FISCAL YEAR 2020

Annual Assessment of the Army Safety Program

Director of Army Safety
Introduction

At the close of every fiscal year, the U.S. Army Combat Readiness Center (USACRC) conducts a holistic review of Army-wide mishap data from the previous 12 months to analyze trends and offer commanders insights to augment their safety programs. This detailed assessment is a product of those efforts.

The Army lost 95 Soldiers and one Department of the Army Civilian (DAC) to recordable mishaps during FY20. Purely by the numbers, this was the safest year in Army history, with the fewest accidental fatalities and Class A mishaps recorded for a single year in the USACRC database (figure 1). Prior to FY20, the fewest Soldiers lost to mishaps in a single year was 109 in FY16. It would be easy to believe we have finally broken through the plateau of the past five years, during which both on- and off-duty fatalities remained relatively stable. However, due to the unique circumstances of COVID-19, we must closely examine the data to ensure we arrive at the correct conclusions.

The Army recorded 114 total on- and off-duty Class A mishaps during FY20, with total mishap costs exceeding $1 billion. Of those, 73 were off duty, besting the previous low of 84 in FY16. The 26 on-duty ground Class A mishaps were near the previous yearly low of 25, again in FY16. Six manned aviation Class A mishaps tied the previous low from FY00. Even the relatively new and expanding fleet of unmanned aerial vehicles, including aerostats, experienced a reduction in Class A mishaps, falling to nine from 12 in FY19.

The pandemic likely impacted the number of Soldiers lost in off-duty mishaps, but it is difficult to determine if associated restrictions or better Soldier decision-making was responsible for FY20’s reductions. There also seems to have been some impact on duty, but again, the relationship to COVID-19 is unknown. The Army continued to fly, shoot and drive throughout the year, albeit at slightly lower rates, yet the number of on-duty ground fatalities and Class A mishaps fell significantly — more than 20 percent from FY19.

Between 2007 and 2019, the rate of decline in preventable mishaps slowed and essentially plateaued at levels far below historical highs in the 1970s and the spike experienced from 2003-2006, when as many as 299 Soldiers died in mishaps during a single fiscal year. While the Army has done tremendous work in our collective mishap prevention efforts, holding steady means we are still losing Soldiers, DACs and resources needed to maintain readiness. We must strive to sustain the reductions of FY20 as we work toward a post-COVID environment.

The following pages are a detailed discussion of FY20 mishap trends and the Army’s efforts to assist leaders in their mishap prevention efforts, including the Army Readiness Assessment Program (ARAP), Joint Risk Assessment Tool (JRAT), Army Safety Management Information System (ASMIS 2.0), Army Safety and Occupational Health Management System (ASOHMS), and safety education and training.
“Rollover” is not a specific term, and there are many ways a rollover can occur. Factors of the mishap investigations cited vehicle design issues. In all but one fatality, the vehicle’s survivable space was intact after the rollover — ejections and partial ejections killed the Soldiers. Had these units enforced restraint use and conducted rollover drills, most of these fatal mishaps would have been recorded as Class C with minor injuries.

Gaps in mission planning, predominantly failures in the application of risk management, were a common theme in most of the ground mishaps investigated by the

On-Duty Ground

The 26 on-duty ground Class A mishaps recorded during FY20 were a 21 percent drop from 33 in FY19 (figure 2). Approximately 62 percent (16) involved motor vehicles, followed by combat skills (aerobatic and land navigation proficiency) at 15 percent. Physical fitness, explosives and mishaps in the “other” ground category accounted for 8 percent each.

On-duty Soldier fatalities fell 25 percent during FY20 (18 versus 24 in FY19). Eleven Soldiers were killed in Government Motor Vehicle (GMV) mishaps; all but two GMV Class A mishaps involved tactical vehicles. Eight Soldiers were killed in six rollover incidents; six collisions resulted in three Soldier deaths; one DAC was electrocuted when a crane contacted an overhead power line; and two vehicles were significantly damaged by fire but without serious injury to personnel. Lack of restraint system use remains a critical issue in GMV mishaps.

