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THE WHITE HOUSE

WASHINGTON

June 28, 1994

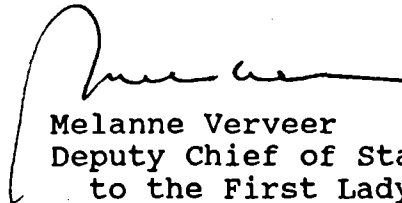
Edward Nielsen, M.H.S.
Executive Vice President
Pennsylvania Academy
of Family Physicians
5600 Derry Street
Harrisburg, PA 17111

Dear Mr. Nielsen:

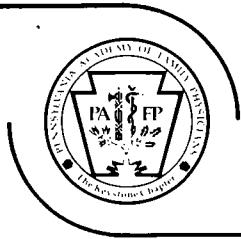
Mrs. Clinton is grateful for your participation in the health reform policy briefing and more particularly for bringing forward the concerns of family physicians and the need for the Administration to respond more adequately. She has forwarded your recommendations to the appropriate staff.

Thank you also for your continued efforts to help achieve lasting, meaningful health care reform for this country.

Sincerely,



Melanne Verveer
Deputy Chief of Staff
to the First Lady



PENNSYLVANIA ACADEMY OF FAMILY PHYSICIANS

May 20, 1994

Hillary Rodham Clinton
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

PAM MAY 25 1994

RE: Follow-up proposal to
Health Care Briefing
Thursday, May 12, 1994
Old Executive Office Building

Dear Mrs. Clinton:

My sincere thanks for your invitation to participate in last week's health reform policy briefing held at the Old Executive Office Building, Thursday morning, May 12. The purpose of this letter is to follow-up a discussion that I had with several of your key staff, including Ira Magaziner, Marilyn Yager and Dr. Irwin Redlener. More specifically, I am proposing a solution to what I perceive to be a significant problem: the increasing skepticism and declining trust of family physicians in the health reform process and proposals currently before the Congress, including the Health Security Act.

In addition to your presentation to the providers attending the briefing, I was impressed with Ira Magaziner's articulate command of the issues facing primary care providers in a reformed health system. Indeed, Mr. Magaziner speaks well to many issues facing Pennsylvania's family physicians in the May 9 issue of *Medical Economics*.

In the May 12 briefing, Mr. Magaziner spent considerable time fielding questions from the group. I queried Mr. Magaziner regarding what I believe to be a unique window of opportunity to deliver a clear message to primary care providers, nationally and state by state, about the intent of the Health Security Act to build the future delivery system on primary care. **I have found proponents of the Health Security Act too often understating the importance and role of primary care providers, family physicians being at the hub of this group.** This tendency to under-state the importance of primary care has led many, many family physicians to be skeptical about the Administration's intentions with the Health Security Act, especially in context of the "fear-mongering" inherent to many advertisements and mailings family physicians receive daily.

My proposal is relatively simple and is based on one premise: **the "hassle factor" borne by family physicians is taking an enormous toll on the supply of family physicians, to the extent that virtually all health reform proposals are tainted with skepticism and an increasing reluctance to support any plans, despite how well-intended they might be.** I believe the challenge facing the Administration and the Congress is a communications challenge, at this point. Mr. Magaziner seemed to bear this point out when he commented about his frustration regarding the misunderstanding too many primary care providers have about the Health Security Act.

The Administration could gain much-needed support from both national and state primary care provider organizations if it chose to take on the "hassle factor" now, regardless of how health reform proceeds in the Congressional mark-up sessions and committee hearings. The scenario could play out in the following way:

- With considerable advance notice and public relations, President and Mrs. Clinton, along with leaders of the American Academy of Family Physicians, pediatricians, internists, other primary care provider organizations, private sector insurers (if possible) and the Department of Health and Human Services **announce a major Administration initiative, "Partnerships for Health," which convenes a task force or working group to develop strategies and solutions to reduce the adversarial nature of the relationship between providers, insurers and government, specifically to solve the unnecessary hassles providers face in delivering health care services to patients.** This group could address both current problems and those that would need to be addressed in a reformed health delivery system.

The message? The Administration acknowledges that primary care is the critical element of any meaningful reform, yet it is at risk now because of the inordinate number of unnecessary hassles being promulgated in an adversarial relationship between patients, payers and providers.

- In a series (4-6) of briefings similar to last week's gathering, **regional groupings of representatives of state primary care provider organizations would be brought to the White House to hear specific messages from the President, Mrs. Clinton and key staff about primary care, the task force's design and work plan, and the Health Security Act, as well as create a solution-oriented dialogue that leaves participants with a sense of hope and motivation, rather than skepticism and inertia.** These individuals would be asked to work in their states to develop support for reforms, consistent with the principles in many of our organizational positions, and the Health Security Act.

The benefit? Directly addressing what seems to be a major cause for skepticism and inertia among primary care providers: the hassle factors that impede health care delivery. One result of this initiative, if successfully managed, is the enlistment of a cadre of professional provider organizations dedicated to national and state reform, working with you now on the "hassle factor." Another result is the clear and compelling message being delivered to all primary care providers that the Clinton Administration is willing to pursue "primary care friendly reforms" now, while also working toward systemic reforms through the Health Security Act.

- Based on the work of the "Partnerships for Health" task force, **periodic and highly publicized updates on the tangible results of such an initiative would be communicated from the White House to the media and key organizations,** for them to communicate to their membership.

While this proposal is admittedly simplistic in design, I would argue that the needs of family physicians and their counterparts across our nation are not as complicated as some would posit. Indeed, what I hear from the overwhelming number of Pennsylvania family physicians is the burning desire to return to the clinical practice of family medicine, not the increasing demand to assume more administrative duties in order to respond to clearly unnecessary hassles and paperwork.

I hope that you give this idea your serious consideration. Should there be any way in which I might further elaborate on how this idea might work, I will be available at your convenience. Again, my thanks for your thoughtful invitation to join you and your staff last week. I look forward to continuing this important dialogue on health reform.

Sincerely,

A handwritten signature in black ink, appearing to read "Edward Nielsen".

Edward Nielsen, M.H.S.
Executive Vice President

xc: Ira Magaziner
Marilyn Yager

Koop: Changes to take decade

President Clinton has hired the former surgeon general to help with reform package.

Koop said President Clinton made 22 revisions last weekend to his original plan, which has been under scrutiny by lobbyists who say it will be expensive and cost jobs.



The former surgeon general's comments came as Clinton brought economic experts to Washington to counter

head plans needed to get the program in place. He said former Presidents Reagan and Bush ignored his warnings that health-care problems were mounting. "Health care always has been a political no-man's land," Koop said. "This president is pretty much staking his presidency on health care. He's willing to take the risk."

Once a national health plan is in place, citizens should not compare their present coverage with national coverage, Koop said.

Like the Dinosaur

The Family Doctor Has Vanished

Gone are the days when a doctor said, "Don't worry about it; pay me when you can."

By M. J. Finkelstein

One of these days I would like to assemble a team of named architects to design the present management of the health-care system in such a shape that it likely won't be reformed by the turn of the century.

