suicide.

The psychological aspects of clinical management of the suicidal patient are crucial (see Table 3). One of the most important factors in the management of the patient is the doctor-patient relationship. The physician will provide supportive care by allowing the patient to ventilate painful feelings through discussions that help the patient to discover alternatives, to improve interpersonal relationships, and to change negative thinking and re-focus on the future. This can be achieved by listening intently and empathically to what the patient says, by asking pertinent questions that help the patient to share suicidal feelings, and by the provision of hope. The clinician's therapeutic style must be flexible and supportive during this time providing the patient with reassurance. The doctor must communicate to the patient that he or she cares. The medical practitioner or designated substitute should be available 24 hours a day, and maintain frequent contact

with the patient through office visits and by telephone. This provides an important lifeline of help for the patient. Through repeated telephone contacts at moments of crisis when the patient fears loss of control, the physician helps the patient recognize the difference between the experiencing of an impulse and the carrying out of an act.²⁴⁵ Psychosocial interventions during this crisis period should focus on ameliorating the thinking distortions that accompany depressive illness, helping the patient to become more flexible and hopeful, and improving interpersonal relationships. Many patients are experiencing a state of hopelessness and cannot imagine any other alternative but suicide. The physician helps the patient to problem solve in order to find alternative resolutions to the crisis, apart from suicide.

Additionally, medication can relieve some of the initial suffering that accompanies the biological symptoms of psychiatric illness (that is, weight loss, sleep disturbance, cognitive distortions, agitation, and loss of pleasure) giving the patient more energy to explore feelings and to problem solve. The type of medication will be determined by the symptoms and clinical diagnosis. When prescribing psychopharmacologic agents, the physician must pay careful attention to (see Table 3): (1) providing the patient with information about the drugs and their side effects; (2) making sure that doses are adequate; (3) entrusting the medication to a relative where possible; (4) prescribing medicine only in small quantities to prevent overdose (i.e., no more than a 5-day supply); and (5) not permitting refills without writing another prescription. Careful attention to these details helps prevent tragedies, keeping in mind that many suicidal people end their lives with medicine prescribed by their doctors. Moreover, attending to these details gives the patient the feeling that the physician cares and is taking precautions to keep the patient alive. However, if the situation is extremely precarious, psychiatric consultation or immediate hospitalization may be more appropriate.

The doctor must also pay attention to his or her own feelings and attitudes (countertransference) that can arise in the treatment of suicidal persons. Suicidal patients are often difficult to treat and their families can be quite demanding. Initially, the physician may be seen as the person who can immediately solve all problems and, when this does not happen, a great deal of anger may come his or her way. Families may also resist the physician's treatment recommendations. These factors can combine to make the doctor feel helpless; when this happens, many physicians retreat from active involvement or convey negative messages to their patients. It is very important, therefore, that the physician manage his or her own feelings and reactions and be able to handle the anxiety generated by working with suicidal patients in order to provide good treatment to suicidal patients and their families.

Disposition and Clinical Interventions

There are several options available to the physician in the management of the suicidal person. First, the patient presents in crisis. The clinician must gather all the information discussed earlier, formulate a differential diagnosis, and develop a plan for management of suicidal behavior. Given

all this information, the physician must decide whether the crisis can be managed in an outpatient setting or if hospitalization is necessary.

For most acutely suicidal patients (those who have made an attempt or have a serious plan), an inpatient psychiatric hospital unit is the best place to manage the patient. It provides a safe environment, immediate removal from environmental stressors often related to family interactions, and an opportunity for a careful diagnostic workup and intensive psychotherapeutic and psychopharmacologic interventions. Additionally, compliance to the medication regimen can be assessed, the strength of social supports and interpersonal relationships evaluated, and a follow up plan after discharge constructed. These are all critical reasons to hospitalize a patient on a psychiatric inpatient unit. Sometimes when the patient is acutely suicidal and refuses hospitalization, involuntary commitment may become necessary.