Rollovers continue to garner interest from senior Army leaders, Congress and the media. Fortunately, fatal rollover mishaps were down from FY19. However, FY20’s eight Soldier rollover fatalities show this issue still requires command emphasis.

Error occurred while generating the natural text.
USACRC in FY20. Examples include hazards and controls not adequately communicated to or understood by those executing the mission, lack of dynamic (real-time) risk management, and no implemented controls for known hazards. Rehearsals, back briefs, pre-combat checks/pre-combat inspections, and even simple convoy briefings are critical to eliminating these gaps and preventing mishaps.

As shown in figure 4, FY20’s manned Class A mishap rate was .65 per 100K flying hours, the lowest rate and total Class A mishaps on record. While these statistics are promising, the Army must continue improving safety through awareness and overall unit culture.

A number of comprehensive initiatives contributed to FY20’s reduction, including a campaign to address the 4th quarter spike that emerged the past five years. Of all Class A aviation mishaps FY15-FY19, 40 percent occurred during the fourth quarter despite flying hours remaining relatively constant. Senior Army leadership and the USACRC embraced the challenge, launching an information campaign in March covering transitions management, unit assessments, training management, environmental training, crew selection, fighter management and maintenance. The Chief of Staff, Army endorsed this campaign with a message to the aviation force in June, reiterating the convergence of these complex factors.

Additionally, the USACRC addressed both the Forces Command and Training and Doctrine Command commands, who repeatedly reiterated and reinforced the importance of taking control of these risks through deliberate planning and action. By acknowledging and embracing these leading indicators, the outstanding, proactive approaches adopted by commanders resulted in outstanding Soldiers presence and influence throughout the year, despite the changing COVID-19 environment. Approaches adopted by commanders resulted in a significant reduction in mishaps as commanders, who repeatedly reiterated and reinforced the importance of taking control of these risks through deliberate planning and action. By acknowledging and embracing these leading indicators, the outstanding, proactive approaches adopted by commanders resulted in outstanding Soldiers presence and influence throughout the year, despite the changing COVID-19 environment.

Figure 3 shows tactical vehicle Class A-D mishaps by type for the past six fiscal years. The overall number of tactical vehicle mishaps has fallen somewhat steadily, but rollovers have become a larger percentage of total mishaps.

**Manned Aviation**

The Army continued seeing vast improvements in aviation safety during FY20, with Class A mishaps falling 50 percent from FY19 (six versus 12). This reduction, with the force still flying 90 percent of flying hours through COVID-19 restrictions, was the direct result of commander presence and influence on outstanding Soldiers exercising appropriate risk management. Risk management at the company and battalion levels is the best mishap prevention tool available to the Army.

Unfortunately, seven Soldiers were killed in aviation mishaps during FY20, compared to two in FY19. Four Class A mishaps involved UH-60 variants, including a ground taxi mishap in theater (the first ground taxi Class A in more than a year), maintenance test flight in CONUS with three fatalities, and two controlled flight into terrain (one in theater, one in CONUS with two fatalities). An MC-12 was involved in a Class A mishap during emergency procedures training, and an AH-64 flew into rising terrain in theater, killing both pilots and destroying the aircraft. Of note, FY20 was the first year in several that all Class A mishaps were attributed to human factors.
in a significant reduction in mishaps throughout the year, despite the changing COVID-19 environment. Through involvement of the full Army Aviation Enterprise, specific initiatives over the last two years include the Aviation Trends/Safety Brief the USACRC provides in person to aviation units and, amidst pandemic concerns, via MS Teams. Additionally, the USACRC provides safety focused briefings during aviation pre-command, NCOES and warrant officer professional development courses. Furthermore, the U.S. Army Aviation Center of Excellence (USAACE) has developed and integrated Emergency Response Methodology Training to ensure appropriate responses to in-flight emergencies, an area that led to a number of catastrophic mishaps the past five years.

