Army Public Health Center

Public Health Report

Summary of Activities Supporting the Army Medicine 2020 (AM2020) Campaign's Injury and Violence Free Living Program, March 2013–July 2016

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14. ABSTRACT

Purpose: To summarize U.S. Army Public Health Center (APHC) activities supporting the Army Medicine 2020 (AM2020) Campaign's Injury and Violence Free Living Program. *Execution:* In March 2013, APHC was tasked to oversee AM2020 Program 3-3.4 (Injury and Violence Free Living). Two lines of effort (LOE) addressed unintentional (e.g., transportation, workplace, fall-related) and intentional (e.g., suicide, domestic violence) injuries. A primary focus of Unintentional Injury Prevention (LOE 1) was to establish a Common Operating Picture regarding U.S. Army Medical Command (MEDCOM) unintentional injury prevention responsibilities, which are distributed across multiple Army regulations and disciplines. Intentional Injury Prevention (LOE 2) activities focused on meeting established standards for suicide and suicidal behavior surveillance. *Products:* Unintentional injury metrics and tools were developed for installation-level injury monitoring, communication of emerging injury prevention and physical performance optimization science to the field continued, and a MEDCOM Operational Order was published to organize installation-level medical input on injuries and establish routine coordination of injury prevention activities across the Army medical and public health enterprise. Intentional injury metrics were established to monitor data necessary to inform Army leadership of suicide rates and trends. *Conclusion:* The AM2020 Injury and Violence Free Living Program provided data necessary for informed decision making and developed links between Army injury prevention partners across the medical and public health enterprise. The Army Medicine Campaign 2017 was released in November 2016; future APHC support of and initiatives related to injury prevention will be part of its Public Health Service Line.

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1 Summary

1.1 Purpose

To summarize U.S. Army Public Health Center (APHC) [formerly Army Public Health Command] activities supporting the Army Medicine 2020 (AM2020) Campaign's Injury and Violence Free Living Program, March 2013 through July 2016.

1.2 Injury and Violence Free Living Program and Products

The AM2020 Program 3-3.4 (Injury and Violence Free Living) mission was to enhance readiness by reducing rates of preventable unintentional and intentional injuries both in and out of the working environment. As outlined in the Campaign Plan, the Injury and Violence Free Living Program encompassed prevention of both unintentional (e.g., transportation, workplace, fall-related) and intentional (e.g., suicide, domestic violence) injuries. As a result, two lines of effort (LOE) were established. The APHC Injury Prevention Division had the lead for activities associated with Unintentional Injury Prevention (LOE 1) and APHC Behavioral and Social Health Outcomes Division had the lead for activities associated with Intentional Injury Prevention (LOE 2).

Unintentional Injury Prevention activities focused on establishing standards and a Common Operating Picture (COP), given that responsibilities for unintentional injury prevention were distributed across multiple Army regulations and disciplines. Initial efforts focused on establishing tools to describe and monitor injuries at each Army installation; information necessary to enable data-driven decision making and operationalize injury prevention responsibilities described in Army Regulation (AR) 600-63 (*Army Health Promotion*). Statistical process control charts for monitoring injury rates were created for each Army installation using medical records data from the Defense Medical Surveillance System (DMSS). The charts presented installation-specific baseline rates and provided "signals" of deviations from these rates, and were made available in the Army's Strategic Management System (SMS). In addition, annual injury data summaries for Active Duty injuries, Civilian injuries, and Army safety reports synthesized key centralized injury surveillance data for each Army installation or Joint Base. This information was provided to support installation injury efforts established with another Unintentional Injury Prevention initiative, U.S. Army Medical Command (MEDCOM) Operational Order (OPORD) 15-74 (*Improving Readiness through Prevention of Unintentional Injuries*). MEDCOM OPORD 15-74 was developed to coordinate installation-level medical input on injuries and standardize the approach to unintentional injury reporting and prevention planning in partnership with Community Health Promotion Councils (CHPCs). The OPORD was published in September 2015, and a pilot phase was conducted from November 2015 through June 2016.