When suicidal patients are hospitalized on a general medical or surgical ward where there is less supervision, it is crucial that they are protected from jumping from upper-story windows and from falling down open stairwells, since jumping from heights is the most common method of suicide by hospitalized general medical patients.^{149, 245} Scissors, razors, and other potentially lethal objects should also be removed and plastic utensils used. Suicidal patients may be quite impulsive and, therefore, constant staff supervision is required; the patient's bed should ideally be located close to the nursing station within easy view. Flagging the beds and charts of these patients might help to alert ward personnel.²⁴⁵ Consultations with the hospital staff and family should be held to deal with their reactions and feelings about the suicidal person and to assure a consistent approach to the patient.^{149, 245} The physician should pay particular attention to the nurse's notes which often report the patient's talk of wanting to die or symptoms of depression manifested by crying spells, anorexia, apathy, insomnia, and social withdrawal.²⁴⁵ When the patient's suicidal risk poses a greater threat than the medical condition, transfer to an inpatient psychiatric unit is indicated.²⁴⁵

Some suicidal patients can be managed in an outpatient setting. This decision should be based on evaluation of the person's absolute risk of suicide, the strength of social support available from family and friends, the patient's wishes, an appraisal of the patient's ability to comply with a treatment plan, the strength of the therapeutic relationship (alliance) between patient and physician, how quickly the patient is responding to treatment, and how available the physician is for consultation with the patient.

However, management of the suicidal patient usually requires the assistance of a psychiatric consultant and is clearly indicated for all patients who have a serious plan for suicide or who have made an attempt. In the outpatient setting, a psychiatric consultant can be very helpful in refining the psychiatric diagnosis, developing a treatment plan, and providing more intensive psychiatric management of the patient. If necessary, this colleague can also help facilitate hospitalization of the patient. Additionally, the psychiatric consultant provides the patient with essential psychiatric treatment necessary during hospitalization and may also continue to provide psychiatric follow up after the patient has been discharged.

There are some general points that are helpful to remember in managing suicidal patients (see Table 3):

1. **Accurate diagnosis and appropriate treatment for associated psychiatric disorders is a major prevention strategy for suicidal behavior. Rapid and intensive treatment is particularly important.**

2. **The physician should always inquire about suicidal thoughts and plans as a routine part of every diagnostic evaluation and in every visit with a suicidal or depressed person. Both positive and negative findings should be documented in the chart.**

3. **If the physician does not feel comfortable or does not wish to either explore suicidal risk or to treat the patient, he or she still has the moral and legal obligation to refer the patient for psychiatric treatment.²⁴⁵ When suicides do occur in practice, physicians may encounter medicolegal difficulties if they have not documented their clinical management of the patient or if they have failed to take action in the presence of clearcut suicidal intent. Waltzer has remarked that "failure to take an electroencephalogram in the presence of chest pain would be considered an inadequate medical workup, below the standard medical practice. Similarly, sending a patient home without exploring immediate suicidal potential, and or making a psychiatric referral for that purpose, would be considered inadequate treatment, below standard acceptable medical care."²⁴⁵**

4. **The physician must strive to establish a therapeutic relationship (alliance) with the patient. The strength of this alliance is an important "life line" for the patient. Some doctors find the use of a "no-suicide contract" to be helpful. This "contract" involves an exchange of the patient's agreement to refrain from suicidal actions and to promise that if suicidal thoughts or plans are contemplated, the patient will call the doctor, for the assurance that the physician or designated replacement will be available at all times to consult with the patient.**

5. **Additionally, the physician must instruct the family to remove all potentially lethal objects from the house including guns, knives, and medications. This removal of a method from the immediate access of an impulsive patient conveys the important message that steps have been taken to help keep the patient alive.**

6. **The physician should always inquire about the patient's compliance with medications and use serum levels when necessary to monitor.**

7. **The clinician should always immediately follow up missed appointments with an acutely suicidal person. Clinical experience reveals that suicides often occur during this missed office visit or therapy session.**

8. **Consultation with a psychiatric colleague who has specialty training in the diagnosis and treatment of mental illness is often indicated and may be particularly helpful in the assessment and management of acutely suicidal persons.**

The physician should also be aware of several important public health interventions that may help prevent suicide (Table 4). Studies clearly show that states which have strict gun control laws have lower suicide rates.^{36, 37,}

^{39, 40, 140, 141} **Restricting availability of these weapons and other lethal methods becomes an important suicide prevention strategy. Similarly, alcohol and drug use are associated with 80 per cent of suicides and are particularly**