**Unmanned Aviation**

The FY20 MQ-1C Gray Eagle Class A mishap rate trended lower than the five-year average (5.91 versus 8.98) and exceeded the annual mishap rate reduction goal of 15 percent despite flying more hours than any other year. Class A human error mishaps decreased from five to two and included failure to clear frost from the wings prior to flight and commanded descent behind terrain, causing a lost link without proper procedures in place. Three mishaps were attributed to materiel failures within the fuel system that have been addressed by the Program Manager-Unmanned Aerial Systems (PM-UAS). Additionally, both Gray Eagle Class A-C mishaps (10 versus 12 in FY19) and rates (9.85 versus the five-year average of 14.59) fell during FY20. The Gray Eagle continues to improve in all aspects of safety, and the Aviation Enterprise is quick to take action across human and material factors.

The RQ-7B Shadow community continues to experience significant challenges overall. Total mishaps remained relatively constant while rates climbed as a result of decreased flight hours. The RQ-7B experienced 13 Class B mishaps during FY20 versus 14 in FY19, attributed primarily to materiel or environmental failures. Only three were attributed to human error with no discernible trend (improperly loaded DTED data, improper altitude set in lost link plan, and poor battery maintenance). Materiel factors spanned all systems, with three electrical failures, three engine failures (fuel/electrical), and two airspeed sensor failures. The Shadow’s FY20 Class B mishap rate of 43.56 per 100k flight hours is almost 300 percent higher than the five-year average, and the Class B-C mishap rate of 105.79 is almost double the five-year average. However, these rates are exacerbated by an almost 40 percent reduction in flight hours for FY20. The Aviation Enterprise and PM-UAS remain engaged with leaders at echelon for action across the DOTMLPF to improve UAS operations as a whole.

**Off-Duty Soldier Mishaps**

Despite a continued downward trend in off-duty Class A mishaps since 2006 (figure 5), the Army loses more Soldiers annually off duty than on duty. The decline in off-duty mishaps during FY20 could be partially due to COVID-19 travel restrictions on Soldiers throughout much of the year.

Off-duty Soldier fatalities fell 22 percent from FY19 (71 versus 91), with the preponderance (53) in private motor vehicles (PMVs). Motorcycles accounted for 22 fatalities, a drop of 19 percent from FY19, while 28 fatalities involved four-wheeled vehicles (two with multiple fatalities), a decrease of 13 percent from FY19. Four fatalities were pedestrians/non-motorists, down 33 percent from FY19.

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![Figure 5. Off-Duty Class A Mishaps, FY85-FY20](image-url)
two struck along the highway after exiting their vehicle, one walking to meet family for dinner, and one walking in the parking lot of a Base Exchange.

Indiscipline was cited in 39 percent of FY20’s Class A PMV mishaps and involved six separate causal factors, with excessive speed the most prevalent. Nearly half of all fatalities (44 percent) occurred during the weekend period, and 52 percent were Soldiers in the rank of E1-E4.

Sports, recreation and fitness mishaps accounted for 12 off-duty fatalities, of which nine were water related, a reduction of 25 percent from FY19. Two involved hiking (one with alcohol), and one was a bicyclist not wearing a helmet. An additional four Soldiers were killed in off-duty weapons handling mishaps, down 33 percent from FY19. Another Soldier died after falling from a balcony while consuming alcohol.

Two items are notable regarding FY20 off-duty Class A mishaps. First, the holiday block leave period from Thanksgiving to just after New Year’s Day was the safest in three years, with only four off-duty Soldier fatalities. For reference, six fatalities were recorded in FY19 and eight in FY18. Second, during July, historically the worst month for off-duty fatalities, the Army lost only one Soldier, the lowest mishap fatality number ever recorded in a single month.

Routine formal and informal counseling are key to leaders getting to know Soldiers and families. First-line supervisors are critical in providing guidance and advice as Soldiers plan their off-duty activities, and having a well-thought-out plan has proven to reduce potential mishaps. The Travel Risk Planning System (https://trips.safety.army.mil/TRiPS), while no longer an Army requirement for leave or pass, is still an active and useful tool as we emerge from COVID-19 restrictions and Soldiers begin executing long-delayed travel plans. Small Unit Leader Cards are another tool developed by the USACRC to support first-line leader engagement with Soldiers as they work toward off-duty mishap prevention. These cards, available at https://safety.army.mil/OFF-DUTY/Small-Unit-Leader-Cards, provide talking points for leaders as they discuss off-duty activities with their Soldiers.