Official: more family doctors needed here

As many as 200 more primary physicians are needed in the underserved rural areas of the state, a state official said Sunday.

Center addresses physician shortage

By LORI HILL
Staff Writer

By Healthscope Inc. of Devon revealed that the southern part of the county had just over half the number of primary care doctors needed to optimally service the rapidly growing area's medical needs, Spaid said.

The company divided the medical center's coverage zone into five districts and designated them as

office. I was introduced to assembly line production to an art form. The doctor 20 medical examinations — two rooms of ten or more facing the other. I doctor less than one cross from one room in each room he spent two minutes in. When he clipboard in tall flying, was pretty sequent me recall couple my le and



increased pressure federal regulators recognizing its failure to provide the kind of doc-

FAMILY DOCTOR MAY RETURN

After years at the bottom of the totem pole in terms of prestige and pay, family-practice physicians are being touted by those who would reform the U.S. system of health care.

President Clinton's reform plan wants to make primary-care physicians the nation's health-care traffic cops or quarterbacks, if you — overseeing a system would encourage preventive medicine and cut needless trips to spe-

Fam'y doctor shortage drives up health costs

MEDICAL SCHOOLS graduated more than 15,000 new doctors in the spring. That's good news. The not-so-good news is that most of these will become specialists rather than general practitioners. Few will treat patients at the family-doctor level.

The tilt toward specialties is neither new nor surprising.

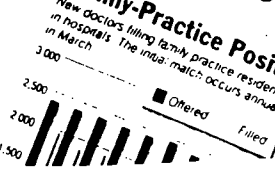
THURSDAY, AUGUST 8, 1991 • USA TODAY

Can new docs afford to enter family practice?

New family values

The lure of specialization is hard to resist. But medical students are beginning to heed the call for generalists.

NEW YORK — More medical students are flocking into family practice than ever before, according to a new survey. The trend is being hailed as an opportunity for generalists, recent graduates and command less prestige, lower salary and more time on call.



Medicine's 'front line' force suffering from troop shortage

Colleges and Council on Graduate Medical Education — have called on medical schools to return to their original missions to produce primary-care doctors to the largest physician center ground between Philadelphia and Pittsburgh, Pa.

Primary care

The lure of specializing

Numerous factors influence away from careers in primary care.

- Financial — More than \$100,000 less than specialists.

AMERICA'S PAINFUL DOCTOR SHORTAGE

Conventional wisdom says we have too many physicians. So how come medical headlines say we're desperately short of staff?

Help wanted: Family doctors

INSIGHT

growing shortage of doctors willing to practice general medicine has left hospitals and health maintenance organizations desperate for qualified candidates. In the long term, this stands as a major obstacle to overhauling the nation's health care system.

once the cornerstone of American medicine, their numbers have dwindled as younger doctors have been drawn to specialty fields by money and new technology. So far, as many

As a 50:50 balance to have a long way to go. Administrators of fees and services medical school-graduate primary care doctors would still take up to three a good mix.

PHYSICIANS

Analysis

Family physicians & health system reform

Family doctors grow scarce

LOS ANGELES — The United States has a severe shortage of family doctors and a surplus of specialists, a federal advisory panel warns in a report to be made public soon, according to the Los

DAY, NOVEMBER 10, 1992

DOCTORS WANTED:

They often work long days, for comparatively short pay: We need more of them, fast

THE WALL STREET JOURNAL WEDNESDAY, FEBRUARY 24, 1993 B5

Shortage of Primary-Care Doctors Spurs Schools, HMOs to Try to Redress Balance

BY ROY WASSERMAN

Marjorie Kurland's health care and children at a Harvard Community Health Center in Boston.

County does not seem to be doing as well as it should in the primary care area, where people needed the most.

CURING

PROBLEM:

See world's most expensive medicine (than for patients' health) U.S. doctors who

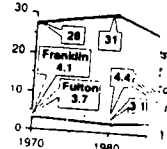
Family docs grow scarce

Reuter

LOS ANGELES — The United States has a severe shortage of family doctors and a surplus of specialists, a federal advisory panel warns in a report to be made public soon, according to the Los

Physician shortage her

The number of family physicians per 10,000 people in the nation compared to Franklin and Fulton counties



Sources: Chambersburg and Westminster Township and American Medical Association

problem has grown most acute up health reform use there

Many public health experts say the rising proportion of specialists, with their emphasis on high-tech diagnostic tools, is responsible for driving up the cost of medicine. They say the lack of generalists also has reduced access to health care for residents of rural areas.

Colleges and Council on Graduate Medical Education — have called on medical schools to return to their original missions to produce primary-care doctors to the largest physician center ground between Philadelphia and Pittsburgh, Pa.

At Hershey Medical Center, the largest physician center ground between Philadelphia and Pittsburgh, Pa.

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PENNSYLVANIA ACADEMY OF FAMILY PHYSICIANS

ANALYSIS

FAMILY PHYSICIANS and HEALTH SYSTEM REFORM

REFORM -- AN EMPTY PROMISE WITHOUT PRIMARY CARE, FAMILY PHYSICIANS

It is only logical that a good health care system must promise not just insurance coverage *but* also access to care. There is a major dichotomy between the shortage of primary care physicians, including family physicians, and the reliance of health reform plans on these same physicians to deliver quality, cost effective care on a regular basis to an even greater proportion of the population.

Many reform proposals rely on managed care or managed competition, implying there will be someone around to manage or compete. But when some communities can't attract enough primary care physicians, let alone "competitors," the promise of reform is empty for many Americans and Pennsylvanians in terms of access to care.

Ongoing efforts to control health care costs are heavily relying on care coordination and management by primary care physicians. But we can't reap all the potential savings by "coordinating care" if there aren't enough physicians to do that coordination.

While there is no quick fix to this problem, there are solutions which must be addressed immediately through cooperative efforts and visionary leadership by physicians, educators, policy makers and other leaders. This paper briefly articulates the issues in creating and retaining primary care physicians, particularly family physicians, and some ways to reverse the current trend in Pennsylvania.

THERE'S NO PLACE LIKE A MEDICAL HOME

The consensus is that the best system provides medical homes -- places where patients get care that is comprehensive, continuous, and coordinated; where the focus can also be on early intervention, prevention and education. "Primary care" is the term usually used to describe basic health care services delivered in the medical home. Family physicians are defined as primary care physicians/providers and are well qualified to provide primary care and coordinate other care from the medical home.

Patients desire and prefer -- if not expect -- the security, predictability and quality of a "medical home," preferably one that is in their community and readily accessible. As system reform expands insurance coverage, the number of individuals expecting to have medical homes will increase.

Medical homes are important to patients and to the objectives of health system reform.

FAMILY PHYSICIANS PROVIDE "MODEL" MEDICAL HOMES

Having a primary care physician in a medical home to coordinate your health care needs is not just nice, it is an efficient model to deliver quality care. One recent study suggested \$55 billion in annual savings in the US if the supply of general specialties were increased.

Family physicians are trained to and can care for 80% to more than 90% of patients' needs. For needs beyond this, they refer patients to other parts of the health system. This coordination of care helps control costs while preserving quality. The patient moves through the system to appropriate and necessary services, in a personalized care plan, with the family physician usually acting as patient advocate.