In addition, the AM2020 Research to Practice Work Group led efforts to bring injury prevention and physical performance science to those in the field. The work group was a joint initiative with the AM2020 Physical Performance Service Line. Its specific focus was the design and management of the AM2020 Injury Prevention and Performance Optimization Education Series, which featured

quarterly presentations from Army scientists and public health professionals in the areas of physical performance, health promotion, and injury prevention. The online seminar brought information on emerging research and public health findings to those in the field, including Army medical providers, health promotion professionals, health policy makers, and others working to support the readiness and health of Soldiers.

Intentional Injury Prevention (LOE 2) emphasized meeting established standards for suicide and suicidal behavior surveillance described in AR 600-63 (*Army Health Promotion*) and Department of the Army Pamphlet (DA Pam) 600-24 (*Health Promotion, Risk Reduction, and Suicide Prevention*). A Department of Defense Suicide Event Report (DoDSER) completion metric was established as a mechanism to address the quality of suicide event reports and support the need for timely, actionable suicide and suicidal behavior data to inform Army leadership decisions. The report was provided monthly to the Office of the Surgeon General (OTSG), Behavioral Health Service Line, who shared it with Regional Health Commands and military treatment facilities (MTF). On an annual basis, a report summarizing suicidal behavior surveillance was also produced. The report described frequencies and trends of suicides and suicide attempts among Active Duty Army Soldiers, and current demographic, health, and lifestyle characteristics of Soldiers engaging in suicidal behavior.

1.3 Conclusion

From March 2013 through July 2016, Program 3-3.4 (Injury and Violence Free Living) of the AM2020 Campaign provided data necessary for informed decision making and developed links between Army injury prevention partners across the medical and public health enterprise, enabling optimized use of medical resources, information exchange, and standardized data on installation injuries. As part of Unintentional Injury Prevention (LOE 1), metrics and tools were developed for installation-level injury data monitoring, communication of emerging injury prevention and physical performance optimization science to the field continued, and a MEDCOM OPORD-initiated coordination of injury prevention activities across the Army medical and public health enterprise. As part of Intentional Injury Prevention (LOE 2), metrics were established to monitor data necessary to inform Army leadership of suicide rates and trends.

In February 2016, the Army Medicine Strategy was reviewed and restructured following the induction of the 44th Army Surgeon General, LTG Nadja West. In August 2016, a revised Army Medicine Vision was released, and the Army Medicine Campaign Plan 2017 was subsequently published in November 2016. The Public Health Service Line (PHSL) was established to align public health resources, missions, and activities across Army Medicine. Future APHC support of and initiatives related to injury prevention, including execution of MEDCOM OPORD 15-74, will be captured under the PHSL.

2 References

See Appendix A for a list of references used within this report.

3 Authority

In March 2013, MEDCOM OPORD 13-38 (*Army Medicine 2020 Campaign Plan Governance*) tasked the APHC [formerly Army Public Health Command] to provide an action officer lead for Program 3-3.4 (Injury and Violence Free Living) and establish metrics and a COP for the Program. MEDCOM OPORD 15-65 (*Implementation of the Army Medicine 2020 Strategy Map and Governance Process*) provided revisions to the strategy and re-iterated the 43rd Army Surgeon General's continued commitment to the AM2020 Campaign Plan.