**Workplace and Civilian Injury**

One DAC employee was killed in an Army mishap during FY20, down from three the previous year. The DAC was electrocuted when a crane boom contacted live power lines within a motor pool at a logistics readiness center. Any reduction is positive news, but no workplace death is acceptable.

Civilian injuries and costs were down in FY20 compared to the previous two years. According to the U.S. Department of Labor, 6,960 DAC injury or illness claims were submitted during the 2020 chargeback year, compared to 7,801 claims in 2019. Associated costs decreased from $124 million to $117 million. Figure 6 shows a chargeback year cost comparison for 2018-2020.

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Figure 6. Chargeback Year Cost Comparison 2018-2020
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The Occupational Safety and Health Administration (OSHA) inspected 47 Army facilities during FY20, resulting in 63 violations and zero appeals. This was an overall decrease in OSHA events compared to the previous two years, most likely due to COVID-19. Fourteen cases remain open, with an average 97 days to close out a case. The most commonly cited violations included respiratory protection, electrical wiring (use, components and general requirements), powered industrial truck operations, and machine guarding (general requirements). Figure 7 provides a summary of FY20 OSHA events.

### Mishap Summary

The Army is a learning organization. Throughout our 245 years of existence, we have learned that development and enforcement of standards is key to mission success and mishap prevention. The unfortunate problem is that we do not adhere to or enforce known standards in our planning. Nearly 80 percent of significant ground mishaps investigated by the USACRC cite lack of mission planning, including failure to conduct rehearsals, inadequate pre-mission briefs and orders, neglected or poorly executed troop leading procedures, and failure to integrate risk management in all phases of planning and execution, as causal factors.

Driver training is cited as an issue in more than 60 percent of tactical vehicle mishaps. In September 2019, the Army published an update to Army Regulation 600-55, The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing). This update modernizes the driver training program and mandates substantial changes in selection and training of drivers, including phased, sequential training requirements. In addition, company, battalion and brigade commanders now have specific responsibilities in the driver training program. Following the new program might seem difficult, but it will reduce vehicle mishaps and save lives.

**Significant lessons learned from USACRC vehicle mishap investigations include:**

- **Wear seat belts/restraints.** At least five on-duty Soldier fatalities were attributed to non-use of vehicle seat belts/restraints during FY20. In FY19, none of the Soldiers killed in tactical vehicles were wearing serviceable restraints. The past few fiscal years, an average of 70 percent of military vehicle occupant fatalities were not wearing seat belts/restraints.

- **Don’t speed.** Posted speed limits and post-wide speed limits in training areas are there for a reason: the maximum allowed safe speed in perfect conditions. However, conditions are rarely perfect, and convoy leads, vehicle commanders and drivers must adjust accordingly. Darkness, dust and precipitation all affect visibility and demand slower speeds. Most fatal tactical vehicle collisions over the past two years were between vehicles in the same convoy, with a trail vehicle striking a stopped or slowing...
vehicle because speeds and following distances were not adjusted for conditions. Dust is the most commonly cited obscurant to visibility. Speed and visibility issues are also cited in the preponderance of rollover mishaps.

- **Lead.** Leaders or supervisors failed to correct a deficiency or standards violation in more than 70 percent of Class A mishaps investigated by the USACRC the past five years. Examples include leaders allowing excessive speed, non-use of seat belts/restraints, resting/sleeping in unauthorized areas, and improper ground guiding, parking or PMCS.

**Significant lessons learned off duty include:**

- **It’s about the weekends.** During the past five years, almost 60 percent of the Army’s off-duty Class A mishaps occurred between 1700 Friday and 0500 Monday. Face-to-face counseling with subordinates, asking questions about weekend plans, and encouraging use of the buddy system are all effective countermeasures.

- **Talk about poor judgment and bad decisions.** Driver mistakes (excessive speed, fatigue, drinking and driving, no seat belts, no helmet, distracted driving, etc.) contribute to an average 91 percent of off-duty Class A mishaps involving indiscipline. Use the USACRC’s Small Unit Leader Cards.