Historically, such care coordination and patient advocacy from the medical home has been informal. As the concept has gained favor because of its perceived efficiency, it has become increasingly formalized, e.g., through managed care such as an HMO gatekeeper system.

THE NATION HAS TOO FEW PHYSICIANS QUALIFIED TO PROVIDE MEDICAL HOMES

The US. now produces about 21 law school graduates for every graduate entering a family practice residency! Our nation acknowledges a shortage of primary care physicians -- now just one in every three US physicians. In 1961 half of the nation's physicians were generalists, but by 1990 only 13.9% practiced general internal medicine, 12.9% family practice and 6.7% general pediatrics. There is broad consensus that the primary care physician/other physician ratio should be 50/50, or even higher depending on the latitude used in defining primary care.

The shortage of primary care physicians qualified to provide medical homes is getting worse for two basic reasons: too few people are being trained for these professions and many in the field are leaving. Since the 1980's, only about 20% of medical students have been opting for primary care, far short of the number needed to replace those leaving the field through retirement and career changes.

A recent survey of practices seeking family physicians revealed 34% were rural, 58% metropolitan and only 8% were suburban. While shortages are most acute in rural and inner city areas, these areas also have higher per capita health care needs due to disproportionate rates of aging, chronic illness, unhealthy lifestyles and poverty.

It takes a minimum of 11 years post high school to train a physician -- 4 years of college, 4 years of medical school, 3 years of residency -- plus strict, ongoing medical education to keep skills and knowledge up-to-date. There is mandatory board recertification every seven years. So, there is no shortcut to creating a competent physician in any specialty, including family practice or other primary care fields.

Some communities, like Niagara Falls, New York, are even going abroad to recruit family physicians. The shortage of family physicians and other primary care physicians afflicts the entire nation.

PENNSYLVANIA ISN'T COMPETING FOR ITS SHARE OF PRIMARY CARE PHYSICIANS

In Pennsylvania, the Governor's office says 49 of the commonwealth's 67 counties are "medically underserved" or "health professional shortage areas." This may be conservative since the Administration used a ratio of 1 physician per 3,500 population while others suggest ratios between 1/1500 and 1/2500 may be appropriate.

It isn't because Pennsylvania lacks resources. Pennsylvania has nine medical schools and 129 residency programs, one of the nation's largest concentrations. But at the beginning of 1994, only seven medical schools had departments of family medicine, and there were only 30 family practice residency programs. And, the commonwealth has not done well in retaining its share of graduates -- from 1970 through 1992, 6.8% of the nation's family practice residency graduates (or 2,481 graduates) came out of Pennsylvania programs. In 1992, only 1,860 or 5.1% practiced here. More alarming -- a survey of June 30, 1993 family practice residency graduates in the state showed just half chose to stay in Pennsylvania after graduation.

The state also has an identified poor distribution of physicians. The majority are located in Allegheny County and Philadelphia and its surrounding counties, although physicians are not necessarily well distributed in the inner city areas within these counties.

The competition for primary care physicians is getting stiffer -- today, for every family physician residency graduate there are 50 to 200 job openings in this specialty. HMOs are being particularly aggressive in recruiting. Worse problems lie ahead as many primary care physicians enter or near retirement age -- of the 2,460 non-federal family physicians in Pennsylvania in direct patient care, 18% are 55 or older.

Pennsylvania has a shortage of primary physicians and a serious competition problem.

WHAT DISCOURAGES STUDENTS & PHYSICIANS FROM ENTERING PRIMARY CARE?

Several factors dissuade physicians from primary care careers and/or from practicing in underserved areas. Ironically, the uncertainties of health system reform and associated cost cutting/hassle adding programs by insurers and other payers may be aiding the flight from primary care – especially from small, solo, rural and inner city practices. Graduates and physicians perceive greater security in other practice modes, such as large groups, or in careers other than private practice. Some flee into premature retirement.

Not all career choice factors can be addressed by public policy, but many can in an effort to create an adequate supply of primary care practitioners, appropriately distributed and in balance with other specialties.

STUCK ON RED TAPE:

Hassle is cited by physicians as their worst enemy. Primary care practices have high patient volumes and are more affected by increasing red tape and bureaucracy – the hassle factor. These physicians find their overhead consumes 50%, 60% or more of reimbursements. The burden is especially onerous on small and solo practices where overhead is highest and the potential for reducing it is the lowest.

A two-foot thick Medicare carrier's manual translates into a practice nightmare for physicians who can spend 25 minutes just to complete the procedure to order oxygen. Medicaid claims may be submitted several times without a hint of payment. The examples from government are endless, but private insurers also contribute to hassle, especially through utilization review programs.

Hassle is why each physician now needs the equivalent of two clerical employees just to keep up with paperwork. Primary care physicians spend about one hour of every five doing paperwork. The work week averages around 60 hours, although it is not uncommon for those in small practices and underserved areas to work 80 to 100 hour weeks.

Hassle robs time from patient care, decreases access and drives up costs while acting as a general, and probably the biggest, disincentive for primary care practice and for practicing in an underserved area.

SINKING IN DEBT:

Physicians' formal education is a long process; they enter careers and hit peak earnings much later than most other professions. 1992 residency graduates reported mean total educational debt of \$61,870, and the average has been increasing each year. Practice start-up loans can add another \$50,000 to the debt.

It's not surprising that physicians may prefer the financial predictability offered by non-primary specialties or established, large practices – particularly to the option of striking out on their own.

Education debt and practice start-up costs discourage physicians from primary care and/or small, solo, rural and inner city practices. To ensure that the best and brightest can afford to choose any career in medicine, including primary care, the high cost of medical education must be addressed.

OVERSHADOWED BY LIABILITY:

Primary care practice can carry smaller annual liability premiums than many other specialties. But even a \$10,000 annual premium is more than three to five times the premium paid by primary physicians in nations like Canada and Germany.

While premiums are a burden, even the mere potential of litigation can wreck havoc on any practice. This is a particular disincentive to being in a small practice less able to withstand such disruption. Liability related concerns also cause physicians to do billions of dollars worth of extra testing, paperwork and to duplicate services in an effort to limit their exposure to claims.

In family practice, about 36% of physicians will incur claims during their careers -- 5% of family physicians incurred claims in 1990 alone, although this is down from a peak of 6.3% in 1986. Claims are decreasing in most specialties, but some data show increases in the primary care areas.

Severity -- the cost per litigated or settled claims -- is rising, liability insurers report. For example, one reports an average settlement of \$103,000 in 1992, and another's loss payments averaged \$116,000 for family physicians.

Obstetrics: Concerns related to obstetrics liability have a particularly chilling affect on access to such care. Obstetricians/gynecologists cite fear of litigation and premium costs as reasons for limiting access for higher risk patients and avoiding practicing in small, rural and inner city practices. Although trained to provide obstetrical care, family physicians today rarely offer this service (although they historically have provided it), which compounds the access problem. One Pennsylvania liability insurer said it insured 1,313 Pennsylvania FPs/GPs for liability, but just 69 or 5% reported doing obstetrical services at the end of 1992.