Table 4. *Suicide Prevention: Public Health Interventions*

Gun control and decreased availability of lethal weapons
Educational campaigns to decrease alcohol and substance abuse
Educational campaigns to increase public awareness about depression and suicide
Deromanticization of the reporting and portrayal of suicides in the media
Community at risk clinics combining expert clinical assessment and treatment with strong community supports
Increased health care professional education through training programs and continuing medical education about diagnosis and treatment of depression and suicidal behavior
Increased insurance benefits for psychiatric disorders and substance abuse

important factors in youth suicide. Efforts to restrict access to alcohol and other substances of abuse are additional important prevention methods. Intervention strategies including educational campaigns and community involvement to decrease the stigma associated with mental illness are indicated. Additionally, the media has an important role to play in suicide prevention given the evidence that exposure to a suicide through newspapers and television enhances risk.^{92, 186} Portrayals of suicide in television movies must be devoid of romanticization and reports of suicides in newspapers may best be relegated to back page news. These interventions should help prevent identification with the victims by vulnerable people. Moreover, the media can make critical and valuable educational contributions through increasing public and health care professional awareness about suicide.

Educational measures and curricula on suicide in the schools require further development and evaluation. Currently, there is a paucity of knowledge about the effects of school-based education on suicidal behavior. Perhaps the most sensible approach to suicide education is to integrate teaching about suicide into curricula on general mental health topics, focusing on increasing self-esteem in adolescents and strengthening coping skills. The development of "at-risk clinics" in communities may also be helpful in preventing suicide. Such clinics might offer expert clinical assessment and treatment combined with strong community links, increased social supports, family education, and hotlines staffed by mental health professionals. Finally, public and health care professional education is needed to increase knowledge about the warning signs of suicide and intervention strategies. The physician has an important role to play in spearheading some of these efforts in his or her community.

CONCLUSION

This article has reviewed the risk factors for suicide in adults and young people. Five overlapping spheres of vulnerability for suicidal behavior have been described including psychiatric disorders, psychosocial, medical and environmental factors, biological and genetic variables, and personality traits. The presence and interaction of several of these domains increases the risk of suicide. Assessment and treatment strategies for suicidal behavior targeted at these risk domains have been discussed. Figure 2

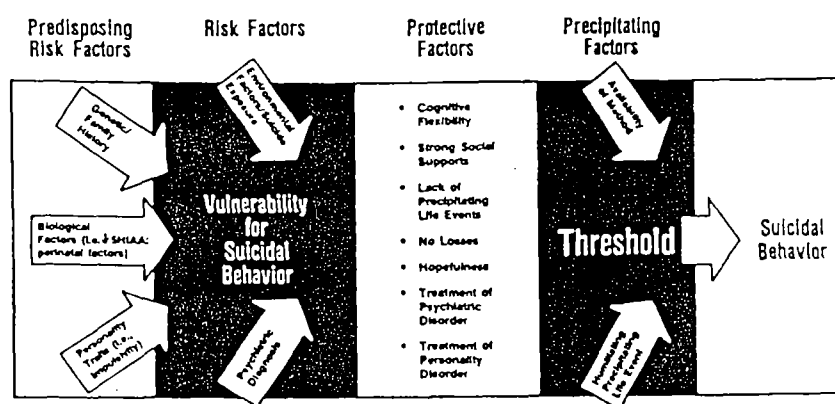


Figure 2. Threshold model for suicidal behavior. (From Blumenthal SJ, Kupfer DJ: Clinical assessment and treatment of youth suicidal behavior. *J Youth Adolesc* 17:1-24, 1988; with permission.)

provides a way of applying the overlap model (Fig. 1) to a framework the clinician can use for the early detection and treatment of suicidal patients.

In this threshold model for suicidal behavior, certain predisposing factors (such as a family history of suicide and biological vulnerability) interact with risk factors developed later in life including having a psychiatric illness (such as depression or substance abuse) or exposure to a suicide. When a person with these risk factors undergoes a humiliating life experience and when there is an available method for suicide, the threshold for suicidal behavior may be lowered. However, the presence of certain protective factors, including cognitive flexibility, hopefulness, good social supports, and receiving appropriate treatment for an associated psychiatric disorder, contribute to maintaining a barrier to suicidal behavior, helping to explain why some people become suicidal in certain conditions and others do not. The physician has an important role to play in the early detection of risk factors for suicidal behavior and in strengthening these protective factors. Interventions that target as many risk factor domains as possible including family treatment, environmental modification, and treatment of the associated psychiatric disorder will maximize prevention of suicidal behavior by heightening the barriers to suicide.