- **Off-duty mishaps reflect the unit’s safety culture.** There is a clear correlation between reported on- and off-duty mishap rates. As on-duty rates increase, off-duty rates follow and vice versa. Safety cultures that encourage the “right” thing the “right” way on duty carry over off duty and reinforce positive behaviors.

**FY21 Mishap Reduction Goals**

It is imperative we continue our mishap reduction efforts as we move forward into FY21. The 95 Soldiers and one DAC lost to preventable mishaps during FY20 are far too many. Achieving zero preventable mishaps in the near term is unlikely, but we must work toward that goal. In the meantime, the following are the Army’s on-duty mishap reduction goals for FY21.

- **Manned Aviation:** Below 0.9 Class A flight mishaps per 100,000 flying hours, a 20-percent decrease from the five-year average. Using the average rather than FY20 totals accounts for possible COVID-19 skewing to an unachievable goal. The Army has hit the 1.0 target only seven times in 49 years of mishap recordkeeping. With annual flying hours reduced below one million across the force, this goal represents eight or fewer Class A flight mishaps.

- **Unmanned Aviation:** 8.5 Class A MQ-1C Gray Eagle mishaps per 100,000 flying hours, a 15 percent reduction from the five-year average.

- **On-Duty Ground:** Class A mishap rate below 0.035 per 1,000 Soldiers and DACs, a 5 percent reduction from the five-year average. Reducing a relatively small number of Class A mishaps across a million-plus force by 5 percent is attainable.

**Special Interest Areas**

In conjunction with the USACRC, the Office of the Director of Army Safety (ODASAF) reinvigorated assessments in special interest areas including ammunition, explosives, chemical agents, infectious agents and toxins, radioactive materials, and radiation generating devices. This program was designed to identify trends and periodically inform senior Army leadership of shortcomings in these areas.

The ODASAF conducted special interest surveys at Dugway Proving Ground, Utah, in September 2019 and Aberdeen Proving Ground, Maryland, in December 2019. Due to COVID-19 travel restrictions, surveys planned for the remainder of FY20 (U.S. Army Special Operations Command and U.S. Army Pacific) were postponed. The following observations were noted during the earlier surveys:

- **Staffing and qualifications of explosives safety personnel continue to challenge.** The recently completed Army Safety Manpower Model should help with staffing. However, sustained decrements in training budgets will require innovations in training delivery if the Army is to increase qualifications and competencies of explosives safety personnel. In addition, weakness in oversight, especially regarding annual program assessments and posture reports to leadership, appears to be growing. The USACRC plans to share trends and lessons learned from FY20 inspections and management assessments with the explosives safety community.

- **Aging facilities and equipment are generating maintenance, repair and replacement funding challenges, with implications to safety and occupational health (SOH).** Some facilities and equipment used in ammunition, explosives, chemical agent, infectious agents and toxins, and radioactive materials programs are decades old and require significant funding for repairs and preventive maintenance. Defects and failure of these facilities and equipment have the potential for high risk to personnel. During February 2019, a loss of containment and potential for chemical...
agent exposure in a laboratory was due in part to legacy equipment failure. The U.S. Army Medical Research Institute of Infectious Disease was fully shut down five months and partially shut down 22 months due to failure of the steam sterilization plant. All activities have met maintenance and repair requirements to date, but as infrastructure and equipment continue to age, these requirements will increase.

- The Army's radiation program is doing well, with Army health physicists supporting the mission across commands with Nuclear Regulatory Commission (NRC) licenses. Focus is on implementing the Department of the Army Inspector General (DAIG) recommendations on inspections and training. The ODASAF is working to ensure installation radiation safety officers are appointed in writing, trained, and overseeing their respective programs. This requires continued emphasis on proper oversight of radiation safety programs across installations with focus on inventories, training, and meeting NRC license requirements. The ODASAF is also working to ensure proper movement of radioactive materials by trained personnel in class 7 shipments. Additional focus is required for nonionizing programs to ensure installations meet requirements in Army Regulation 385-10, The Army Safety Program. The DAIG will assess the Army's laser safety program during FY21-FY22.