4 Background

The AM2020 Campaign Plan, published in February 2013, operationalized the Army Medicine vision and strategy of the 43rd Army Surgeon General, LTG Patricia Horoho, who took office in December 2011 (McIlvaine, 2011). The AM2020 Campaign Plan vision was as follows: "Strengthening the health of our Nation by improving the health of our Army" (Office of the Army Surgeon General, 2013a). While there remained a focus on providing responsive and reliable health care, the Army Medicine mission was broadened to include influencing health and wellness outside of clinic visits (Horoho, 2013). Specifically, the AM2020 Campaign Plan Commander's Intent called for a transformation "from a healthcare system to a System for Health", a goal aligned with the National Prevention Strategy (National Prevention Council, 2011). The Army's System for Health is intended to "maintain, restore, and improve the health, readiness and resilience of Soldiers, Families and Communities in order to enable the Army to Prevent, Shape, and Win the nation's wars" (Office of the Army Surgeon General, 2013a).

The AM2020 Campaign Plan was synchronized with Army initiatives, in particular the Army Ready and Resilient Campaign (R2C), which integrates Army resources to improve the physical, emotional, and psychological resilience of Soldiers, Families, and Civilians after over 10 years of sustained overseas conflict (Horoho, 2013). MEDCOM OPORD 13-38 (published in March 2013) established the 27 Programs and 7 Service Lines and the roles of MEDCOM subordinate units that would be part of the AM2020 Campaign Plan (Headquarters U.S. Army Medical Command, 2013).

MEDCOM OPORD 13-38 (*Army Medicine 2020 Campaign Plan Governance*) employed an Operating Company framework such that standard processes and performance metrics were established with the goal of driving consistency, clarity, and accountability within each Program and Service Line. The OPORD specified the following phased approach:

- Phase One: Develop Standards. Establish measures of performance (MOPs), measures of effectiveness (MOEs), and develop and publish a COP or standards in the form of MEDCOM OPORDs, policy letters, or operations manuals.
- Phase Two: Establish COP and Assess. Following establishment of a COP, metrics and milestones are monitored.
- Phase Three: Verify Compliance. Long-term performance management that continues until further notice.

MEDCOM OPORD 13-38 also outlined AM2020 Campaign Plan oversight, which was maintained by the Campaign Synchronization Working Group (CSWG), co-chaired by the MEDCOM Chief of

Staff and the Deputy Chief of Staff, G3/5/7. Membership included Directors of selected MEDCOM offices (e.g., G1/4/6, G3/5/7, G8/9, Directorate for Communications, U.S. Army Medical Department (AMEDD) Transformation Directorate). The CSWG met weekly with rotating reviews of Programs and Service Lines. On a quarterly basis, the CSWG presented a campaign plan update to the Campaign Assessment and Performance Board chaired by the Army Surgeon General.

In MEDCOM OPORD 13-38, APHC was tasked to identify action officer leads for five Programs. This report describes activities specifically related to Program 3-3.4 (Injury and Violence Free Living).

5 Execution

In March 2013, APHC was tasked to provide an Action Officer to oversee Program 3-3.4 (Injury and Violence Free Living) of the AM2020 Campaign. APHC Injury Prevention Division provided an Action Officer. Action Officer responsibilities encompassed management of the Program, including development of a Program timeline, execution matrix, performance metrics, and a COP. Initially, progress was reported to APHC leadership and the CSWG every 6 weeks. In August 2014, a 9-week briefing cycle was implemented.

5.1 Injury and Violence Free Living Program Structure and Focus

Program 3-3.4 (Injury and Violence Free Living), as described in the AM2020 Campaign Plan, encompassed prevention of both intentional (e.g., suicide, domestic violence) and unintentional (e.g., transportation, workplace, fall-related) injuries (Office of the Army Surgeon General, 2013b). As a result, two LOEs were established (Figure 1). APHC Injury Prevention Division led activities associated with Unintentional Injury Prevention (LOE 1), while APHC Behavioral and Social Health Outcomes Division led activities associated with Intentional Injury Prevention (LOE 2).