Physicians need to be certain that treatment for suicidal patients in their practice includes state-of-the art psychotherapeutic and psychopharmacologic techniques geared to the treatment of specific psychiatric disorders as well as to suicidal behaviors. This is critical insofar as many psychiatrically ill suicide victims never receive proper treatment. Therefore, the proper identification, assessment, and treatment of psychiatric disorders is a key element to the prevention of suicide. Other important components in the clinical management of patients at high risk for suicide include: (1) providing the patient with support and hope; (2) helping the patient to problem solve; (3) involving the family in order to enhance compliance to treatment and decrease the chance of relapse; (4) appropriate use of psychiatric consultation and hospitalization; and (5) restriction of the availability of lethal methods.^{30-33, 40, 245} Careful attention must be paid to the

patient's environment and support systems. In this regard, a comprehensive follow up plan is critical to preventing suicide—creating a lifeline and meaningful link for the patient to people who care and who can help in both the treatment and community settings.

Finally, it is crucial that curricula in medical schools, residency training, and continuing education programs contain information about the diagnosis and treatment of psychiatric disorders and complex human behaviors such as suicide. As mentioned, physicians evaluate most suicidal people in their offices during the weeks when these patients are deciding whether to live or to die. Most alarmingly, it is doctors who often prescribe medications that their patients will then use to end their lives because they have not known or wanted to ask the necessary questions. Waltzer emphasizes that "it is incumbent upon us as physicians, whenever and wherever possible, to try to avert the patient's carrying out of a suicidal act. If one is to err, then let it be on the safe side, since it is impossible to predict with absolute certainty which individuals will end their lives by suicide."²⁴⁵ Tragically, mistakes in prediction are irreversible. Therefore, physicians must become trained in the life-saving aspects of assessing suicide risk in their patients, become more vigilant in recognizing the warning signs of suicide, and actively intervene by providing support, alternative choices, and appropriate treatment to their suicidal patients.

It is hoped that this review of risk factors for suicide and strategies for assessment and treatment of suicidal behavior will be a useful guide for the physician to prevent this tragic loss of human life in clinical practice.

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Judith Johnson

**Deputy Assistant Secretary, Office of Elementary and Secondary Education
U.S. Department of Education**

Judith Johnson, a teacher, administrator, community leader, and national policymaker, has devoted her professional life to the education of our nation's children. To continually reform and improve education, Ms. Johnson has used her considerable skills and experience in curriculum, instruction, administration, fiscal management, technology, coalition building, engagement of parents and the private sector, and performance-based accountability systems.

As Deputy Assistant Secretary for the Office of Elementary and Secondary Education since April 1997, Ms. Johnson administers 42 federal education programs, a budget of \$15 billion, and oversees a staff of 250 people. These programs serve America's 51 million elementary and secondary students. She provides leadership for implementation of Title I requirements and is also the department's senior advisor on Social Promotion Policies and Urban Education Initiatives.

At the Department of Education, Ms. Johnson: led a nationwide engagement effort involving nearly one thousand people to develop policies -- ranging from accountability systems to improving teacher quality -- for the reauthorization of the Elementary and Secondary Education Act; co-edited a guide for school districts on ending social promotion and unsound retention practices; and is a sought-after speaker on educational standards, assessment, and accountability.

Prior to her tenure in Washington, Ms. Johnson served as the Assistant Superintendent for Curriculum and Instruction in the White Plains, NY School District. Her responsibilities included the entire academic program from pre-kindergarten through high school. As the instructional leader for the school district, Ms. Johnson was on the forefront of national efforts to establish standards-based reform initiatives. Her oversight, guidance, and vision for the district included efforts to improve site-based management; student achievement testing and school level performance standards; technology; and parental involvement. One example of Ms. Johnson's ability to implement reforms that spur student performance was a district-wide improvement of elementary students' reading test scores that took place after years of stagnation and decline.