**Other Safety Efforts**

The Army had an outstanding year during FY20 due to a number of programs, policies and developments that will assist the force in preserving resources. Among these are ARAP, JRAT, ASMIS 2.0, ASOHMS, and safety education and training. These items are discussed in detail below.

- **Army Readiness Assessment Program.** ARAP's core mission is to provide battalion and equivalent commanders data on their formations' readiness posture and unit safety climate. During FY20, units from around the globe continued to make positive safety program adjustments based on quantitative and qualitative data received during their confidential ARAP briefings.

  Leadership engagement at every level is a pivotal element of unit safety climate. Commanders and safety managers registered 1,088 battalions or equivalent organizations during FY20, and 1,006 received confidential debriefs (figure 8). These registrations, along with units meeting FY19 requirements that overlapped into FY20, mean that 85.6 percent of all battalions in all components are current in ARAP enrollment.

  Overall ARAP mean scores serve as a barometer to measure the Army's safety climate and culture. After experiencing a downward pattern for two years, units...
Overall ARAP mean scores serve as a barometer to measure the Army’s safety climate and culture. After experiencing a downward pattern for two years, units across the Army are moving in the right direction. Based on 1,006 unit debriefs and 194,042 individual Soldier, DAC, and contractor survey responses, FY20’s mean score of 3.86 indicates a positive change in safety climate over the past 12 months (Figure 9).

Several focus areas influence a unit’s safety climate, providing insight leaders and safety managers can address through policy, procedures, and professional development. The top five focus areas changed slightly in FY20, but there was no change in the bottom five. Soldiers and employees still rate safety and direct leadership involvement as their primary focus in mishap prevention, followed closely by risk management, accountability, and training and education. The remaining focus areas also play a vital role in a leader’s ability to impact safety at the lowest level.

Quantitative data derived from ARAP’s individual questions that link the most favorable responses include:

- Unit leadership encourages reporting safety violations without fear of negative leader feedback.
- Safety standards in my unit are clearly stated in formal publications and SOPs.
- I am properly trained to safely conduct all of my missions.
- Unit leaders consider safety issues during planning and execution of operational and training plans.
- My unit sets high standards and strives to maintain quality control.

Positive responses to the above questions indicate units and leaders are doing the right things. Responses to other questions that did not score well indicate unsafe behavior associated with the following questions:

- Based upon my unit’s personnel and other resources, the unit is stretched too thin.
- Mandatory “down time” standards are enforced in my unit.
- I am not comfortable reporting a safety violation because people
in my unit would react badly toward me.

- Unit leaders allow cutting corners to get a job done.
- Lack of experienced personnel has negatively affected my unit’s ability to operate safely.
- My unit has increased the chances of an accident due to inadequate or incorrect risk management.

Qualitative write-in questions also provide commanders a direct view into the minds of their Soldiers. Some examples of common responses to Question 62, “The most hazardous thing I do is…”, are below:

- Fly only the minimums to maintain proficiency due to the flying hour reduction.
- Operate vehicles on little to no sleep and drive home after a 24-hour shift of staff duty.
- Sitting in a chair in front of a computer causing eye strain and poor posture.
- Conduct air and missile defense operations with little to no training and no rest.
- Cut corners due to leadership.
- Conduct off-road maneuvers in Stryker vehicles during hours of limited visibility.
- Utilize vehicles in questionable states of maintenance due to operational tempo requirements. Maintainers routinely work nights.

- Improve communication and be aware of morale and motivation in the unit.
- Fix the mold problem in the barracks.
- I do not know who the Safety Officer/NCO is in the unit, and I am sure most personnel don’t.

The ARAP system continuously monitors survey responses for keywords considered high risk, and the high-risk word notification process allows commanders to intervene in a timely manner. During FY20, the USACRC ARAP team notified 20 organizations of possible issues that required immediate attention. Keywords that resulted in notification included “sexual assault,” “sexual harassment,” “suicide,” “rape,” and “kill.” When a keyword triggers the system and the context poses a threat, the USACRC ARAP team immediately notifies the unit commander and safety officer. Due to anonymity, the team cannot identify the person who wrote the comment, but rapid leader involvement is still possible. Commanders are generally thankful for the notification and often, the ARAP team cannot identify the person who wrote the comment, but rapid leader involvement is still possible. Commanders are generally thankful for the notification and often, the ARAP keyword was the first hint of the issue they received.