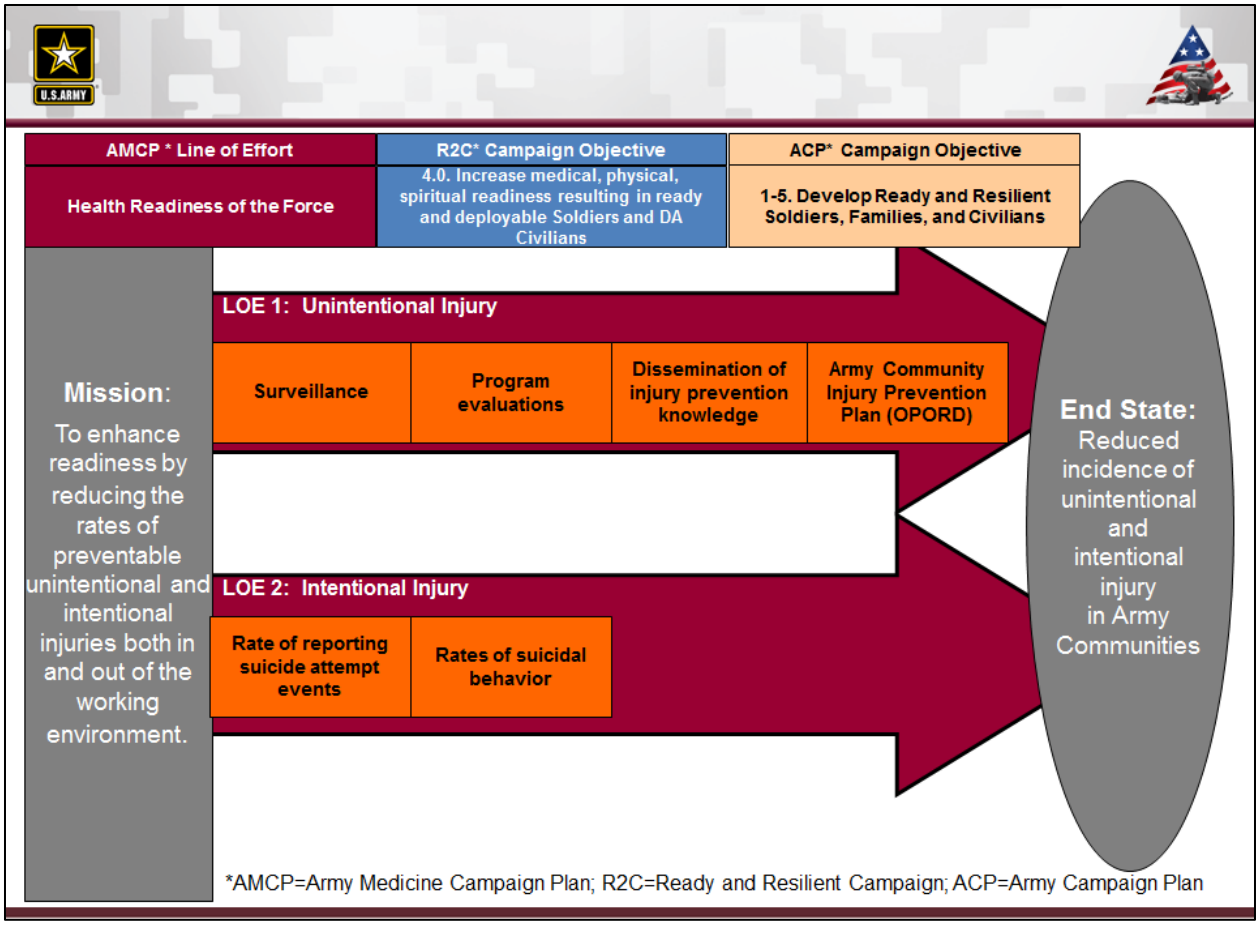

Figure 1. Army Medicine 2020 Campaign Program 3-3.4 (Injury and Violence Free Living) Overview

Unintentional Injury Prevention activities utilized a public health approach to injury prevention (Jones, Canham-Chervak, & Sleet, 2010), incorporating activities related to surveillance, program evaluation, and dissemination of injury prevention knowledge. However, a primary focus of LOE 1 was to establish standards and a COP, given that responsibilities for unintentional injury prevention were distributed across multiple Army regulations and disciplines. Centralized data monitoring tools of installation-level injury metrics were developed, followed by a MEDCOM OPORD to coordinate installation-level medical input on injuries and standardize the approach to unintentional injury reporting and prevention planning. The timeline and steps associated with OPORD development are shown in Figure 2. The OPORD is further described in Section 6.1.3.