Liability concerns influence practice decisions, including career choices and practice styles which serves to increase health care costs and decrease access to some types of care.

CONCERNED ABOUT LIFESTYLE ISSUES:

Physicians may want to practice in their home towns or where spouses can pursue careers. They may opt for a specialty in which they have a long and keen interest or can pursue research opportunities. Specialty and practice site choice also may be influenced by the potential access to peers, continuing education, cultural benefits and other quality of life issues, or access to medical facilities. Concerns about having personal and family time along with a reasonable income can be significant to physicians who are graduating later than other professionals, and who already have faced long work hours and personal sacrifice.

Long hours, including often being on round-the-clock call, in a small primary care practice and the perceived isolation of a rural practice are disincentives to opting for these career choices.

Although family physicians and other primary care providers get significant satisfaction from their patient contact, there are other lifestyle issues related to career choice.

GETTING LOWER REIMBURSEMENTS:

Primary care physicians usually cite hassle and long hours as problems ahead of low reimbursement. But they do receive the lowest average reimbursements of all the specialties, much of the disparity due to Medicare, Medicaid and other payer policies which for decades have consciously undervalued primary services.

Medicare payments are only 60% of what commercial insurers pay, and Medicaid pays even less in Pennsylvania. Medicare compounds the problem by further reducing payments in rural areas. Overall, rural physicians fell more than 6% behind their urban counterparts on pay per hour in the period 1982-89 across all specialties. Medicare also penalized "new physicians" in their first four years of practice by reducing their payments, a policy not halted until 1994. Pennsylvania has four Medicare payment regions.

Primary care physicians' financial balance also is disrupted by carrying a high proportion of uninsured/underinsured patients and, therefore, higher ratios of uncompensated and charity care. Charity care usually is 10% to more than 11% of the primary physician's patient population.

Some recent efforts (such as the Medicare Resource Based Relative Value System) try to address reimbursement inequities. But primary care remains a long way from payment levels adequate to sustain a sufficient number of practices and entice new physicians into the field in the face of lengthy education, high debt, big overhead cost and other disincentives.

Primary care physicians have the lowest income of all physicians. Particularly in light of educational debt and other disincentives, lower relative payments discourage physicians from entering or staying in private primary care practices.

PEER PRESSURE:

Peer pressure or "word of mouth" among physicians over the years has warned that primary care careers are less preferred because of real and perceived disincentives. Such attitudes also helped foster the low priority given to primary care fields at medical schools, a trend which now is reversing.

PRIMARY CARE, PRIMARY CARE PHYSICIAN DEFINITIONS MUST BE CONSISTENT

Who are primary care physicians and what are primary care services? If definitions aren't consistent, solutions to address the shortage risk being dangerously diluted.

Medicine is a rapidly evolving art, not a science. Patients are complex individuals, not widgets rolling off an assembly line. So models, definitions and relationships resist falling into nice, neat categories and rigid parameters. But there is significant consensus on some definitions.

Primary care physician generally means family physician, general practitioner, general internist and general pediatrician. *The American Academy of Family Physicians' (AAFP) defines a primary care physician as a specially trained, generalist physician who gives definitive care to the undifferentiated patient at the point of first contact and takes continuing responsibility for the patient's care. They devote the majority of their practice to providing primary care services to a defined population, serve as an entry point for virtually all of the patients medical and health care needs – not limited by problem origin, organ system, gender or diagnosis – and advocate coordinating the entire system to benefit the patient.*

Primary Care: The generally used definition of *primary care*, used by the Public Health Service, is:

- a point of first contact for people with undiagnosed symptoms or health concerns;
- comprehensive care (not limited by disease or organ);
- continuous care for the patient; and
- coordination of other health services related to the patient's care.

The AAFP notes primary care is provided by specially trained physicians who are skilled in comprehensive first contact and continuing care for persons with an undiagnosed sign, symptom or health concern. Such care includes health promotion, disease prevention, health maintenance, counseling, patient education, diagnosis and treatment of acute and chronic illness in a variety of setting such as offices and home care.

Primary Care Practice is defined by AAFP as the patient's first point of entry in to the health care system and the continuing focal point. *Such practices are organized to meet the needs of patients with undifferentiated problems and to care for the vast majority of patient needs and concerns. They are generally located within the community, facilitating access to care while maintaining a wide variety of consulting and referral relationships. and may include a team of physicians and non-physician health professionals.*

Competencies are important. In the area of primary care these include being able to assess and diagnose common symptoms and physical signs; manage common acute and chronic medical conditions; promote health and disease prevention; and identify appropriate referral for other needed health services.

Obstetrics/gynecology is an example of a problem created by forcing medicine into rigid -- one size fits all -- definitions. Ob/gyn services as being organ specific do not fit the generally accepted primary care definitions. Yet, the reality is that many women across Pennsylvania and the nation rely on and are getting regular health services from their ob/gyn, in a relationship which the patients perceive as primary and very personal due to the nature of the services. Reform plans must recognize this unique situation. Cooperative efforts, such as that between the American College of Obstetrics/Gynecology and the American Academy of Family Physicians, to address this issue should be encouraged and extended.

Limited Primary Care Providers are physicians and non-physicians who are not trained in the primary care specialties, i.e., lack the full scope of primary care training, but sometimes provide limited patient care services within the domain of primary care. They may focus on specific needs such as prevention, health maintenance, acute care, chronic care or rehabilitation, and they should work in close consultation with fully-trained primary care physicians.

The individuality of physician/patient relationships makes it difficult for "one size fits all definitions." Yet consistency of primary care terms is critical to make reform meaningful and to target incentives to reverse shortages and protect quality of care. Without consistent, accurate definitions, primary care "wannabees" can dilute the solutions, confusing the opportunities for positive change, and patients can be placed at risk.

PHYSICIAN EXTENDERS MUST BE USED APPROPRIATELY

Physician extenders -- such as midwives, nurse practitioners, physician assistants -- are important parts of the health delivery service and are keys to effectively maximizing available services, particularly in shortage areas. However, differences in competencies -- training, education, scope of practice and ongoing required continuing education -- between extenders and physicians mean that physicians and extenders are not interchangeable and that extenders require certain levels of supervision.

Family physicians are trained to distinguish between subtle differences in complaints or diagnose elusive symptoms. Licensing and scope of practice limits must recognize competency differences, which are particularly critical to quality of care, particularly in patient diagnosis, as well as to create appropriate and efficient referral patterns. Managed care groups see the latter as extremely important in their selection of primary care physicians, not extenders, as crucial to efficient care coordination within networks and important to minimize liability concerns.

It is a serious policy error to confuse physician extenders with physicians or assume they can be interchangeable because of the vast differences in training and education. For example, physicians have at least five more years of medical education than master's level advance practice nurses, and family physicians also are subject to more rigorous continuing medical education criteria (150 hours every three years) and board certification processes than physician extenders.

.....*For better ways to address the shortage problem, read on.*

WAYS TO REVERSE THE SHORTAGE

MORE CARROT, LESS STICK

The Pennsylvania Academy of Family Physicians believes the shortage of primary care physicians is best addressed by fostering, not mandating -- by promoting primary care physician education, creating a positive climate for primary care practice, and by supporting qualified individuals who want to train for, establish and sustain primary care practices, particularly in underserved areas. We need more carrots and fewer sticks.