Conversely, Soldiers and DACs provide feedback on what leaders can do to address some of these issues. For the final write-in Question 63, “The most important action(s) my unit can take to improve safety is/are…”, respondents answered:

- Ensure personnel have proper PPE and know how and when to use it.
- A continuous discussion of noise hazards around the airfield; mitigation of hazardous materials used during aircraft maintenance.
- More driver training.
- Conduct more risk assessment briefs face-to-face prior to mission execution; consideration of weather and other environmental factors.
- Foster a safety culture where everyone buys into safety and has a vested interest in preserving personnel and equipment.
- Reduce distractions and focus on crawl-walk-run flight training; set conditions to retain experience.

The quantitative and qualitative data that ARAP provides has a direct link to many mishap causal factors. Units scoring in the bottom quartile (lowest 25 percent) of ARAP scores experience significantly more Class A mishaps than those in the top quartile (figure 10). Commanders must use ARAP as a predictive tool in their loss prevention planning.
Joint Risk Assessment Tool. The USACRC released JRAT in October 2019 to provide organizations and individuals effective risk management resources. It is an interactive, easy-to-use, automated system designed to assist users with application of risk management in accordance with Joint Publication 3-0, Joint Operations, and service-specific risk management publications.

Each portal, one for the Army, Navy, Marine Corps, Air Force and Coast Guard, provides users overall service-specific mishap statistics in addition to vignettes, summaries, and guidance and resources related to a given mission type. This content is user focused to provide relevant information for production of an automated deliberate risk assessment worksheet (DRAW). When developing their DRAW, users may create their own mission types, subtasks, hazards and controls, and select from potential subtasks, hazards and controls identified for various pre-populated mission types and off-duty activities. This functionality allows users the opportunity to capture subtasks, hazards and controls they may not have previously considered.

More than 25,000 users are currently registered in JRAT, and as many as 2,400 log in each week. Commanders should review the tool at https://jrat.safety.army.mil to explore how it can assist them with risk assessment and management.
Army Safety Management Information System 2.0.

In January 2015, the USACRC, in conjunction with the Deputy Assistant Secretary of the Army-Environment, Safety and Occupational Health, Office of the Surgeon General, and participants representing all Army Commands, Army Service Component Commands and Direct Reporting Units, began a comprehensive review and ultimate overhaul and modernization of the Army Safety Program. This assembly analyzed and identified key elements of an SOH management system that meets federal, Department of Defense and Army regulatory requirements, and began development of an entirely new system called ASMIS 2.0. This tool is a “system of systems” consisting of five modules:

1) Program Management
2) Assessments and Inspections
3) Mishap and Near Miss Reporting (MNMR)
4) Training and Education
5) Hazard Management

From June through September 2020, select Army units validated functions and capabilities of the MNMR module during a limited release period. In October 2020, the USACRC released the module Army-wide and officially replaced the previous mishap reporting system. The MNMR module contains many improvements over the legacy system, including an intuitive drop-down tab interface that makes reporting mishaps easier and quicker. An interface with authoritative databases that auto-populates fields and streamlines the reporting process is also included. This functionality provides the ability to capture the right data from minor mishaps, thus improving analysis and fidelity of the commander’s risk management program through customizable dashboards that provide greater visibility of a unit’s safety program.

Development continues on the remaining ASMIS 2.0 modules. The Assessments and Inspections module will begin limited testing in the first quarter of FY21 to validate functionality, training requirements and communication.
strategy ahead of anticipated Army-wide release in the second quarter. The third module, Hazard Management, is scheduled for release in the fourth quarter of FY21. Business process re-engineering and development and stratification of requirements for the remaining two modules was completed in FY20. Development of the Program Management module will begin in FY21, followed by the final Training and Education module. The complete system is currently on track for completion during FY23.