Some highlights of her leadership at White Plains include: convening community task forces to improve teaching and learning environments; gaining board approval to implement an \$8.5 million instructional technology plan; launching a city-wide reading program involving parents, schools, and the business community; establishing extended-day and extended-school-year programs; eliminating academic tracking programs; and redesigning the district's assessment system.

On the state level, Ms. Johnson co-directed the New York State New Standards Project. Along with other key advisors, her work helped influence an overhaul of the state's testing system, requiring more performance tasks and the use of critical thinking skills.

Judith Johnson began her career in New York City. She worked as a classroom teacher, guidance counselor, and alternative high school administrator. She later served as an administrator in the Mamaroneck and Nyack School Districts and as the Director of Instructional Services for Southern Westchester BOCES, a regional educational center. She was integral in the development of the Westchester Principals' Center, a national model for the professional development of public school principals, and the Westchester Arts Program for talented high school students.

Recognition for Ms. Johnson's efforts includes the following: 100 Executive Educators in North America Award (1990); Who's Who in American Education (1990); Alpha Kappa Alpha Award for outstanding contributions to education (1992); and Outstanding Citizen Award from Ramapo (NY) for promoting community respect for diversity (1994). In addition, she has received awards from the city of White Plains, New York (1997); the Westchester County (NY) Chapter of the National Alliance of Black School Educators award (1997); and Congresswoman Nita Lowey for service and dedication to the children of Westchester (1997).

Ms. Johnson earned a BA from Brooklyn College, an MA from New York University, and a professional diploma from SUNY, New Paltz. She has completed doctoral course work at Columbia University's Teachers College.

Judith Johnson
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Summary of Qualifications

Executive educator with extensive experiences in the development and implementation of K-12 educational policies and programs at the Federal, State, and Local School District level. I possess excellent problem solving, public speaking, coalition building, listening and decision making skills that have proven successful in a variety of diverse and challenging educational settings.

Highlights of Exemplary Accomplishments - 1980 to Present

Senior Executive Service and Education Administration

- Support the Secretary of Education as the Department's principal advisor on the formulation, development and implementation of national policies that impact Elementary and Secondary Education issues across the nation.
- Provide leadership and oversight administration of 42 federal programs, a staff of 250 employees, and a budget of \$19 billion dollars.
- Directed and organized the Administration's proposal to Congress for the 1999 reauthorization of the Elementary and Secondary Education Act.
- Provided leadership and strategic planning for federal policies that support increased levels of professional development, public school choice, higher standards, and effective accountability programs.
- Formulated and implemented policies and programs to provide extended learning programs for at-risk students and their families.
- Developed and implemented policies for using program evaluation studies to guide school reform and improve student achievement.
- Established the Westchester Principals' Center, now a national model program for addressing the ongoing professional development of public school principals.
- Organized and led efforts to establish community/school/business coalitions that effectively reduced bias and racial isolation.

Policy Formulation and Program Development for Curriculum/Instruction/Assessment

- Designed federal initiatives to accelerate the pace of High School reform-including preparing legislation proposals and briefing papers.
- Administered and successfully led the Goals 2000 consortium of thirty-three New York State School Districts and the New York State Education Department collaborating on the design and use of portfolios as assessment instruments.
- Directed the construction and successful adoption of the first district instructional technology plan to support teachers and students.
- Launched the development of an expanded testing system to include multiple assessment measures in order to bring a higher level of efficiency and equity to assessment efforts.
- Successfully implemented, in collaboration with teachers and administrators, standards based K-12 curriculum frameworks.

- Organized and spear-headed a major self-study of elementary schooling policies strategies that produced a revised elementary mission statement and a strategic plan for restructuring K-5 instructional programs, using block scheduling and flexible grouping practices.
- Established effective and on-going town/gown relationships by developing the Westchester Arts Program - a university/public school collaboration providing college level training in the fine and performing arts, for talented high school students from across the county.

Financial Management

- Develop, justify, and disseminate the budget for the Office of Elementary and Secondary Education with consultation from the Administration and collaboration with Congressional oversight committees and members.
- Served as the principal liaison between city school district and education officials for federal, state and city programs.
- Responsible for the development and management of local school district instructional budgets that led to efficient district operations within established budgetary guidelines.
- Acquired and managed Federal and State grant funds to support school reform initiatives.