As the competition for graduates, residents and family physicians continues to heat up, having a state strategy will be increasingly important.

DECLARE THE INTENTION/SET POLICY & DEFINITIONS

Much as it does in relationship to promoting other "industry," Pennsylvania should have a policy about recruiting and retaining primary care physicians. Then the state must follow through with consistent actions. Beneficiaries will be patients, but also hospitals, clinics, medical schools, insurers, managed care networks, employers and other groups which depend on an adequate supply of primary care physicians.

Pennsylvania must proclaim that primary care, including the family physician, is the cornerstone of the health system and the path to achieving consensus goals such as providing access to care, focusing on prevention, improving patient education, providing early intervention, coordinating care and offering continuity of care. The policy must underscore the necessity for access to primary care services by Pennsylvanians and the importance of encouraging primary care practices.

The commonwealth must consistently define primary care terms, or solutions will be diluted.

CREATE LIAISONS

The state's policies and programs must be coordinated at the highest levels of government with a commitment in each agency which can affect primary care practice -- Insurance, Health, Public Welfare and Labor & Industry, in particular. The Pennsylvania Academy recommends each agency create a liaison to communicate and collaborate with the primary care community. The overall effort must be coordinated by, and the responsibility of, an individual in the administration, named by the Governor. Input from providers into the legislative, regulatory and policy making process is critical. Primary care physicians must be represented on boards, panels and task forces which influence programs. Proposed state actions must be reviewed in light of their potential to affect the primary care climate, improvement of which must be a high priority.

IMPROVE THE PRACTICE CLIMATE

Promoting a positive climate for practice is an overriding need to ensure an adequate supply of primary care physicians and sustain these practices in the long term. To be competitive in attracting and retaining physicians, Pennsylvania must fully commit to improving the climate for practice, e.g. by reducing red tape. Specific, required improvements in the practice climate should include:

Hassle Reduction

- reduction of Medicaid red tape, creation of more provider friendly programs with physician input.
- uniform claims forms and processing by all payers including Medicaid.
- uniform and fair criteria for provider profiling and utilization review, including drug utilization review (DUR), to reduce overhead and protect quality of care, to apply to public and private payers. (For example, the state's Welfare and PACE prescription DUR programs are inconsistent.)
- office support to expedite use of computers, electronic billing and other ways to increase office efficiency in provider-friendly programs. Specifically, the state should develop a system of aid to practices to incorporate the state's new (and expensive) Medical Assistance electronic verification system (EVS).
- fair, reasonable and equitable standards for physician privileging and participation in health networks, e.g. HMO participation, to reduce barriers to small practices, e.g. those which may be too distant from a hospital to warrant admitting privileges.

Liability Reform

- practice parameters developed by appropriate medical professionals and which are flexible to protect quality of care.
- reasonable arbitration processes.
- elimination of duplicate payments from other sources and payers.
- caps on non-economic damage.
- better definition of qualifications for expert witnesses.

A NOTE ON CONSCRIPTION: The Academy believes conscription doesn't attack basic problems inherent in primary care practice or working in an underserved area, and may make problems worse by contributing to a negative climate for practice. In addition, patients are better served when medical professionals are dedicated to a chosen field of service.

MAKE CHANGES IN THE EDUCATIONAL PROCESS

GENERAL POLICIES:

Like the commonwealth, medical educational institutions, including medical schools and teaching hospitals, must adopt positions that support primary care in word and deed.

EARLY EXPOSURE:

Efforts to encourage students to consider and select primary care careers can begin as early as secondary school. Special encouragement should be given to qualified students who live in underserved areas and who are likely to return to their communities to practice. Schools should be encouraged to bring in primary care physicians to act as role models as well as to counsel and network with students. In medical school there should be early exposure to primary care services including family and community service.

MENTORING:

During all phases of education, students should have access to positive role models from the primary care community. This is particularly important during the personally challenging years of medical school. Medical institutions can demonstrate their commitment to primary care by granting privileges to qualified primary care physicians. Special attention should be addressed to encouraging minority medical students and providing appropriate role models.

ADMISSION POLICIES:

Medical school admission policies should ensure that qualified students from underserved areas and/or who have an interest in primary care are well represented in each class. Medical schools should review recruitment activities and alter them as necessary to achieve this goal.

CURRICULUM:

Each medical school's curriculum should provide broad exposure to students to all facets of primary care during all four years of medical school.

FINANCING:

The high cost of medical education means financial aid is a key to encouraging students to get the comprehensive education necessary to become qualified primary care physicians.

All medical schools receiving state and/or federal funds should have strongly supported Departments of Family Medicine. Caps can be placed on the number of sub-specialty residency slots and fellowship slots funded by governments. Medical schools should receive financial support for third year clerkships, preceptorship experiences and programs proven to result in an increased choice of primary care medical careers.

RESIDENCIES:

The more residents who train in the state, the more likely they are to practice here. Direct state and federal funds should be provided to primary care residency programs. Pennsylvania must support residency directors in their recruiting efforts in light of the growing number of residency programs in other states. The goal should be to fill all primary care residency slots, with reasonable expansion of residency programs in communities which are friendly to primary care including family practice. To provide an adequate supply of physician/professors consideration should be given to financial, locum tenens or other support based on identified needs and primary care physician faculty supply.

RETRAINING:

Some assume that physicians, once they become MDs or DOs, can readily interchange specialties. That is not the case, and retraining other specialists to become primary care physicians is no quick fix to the shortage problem. A surgeon can't step in and take over a family practice any more readily than a family physician would drop by the OR and perform surgery. Years of focus on different aspects of medicine to achieve true expertise in any specialty make any retraining an extensive project.

Retraining must take place via a primary care residency programs with board certification to follow.

EDUCATION & TECHNOLOGY:

Federal and state funds should be increased to create and support AHECS (Area Health Education Centers) which develop partnerships between medical schools, health science institutions and community agencies for education and placement of primary care providers in underserved areas; training of primary care providers, consultation and other professional services, and recruitment of minorities. Health Net programs must be actively pursued to make available the technology which addresses the issue of "technical isolation" or lack of support systems cited as a barrier to practicing in some areas by providing physicians with diagnostic and other networking opportunities with the medical community. Patient quality of care also benefits from these advanced uses of technology, e.g., through the continuing medical education and diagnostic opportunities which they offer.

LOAN FORGIVENESS

More states (27 as of 1994 with an average, annual, private grant of \$12,500) use loan forgiveness to recruit primary care physicians, identifying loan programs as part of a reasoned recruitment strategy. Loan forgiveness dollars should go to those who already are involved in training for primary care and who have actually located in Pennsylvania (as opposed to aid to younger students who may abuse the program by indicating "an interest" in primary care careers but not following through.)

To make loan forgiveness programs effective, students in the early years must have reassurances that the loan forgiveness funding stream will be available to them once they have entered primary care residencies, with additional funds available as they complete their education and locate within Pennsylvania.