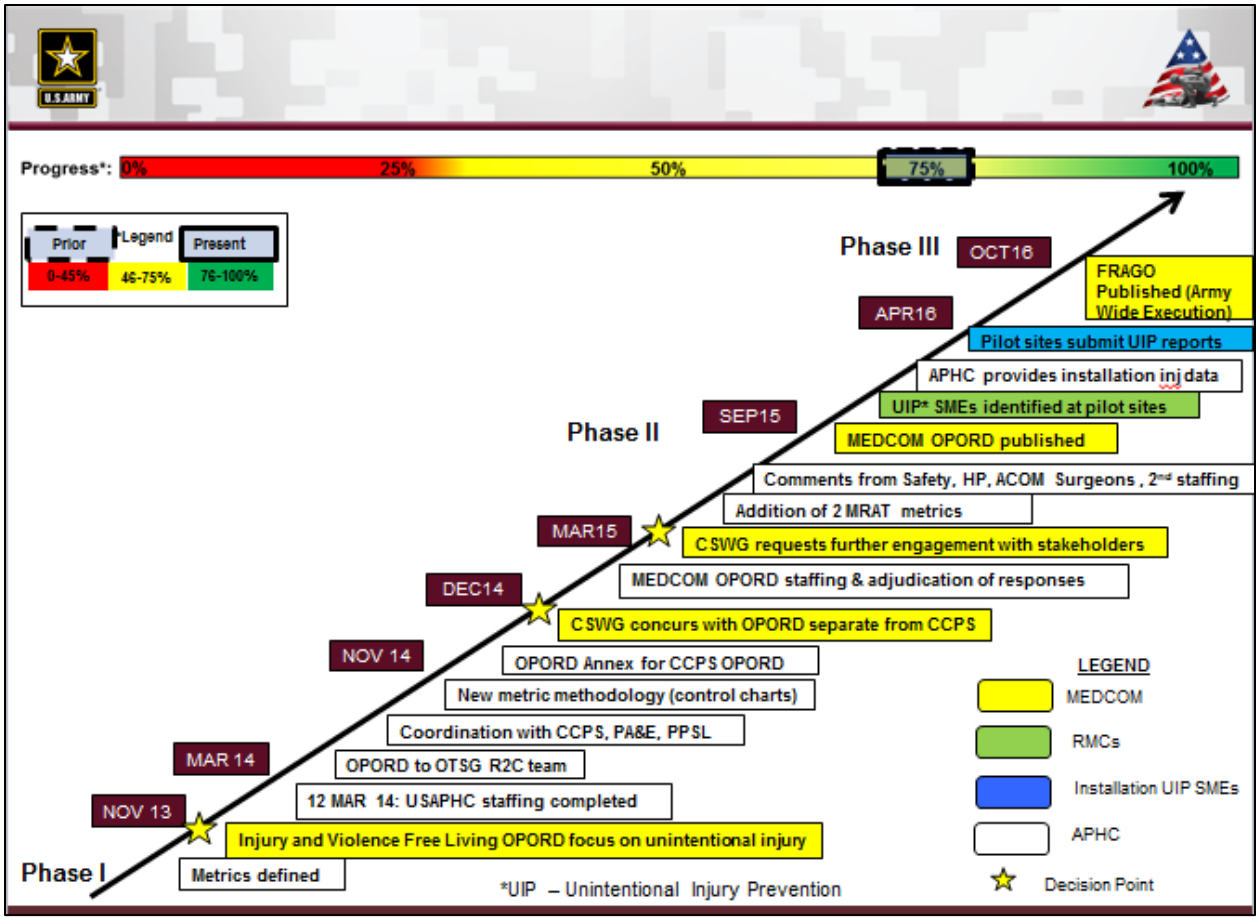

Figure 2. Timeline and Activities, Injury and Violence Free Living Program, Unintentional Injury Prevention (Line of Effort 1)