- **Army Safety and Occupational Health Management System.** A performance-based system designed to systematically modernize the SOH Enterprise, ASOHMS provides commands a platform to migrate from compliance-based execution processes using lagging metrics (after a mishap) to an interdependent model approach utilizing leading metrics (prevention before a mishap).

  During FY19, an ASOHMS working group established a plan-do-check-act model tailored after the American National Standards Institute/American Society of Safety Professionals Standard Z10.0-2019, Occupational Health and Safety Management Systems. During FY20, the group developed and staffed a draft Army directive and supporting documents among Army commands, with comments adjudicated. The group also updated and conducted two ASOHMS assessor and Career Program 12 (CP-12) Apprentice courses, and established and validated the ASOHMS portal for acceptance and management of command data.

  Effective implementation of ASOHMS will require accountability and commitment of leaders and engaged participation by Soldiers, DACs and personnel supporting the Army at all levels. Establishment of a change management approach, facilitated by designated senior-level champions, will foster and promote a culture that integrates SOH into all operational tasks. This culture transition will ensure two-way communication to solicit input at all levels, eliminate stovepipe execution, and lead to seamless decision-making processes in all mission tasks and activities to properly mitigate risk before loss occurs.

  Full ASOHMS implementation at all Army Commands will begin during FY21.

- **Safety training and education.** The USACRC Training and Education Directorate (TED) adjusted resident safety training courses during the rapidly changing operational environment amidst COVID-19. Aviation Safety Officer Course (ASOC), Ground Safety Officer Course (GSOC) and CP-12 Apprentice classes in session during March 2020 were condensed to focus on the most critical tasks and content, allowing students to graduate early and return to home station before enforcement of movement...
restrictions. For the remainder of FY20, CP-12 Apprentice training continued through an online university to prevent students traveling for traditional resident training.

As the USACRC began developing a telework plan, TED analyzed course content to develop blended learning options (online/virtual and traditional face-to-face resident classroom instruction) to support future ASOC and GSOC classes. Classes 20-003 (GSOC) and 20-004 (ASOC) were not conducted as the Army adapted and responded to COVID. The commanding general, USAACE and Fort Rucker, published general orders and established procedures for controlling movement into the installation, medical screening procedures for arriving personnel, and protocols for reporting and responding to signs or symptoms of illness, testing and trace teams. The USACRC implemented additional controls to reduce risk of spread by reconfiguring classrooms to provide spacing for social distancing, installing signage for entry/exit points, increasing frequency of cleaning, and purchasing masks, hand sanitizer, thermometers, and additional cleaning and sanitation supplies.

With controls and a blended learning strategy in place, ASOC and GSOC classes began in June with an initial two-week online virtual portion utilizing blackboard.mil and Commercial Virtual Remote (CVR) Microsoft Teams (MS Teams). After arriving at Fort Rucker, students were medically screened and cleared prior to attending in-person classroom instruction. To support learning, USACRC’s G6 issued students tablets and mobile hotspots for online virtual instruction utilizing blackboard.mil and CVR/MS Teams during the initial restriction of movement period.

Despite some non-conducts and low fill rates, USACRC graduated 47 percent of original GSOC training requirements and 79 percent of original ASOC training requirements by focusing resources and adapting learning methods to overcome FY20’s challenges and continue the critical mission of training safety professionals.

Conclusion

The USACRC stands ready to support commanders, leaders at all levels and individual Soldiers. Our experts have developed hundreds of tools, information papers and articles to help leaders address preventable loss. Ask your safety professional what is available or visit our website at https://safety.army.mil. In addition to the tools mentioned earlier, the website also features the Off Duty Safety Awareness Presentation, dozens of videos for use in safety briefings, and much more. On-duty tools include the Lessons Learned website, which features mishap summaries and lessons learned from Class A mishap investigations.

We are living and operating in unprecedented times, but Army standards and discipline remain a constant. It is up to us, as leaders and individuals, to enforce both in every task and every mission, both on and off duty. Use the tools available to make FY21 our safest year yet and keep your Soldiers in the fight.

Readiness Through Safety!