The Academy recommends that loan forgiveness should start during the residency training. We suggest a sliding scale, the more years of residency and practice, the more forgiveness. If a physician receives funds but does not stay in Pennsylvania, loan forgiveness funds are converted to low interest loans. There could be cooperation among the states to help ensure loans are repaid. To carry out this strategy, the state must modify its current loan forgiveness program.

The Academy suggests that the loan program can be further targeted with higher reimbursements going to minority graduates and to those who are likely to or have located in designated underserved areas including urban areas.

PRACTICE START UP

Financial assistance for practice start-ups is important to seed new practices in underserved areas. Such incentives can be in the form of loan forgiveness, grants and in-kind contributions, e.g. office space and equipment. There should be dedicated pools of funds for communities experiencing problems in recruiting and retaining primary care physicians. Funds could be used for "bricks and mortar," medical equipment, loan programs, staffing, salary or income subsidies as well as recruiting/marketing efforts. Such support addresses retention of physicians after loan forgiveness.

REIMBURSEMENT ISSUES

HPSAs (Health Professional Shortage Areas where physicians may receive 10% Medicare "bonus" payments) should be frequently reviewed to determine if they reflect lack of access to primary care services and primary care physicians. The goal must be to move from the one primary physician/3500 population standard toward a more appropriate ratio, e.g. 1/2000. HPSA "bonus" payments should provide sufficient incentive to practice in rural and inner city areas. Application for bonuses should be as simple as possible.

Equitable reimbursement policies -- government and private payers must review their allowances to identify and correct areas which discriminate against primary care and/or represent barriers to access. Federal proposals now include offering both tax credits and higher payments to aid primary care physicians.

CREATE CLEARINGHOUSES

The state should have clearinghouses for primary care recruitment. Individual clearinghouses are necessary for each specialty, e.g. pediatrics and family practice, since these are distinct provider categories. Therefore, the clearinghouses do not need to be at the same physical locations or under the same direct management or administration. Medical organizations representing primary care groups are excellent resources in the clearinghouse effort. Clearinghouses also should have an important function in providing locum tenens, support to primary care physicians with temporary replacements to give permanent staff the opportunity to pursue educational and other opportunities.

MARKET THE STATE

Pennsylvania can market competitive attributes, e.g. from recreational and cultural opportunities to loan forgiveness programs. State efforts must be coordinated with and provide support to community recruitment efforts in underserved areas. The Academy should work with the state, medical schools and residency programs to recruit for Pennsylvania, particularly at regional and national residency and medical student fairs and meetings. The state should have a general recruitment brochure highlighting competitive aspects and specifics on future improvements.

SUMMARY

The primary care shortage took decades to develop, but we can start to reverse the trend tomorrow. Those who really care about advancing health system reform in Pennsylvania -- and who care about Pennsylvanians irrespective of reform -- know we must act immediately on well-reasoned solutions. The only alternative is to watch the current system increasingly fail to serve some populations and make any system reform an empty promise for these people.

The Pennsylvania Academy of Family Physicians is anxious to further explore the solutions addressed briefly in this report and other ways to attack the primary care shortage. For more information or to arrange a meeting with Academy leaders contact Edward Nielsen, executive vice president, or Pat Wood, manager of policy & communications at 717-564-5365 or 1-800-648-5623, or write to the Pennsylvania Academy of Family Physicians, 5600 Derry Street, Harrisburg, PA 17111.

THE WHITE HOUSE

February 3, 1994

J. B. Norton, Jr., M.D.
Director
Pediatric Cardiology
Arkansas Children's Hospital
800 Marshall Street
Little Rock, Arkansas 72202-3591

Dear J.B.:

Thank you for your letter and for sharing your experiences with various physician groups. I apologize for not getting back to you sooner.

I appreciate your willingness to play a supportive role in our health care reform efforts. The National Health Policy Council is a group of health practitioners, predominantly physicians, working with us to effect change. Their address and phone number is:

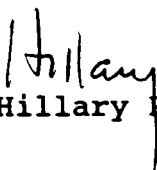
National Health Policy Council
1747 Pennsylvania Avenue, N. W.
Suite 900
Washington, D. C. 20006
(202) 833-5675

If you have further questions or need additional information, please contact Lynn Margherio at the White House who is helping coordinate outside physicians interested in supporting health care reform. Her number is (202) 456-2315.

J. B. Norton, Jr., M.D.
February 3, 1994
Page Two

Once again, thank you for your
encouraging expression of support. It was
good to hear from you.

Sincerely yours,


Hillary Rodham Clinton

cc: Lynn Margherio



*Do R
M to Steve Gleason
to contact for help*

PHOTOCOPY
HRC HANDWRITING

800 Marshall Street, Little Rock, Arkansas 72202-3591, (501) 320-1100 or TDD (501) 320-1184

*Steve Gleason
(515) 247-3222*

DAVID M. CLARK November 18, 1993
CARDIOVASCULAR CENTER

PEDIATRIC CARDIOLOGY

J.B. Norton, Jr., M.D.
Director

W.T. Dungan, M.D.
J.W. Fasules, M.D.
Elizabeth A. Frazier, M.D.
E.A. Kiel, M.D.
M. Michele Moss, M.D.
C.C. Erickson, M.D.
Carrie Altman, M.D.
Kathy Ainley, R.N.
DeeAnn Martin, R.N.
Cynthia A. Moore, R.N.P.

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Clinic/Office
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(501) 320-1895
Emergency Number
(501) 320-1100
Facsimile Number
(501) 320-3667

CARDIAC SURGERY

S.H. VanDevanter, M.D.
Chief

James E. Harrell Jr., M.D.

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Sherry Faulkner, CCP
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Facsimile Number
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**CARDIO-PULMONARY
PATHOLOGY**

A Francine Tryka, M.D.

Telephone
Office
(501) 320-1302

Mrs. Hillary Clinton
The White House
1600 Pennsylvania Ave.
Washington D.C.

Dear Mrs. Clinton:

Events and experiences within the last several weeks have led me to write to you today. First, I would like to thank you for your presentation to the American Academy of Pediatrics on the occasion of Dr. Lowe's election to the presidency of that organization. It was a thrill for me to stand with others in the academy to applaud you and the ideas that you and the President espouse. Pediatricians are behind you and recognize, as perhaps no other physician group can, what health care reform will mean to our patients.

As a Pediatric Cardiologist, however, I find myself on somewhat of a bridge between physician groups with strikingly different views. I serve as governor for the state of Arkansas to the American College of Cardiology, and as such, represented our state at the College Board of Governor's Meeting a few days following the pediatric meeting. There the attitude was very different, for many adult cardiologists and cardiovascular surgeons approach health care reform issues from a very different perspective. Some of your harshest critics are among those groups.

Then earlier this week, I attended the 25th Bethesda Conference sponsored by the American College of Cardiology and charged with addressing the issues of access to cardiovascular care in this country and manpower needs for the nation's cardiovascular medicine community. I witnesses once again a striking dichotomy of views.

Page 2
cont.

I want health care reform to work and to see meaningful improvements in access to care.

These recent experiences lead me to think that perhaps I can play a role in improving communications on these issues. Thus, I write to offer whatever services you believe might be helpful.