Personnel Administration

- Served on contract negotiation teams for the Board of Education that produced mutually agreed upon contracts and zero days lost due to strike conflicts.
- Supervised and evaluated Senior level administrative teams.
- Directed the evaluation and redesign of staff development programs to focus on the ongoing needs of educators that resulted in increased levels of accountability and retention.
- Collaborated with administration and teaching staff in the development of a performance based evaluation system for probationary teachers.
- Guided the development of an alternative evaluation system for tenured teachers that focused on continued professional growth.

Employment History

April, 1997 – present	Deputy Assistant Secretary, Office of Elementary and Secondary Education, U.S. Department of Education (Acting Assistant Secretary from Feb 1999-Dec. 1999)
August, 1990 – April, 1997	Assistant Superintendent for Curriculum and Instruction White Plains Public Schools, White Plains, NY 10605
August, 1985 - July, 1990	Director of Curriculum K-12 and Elementary Education Nyack Public Schools, Nyack, NY 10960
August, 1979 - August, 1985	Director of the Instructional Services Division Southern Westchester Board of Education Cooperative Education Services, Rye Brook, NY
August, 1974 - July, 1979	Career Education Coordinator and Elementary Assistant Principal, Mamaroneck Public Schools, Mamaroneck, NY 10543

September, 1963 - June, 1973

Elementary Teacher, Guidance Counselor and High School Guidance
Chairperson New York City Public Schools, New York, NY 11205

Awards, Honors and Special Commissions

- Member – Forum on Educational Excellence and Testing Equity, National Academy of Sciences;
- U.S. Congressional Citation for Service, Representative Nita Lowey, 1997;
- National Alliance of Black School Educators (NABSE) Award for Outstanding Service, Westchester County Chapter, 1997;
- Chairperson - Goals 2000 Peer Review Panel for the Kentucky Plan. United States Office of Education - February, 1995;
- Distinguished African American Citizen, Town of Ramapo, NY - February, 1994;
- Fellow, Superintendents Prepared - A Leadership Program for the Urban Superintendency; sponsored by the Institute for Educational Leadership, the Joint Center for Political and Economical Studies, and the McKenzie Group, Washington, D.C. 1993-94 to present;
- Outstanding Citizen Award, Ramapo, NY, 1992;
- Team Leader, New York State Education Department, High School Registration Review Team - May, 1992;
- Outstanding Educator, Psi Phi Omega Chapter, Alpha Kappa Alpha - November, 1992;
- Member - New Standards Executive Committee and Board of Directors 1991-1997;
- Who's Who in American Education, 1990;
- Public Education Representative on a Fact Finding delegation to Israel, Jewish Community Relations Council - May, 1990;
- Distinguished Service Award, Nyack Board of Education - May, 1990;
- 100 Executive Educators in North America (Annual List of America's top educators) - February, 1990;
- I/D/E/A Fellow, The Charles F. Kettering Foundation - 1989-1995;
- Founder's Award, Westchester Principals' Center - 1987.

Publications Highlights; (Editor/Primary or Co Author)

(Papers delivered as keynote speaker appear on a separate attachment)

- "A Guide the Elimination of Unsound Social Promotion and Retention Practices"
U.S. Department of Education – July 1, 1999
- "A Guide to Developing Accountability Systems aligned to Standards Based Instructional Programs"
U.S. Department of Education. Publication date, September 1, 1999
- "The New Physical and Health Education for New Millennium Children" to be published in the Journal for School Health, January, 2000
- "The Charter School Movement – Will It Fulfill Its' Promise?"
To be published in the Stanford Law Journal, Spring, 2000

Education

Doctoral Course Work Completed, Spring, 1986

Teachers College, Columbia University
Educational Administration
Dissertation course work in Progress:

Certificate of Advanced Study, (Professional Diploma)	August, 1982	S.U.N.Y. at New Paltz Educational Administration and Supervision
M.A.	February, 1969	New York University, Graduate School of Education; Guidance and Vocational Counseling
B.A.	June, 1961	Brooklyn College, Major/Sociology, Minor/History

Professional Organizations

American Association for Supervision and Curriculum Development
 American Educational Research Association
 Phi Delta Kappa - International

Additional Studies

1/D/E/A Institutes for Fellows - Summers, 1989 to 1993
 Leadership in the 90's, Cornell University, School/H.A. - February, 1994
 IBM. Executive Education Program - May, 1985