You have my full support, and I am sincerely grateful for the courage that you and the President demonstrate on this issue.

Respectively yours,

A handwritten signature in black ink, appearing to read "J.B. Norton, Jr.", with a stylized, cursive script.

J.B. Norton, Jr., M.D.
Professor
Pediatric Cardiology

JBN/am (11-18)

THE WHITE HOUSE

July 5, 1994

Phil Nudelman, Ph.D.
President and CEO
Group Health Cooperative
of Puget Sound
521 Wall Street
Seattle, Washington 98121

Dear Dr. Nudelman:

Thank you for your letter about the important work being done by Advanced Technology Laboratories (ATL) and Dr. Kenneth Taylor. Dr. Taylor's findings show the digital ultrasound technology developed by ATL to be a tremendous advance in breast cancer detection and prevention.

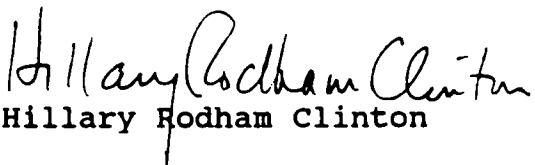
I have forwarded your letter to Dr. Susan Blumenthal, Deputy Assistant Secretary for Women's Health at the Department of Health and Human Services, for her review. Because she is leading the Department's efforts to increase early detection and prevention of breast cancer and is planning to hold a conference this fall on "New Frontiers in Imaging", I am sure she will be interested in this technology. Please feel free to contact her at (202) 690-7650.

Phil Nudelman, Ph.D.
July 5, 1994
Page Two

Thank you again for your letter and
your support. I greatly appreciate your
ongoing efforts to make health reform a
reality.

With best wishes, I remain

Sincerely yours,


Hillary Rodham Clinton

March 3, 1994

Administration and
Conference Center
521 Wall Street
Seattle, Washington 98121
Phone (206) 448-6460
Fax (206) 448-5844

Ms. Hillary Rodham Clinton
The White House
1600 Pennsylvania Ave. NW
Washington, D.C. 20500

Dear Ms. Clinton,

It is an honor and a privilege to continue working with you and Ira and a most dedicated staff in support of the President's healthcare efforts. We at Group Health Cooperative of Puget Sound continue our efforts to reduce the burden and impact of illness on the people of our communities.

I know of your interest in women's healthcare and your support for early detection of breast cancer. Last week, both Governor Lowry and I were apprised of the two year, multi-center breast study that was sponsored by a local company, Advanced Technology Laboratories (ATL). The purpose of the study was to determine whether ATL's digital ultrasound technology could increase the ability of physicians to diagnose benign breast disease following abnormal mammography findings, thereby reducing the need for biopsies.

Dr. Kenneth Taylor, professor of diagnostic radiology at Yale University School of Medicine presented the findings that included a total of 1,021 masses found in 964 women following a mammogram or physical examination. The study's findings showed that approximately 40 percent of the biopsies might have been avoided using a clinical protocol of digital ultrasound technology. This is an amazing finding in a procedure that causes needless pain, suffering and disfigurement.

I understand that the technology will not be available until it winds through the FDA process. ATL submitted, in mid February, a Premarket Approval application to the FDA for the use of the system in differentiation of solid breast masses. They have also applied for the FDA's expedited review process. All involved believe that the data and the potential to spare women the trauma, pain and cost of unnecessary breast biopsies qualify the application for this prioritized FDA process.

Ms. Hillary Rodham Clinton

March 3, 1994

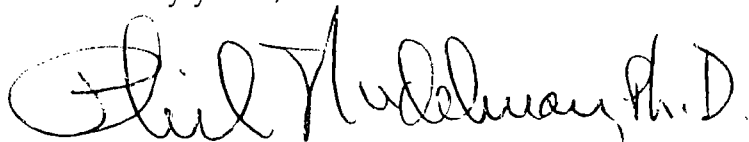
Page 2

Mammography is currently recognized as the best modality available to screen for breast cancer. Although it has a relatively high sensitivity, its specificity in most medical practices is around 30 percent. Typically, out of 100 breast biopsies, 70 are found to be benign and 30 are malignant. Approximately 500,000 surgical breast biopsies are conducted in the United States annually at a cost ranging from \$2,500 to over \$5,000 per biopsy. An additional number of needle biopsies are also conducted at costs ranging from \$750 to \$1,000 per biopsy. Cost is only one aspect. Biopsies are a traumatic procedure for most women. Surgical biopsies are highly invasive, typically removing 2.4 cubic inches of tissue, often deforming the breast.

I am writing to inform you of this technology advance and asking you to let the FDA know of the importance of expediting applications that have such immediate and positive effect on the health status of women. Please note that I have no proprietary interest in ATL, it's products, or the technology. As the President & CEO of the largest consumer owned managed care organization in the country my one goal is to help reduce the impact and burden of illness on all Americans and to improve their health status.

Please continue your great efforts. You have our continuing support.

Sincerely yours,

A handwritten signature in black ink, reading "Phil Nudelman, Ph.D." The signature is fluid and cursive, with the first name "Phil" being the most prominent.

Phil Nudelman, Ph.D.
President and Chief Executive Officer
Group Health Cooperative of Puget Sound

*Give Who
on health care
staff should look
at this - please
let's send a
response*

Ms. Sandra Tenney Myklebust, CPCM, FMP
1201 Yale Place #504
Minneapolis, Minnesota 55403
(612) 340-0071 voice
(612) 376-9055 fax

March 9, 1994

Ms. Hilary Rodham Clinton
The First Lady
The White House
Washington, D. C.

Post-It™ brand fax transmittal memo 7671		# of pages ▶ 3
To <i>H. R. Clinton</i>	From <i>Sandra Tenney Myklebust</i>	
Co. <i>The White House</i>	Co. <i>CVAC, Inc.</i>	
Dept.	Phone # <i>(612) 340-0071</i>	
Fax # <i>(612) 376-9055</i>	Fax # <i>(612) 376-9055</i>	

Dear Ms. Clinton:

I am writing to introduce to you, Ms. Gwen A. Paul, Director of Engineering at CVAC, Inc., of Minneapolis, Minnesota. Ms. Paul is the recent recipient of several awards for a ground breaking technology in the healthcare industry. She is the designer of an operating room filtration system which was patented on November 23, 1993.

The CVACTM is a centralized airborne evacuation system. In the past debris from the air in operating rooms has been removed with portable systems. The new system has several major advantages over the portable methods of filtration. It is convenient, quiet and effective. At the present time, CVAC, Inc. a small, recently formed company, has one major installation. In January, the system was installed in 19 renovated and new operating rooms at the 672 bed Minneapolis based Abbott Northwestern Hospital.

The need for ground breaking technology such as this centralized air filtration system has never been greater. There are more than 24 million laser, electrocautery and orthopaedic procedures taking place in the U. S. each year. These methods of surgery produce airborne blood and tissue debris that may put healthcare workers at risk. An estimated 70 % use no form of airborne debris evacuation system.

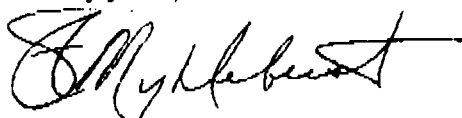
Ms. Paul, the designer of the award winning evacuation system has been recognized by the (American Consulting Engineers Council (ACEC). The association noted in awarding this prestigious recognition that it is rare that an engineering innovation has such a direct impact on people. It is even more rare that this innovative technology originated from a young, 32 year old female engineer. Early last month the State of Minnesota awarded its inventor of the year award to Ms. Paul.

The Association of Operating Room Nurses (AORN) has adopted the following Recommended Practice: "Patients and perioperative personnel should be protected from inhaling the smoke generated during electrosurgery. An evacuation system should be used to remove surgical smoke."

Perhaps a letter commending Ms. Gwen Paul for her centralized evacuation system toward a better, more cost effective healthcare environment would be appropriate.

Thank you for your interest. I will telephone soon to talk with your office further about this proposal on behalf of Ms. Paul.

Sincerely yours,



Sandra Tenney Myklebust, CPCM, FMP

Modern Healthcare

WEEKLY BUSINESS NEWS

*Note - CVAC is
a spin off from
Michaud Cooley
Erickson. J.M.*

Aug. 9, 1993

TECHNOLOGY

Clean air an issue during electrosurgery

By Lisa Scott

The Association of Operating Room Nurses is ready to ask hospitals and other healthcare providers to keep the air clean during electrosurgery.

A draft of recommended practice guidelines, published in the July issue of *AORN Journal*, state that smoke evacuators should be used in all electrosurgical procedures.

AORN already recommends that hospitals use smoke evacuators during the 3.6 million laser surgery procedures performed each year. And most hospitals do.

That's because laser smoke smells bad and can make it difficult for operating room personnel to see. Also, scientists say that masks alone don't block particles of human flesh and dangerous hydrocarbons sometimes found in laser smoke. Some studies suggest that particles of flesh in laser smoke can carry active viruses, such as one that causes venereal warts.

Research has not spelled out the long-term health risks laser smoke presents for surgeons and operating room personnel.

Scientists now argue that smoke produced during electrosurgery, or any other procedure that burns tissue, also could be dangerous. For example, a 1992 study by the National Institute of

Occupational Safety and Health said that smoke from one gram of tissue burned during electrosurgery could mutate cells as much as the smoke of three to six cigarettes.

"Electrosurgery smoke or argon beam coagulator smoke is not all that different from laser smoke," said Albert de Richemond, a senior project engineer at ECRI. The Plymouth Meeting, Pa.-based not-for-profit firm evaluates healthcare technology. It conducted a study of smoke evacuators in 1990.

Electrosurgery is an element of about 80% of all surgical procedures, or 18 million each year. Most hospitals don't use smoke evacuators during electrosurgery, said Larry Lachowski, marketing manager of Stackhouse, a Riverside, Calif.-based manufacturer of smoke evacuators.

Many manufacturers see these two facts as a sign that the demand for smoke evacuators and accessories is about to boom. Some estimates place the potential market at \$50 million to \$100 million.

Stackhouse controls more than 50% of the market, while Deerfield, Ill.-based International is a distant second. Several companies are entering the field.

"Three years ago, there was us and

maybe three or four other companies," Mr. Lachowski said. "Now, maybe there's 20 others."

The latest technology is a centralized vacuum system designed by Michaud Cooley Erickson, a Minneapolis engineering firm. It was installed in January at 672-bed Abbott-Northwestern Hospital in Minneapolis to filter bone dust and surgical smoke.

The central equipment cost about \$75,000, said Gene Torrey, facilities director at the hospital. That doesn't include the cost of design, installation and piping. With regular maintenance, the system should last indefinitely.

By comparison, portable smoke evacuators cost from \$1,600 to \$4,700 and have a life of about six years, Mr. de Richemond said. Disposable accessories, such as filters and flexible tubing, run about \$15 per procedure.

At Abbott-Northwestern, the evacuation system draws off smoke through a hose attached to an articulating arm on each operating room's service column.

The hospital had been using portable smoke evacuators, which took up valuable space next to the operating table and added noise to an already hectic environment, Mr. Torrey said.

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ENGINEERING EXCELLENCE

Laser Safety System Wins Grand Conceptor Award

The design of a pioneering laser smoke evacuation system which eliminated hazardous conditions from a hospital's operating room earned ACEC's Grand Conceptor Award for the Minneapolis consulting engineering firm of Michaud, Cooley, Erickson & Associates (MCE). The Grand Conceptor is the top award given in the Council's annual Engineering Excellence Awards competition. The project was commissioned by Abbott Northwestern Hospital (ANW) in Minneapolis, to be used in 19 new and renovated operating rooms equipped for laser procedures.

The use of laser surgery in the United States has been increasing dramatically. In ANW, for example, the number of laser surgery procedures more than doubled between 1988 and 1991. Using lasers rather than scalpels reduces the post-operative pain patients experience, shortens the time patients spend in the hospital, and virtually eliminates the need for large, fully staffed operating rooms.

Unfortunately, lasers also create unpleasant and potentially hazardous working conditions for the medical staff. Laser interaction with human tissue generates a visible, malodorous smoke plume that can contain carcinogenic chemicals and infectious particles, such as Human Papillomavirus DNA (HPV DNA), which cause genital warts. HPV DNA is often present in HIV-positive patients. It presents a risk of infection if it is inhaled or exposed to open tissue.

The system designed by MCE is capable of handling blood and tissue debris aerosolized during electrocautery and orthopedic procedures. In addition to addressing the health hazards of laser surgery, ANW required the new evacuation system to be capable of serving all 19 operating rooms simultaneously. MCE responded by designing the Centralized Laser Smoke Evacuation System (CVAC).



Prior to the development of CVAC, ANW used portable laser smoke evacuation units that filtered, then recirculated air back into the procedure room. These portable units can serve only one procedure at a time, may not eliminate offensive odors, require up to seven square feet of floor space, are noisy, and cannot evacuate wet debris.

Since it is centralized, CVAC can serve any number of operating rooms simultaneously. It draws the laser smoke and debris through transparent, flexible tubing connected to an articulating arm. Permanent tubing in the articulating arm draws the smoke and debris to a copper piping system located above the ceiling. (At ANW, this piping system links all 19 operating rooms, with provisions to serve additional rooms in the future.) The smoke and debris

are drawn rapidly through the piping system to a central mechanical room and discharged into a centrifugal separator. Rotation and gravity combine to separate the debris from the air. The separator tank is rinsed with a disinfectant solution, which flushes the debris to the sanitary waste system. Vacuum producers draw the remaining air through a high efficiency (HEPA) filter to the exterior of the building.

The entire CVAC system can be rinsed and disinfected from the point of use by drawing water or a disinfectant solution through the flexible tubing in the operating room. The solution then passes through the piping system where it is flushed at the separator tank.

By removing the smoke from the procedure room, CVAC minimizes the risk of infection from airborne contaminants, eliminates odors, and evacuates carcinogens. CVAC captures 98% of all the airborne particles generated by the laser procedure. The use of disposable flexible tubing, available in varying lengths and diameters, enables health care professionals to evacuate smoke close to the procedure site.