Intentional Injury Prevention (LOE 2) activities focused on the reduction of suicide and suicidal behavior, in particular given that since 1998, suicide had been the second or third leading cause of death among Active component U.S. Armed Forces (Corr III, 2014). LOE 2 emphasized meeting established standards for suicide and suicidal behavior surveillance described in AR 600-63 (*Army Health Promotion*) and DA Pam 600-24 (*Health Promotion, Risk Reduction, and Suicide Prevention*). These Army policies established that a DoDSER would be completed for all fatalities, hospitalizations, and evacuations of Active Duty Soldiers where the injury or injurious event was self-directed. Completion of DoDSERs is the responsibility of Army behavioral health providers. Given that completion has varied across MTFs, monitoring of DoDSER completion was deemed necessary. The DoDSER data were ultimately incorporated into summaries of suicides and suicidal behavior (attempts and ideations) for military leadership and a metric to monitor suicidal behavior among Active Duty Army Soldiers (described below).

5.2 Metric Development

The AM2020 Campaign Plan directed that, as part of Phase One, metrics to assess Program performance would be developed in coordination with the OTSG Directorate of Strategy Management (DSM) and subsequently entered into the online Army SMS (https://www.sms.army.mil), the Army's program of record for performance management metrics. From March to May 2013, Injury and Violence Free Living Program metrics were developed in consultation with DSM. The final metrics selected are described below.

5.2.1. Unintentional Injury Prevention (Line of Effort 1) Metrics

Percentage of CHPC Physical Health Working Groups reporting injury data

This is a process metric, or MOP, that monitored the use of injury medical encounter data by the CHPCs. Health Promotion Officers were queried quarterly as part of a CPHC Program Status Report and were asked, "Are any of the following data points analyzed and monitored (Evidence of Delivery: working group slides/data reports)?" The option "Injury medical encounters (yes/no)" was the source of information for this metric. The data are collected by APHC Health Promotion Operations Division.

Injury rate per 1,000 Soldiers by installation

The ultimate goal of a program is to affect a health outcome. Therefore, consistent with the desired end state of the Injury and Violence Free Living Program (Figure 1), an outcome metric, or an MOE, was established to monitor injury rates among Active Duty Army Soldiers using data from the DMSS. The definition of injury was based on recommendations for monitoring military-relevant injuries (U.S. Army Center for Health Promotion and Preventive Medicine, 2002) and includes both traumatic and injury-related musculoskeletal (chronic) conditions. Primary diagnoses and a 60-day incident rule were used to identify incident (new) injuries and exclude follow-up visits, according to current military injury surveillance case definitions (Army Public Health Center, 2014, 2016a; Defense Health Agency, 2016; Marshall, Canham-Chervak, Dada, & Jones, 2013). Injuries included those treated on an inpatient and outpatient basis, both direct MTF care and TRICARE purchased care. Person-time denominators were adjusted to reflect non-deployed person-years only, given the lack of medical surveillance data on injuries occurring during deployment. DMSS data requests were fulfilled by the Armed Forces Health Surveillance Branch (AFHSB), Defense Health Agency.

5.2.2. Intentional Injury Prevention (Line of Effort 2) Metrics

DoD Suicide Event Report Completion

This metric monitored compliance with DoDSER reporting requirements described previously. The DoDSER completion metric presents the proportion of DoDSERS with 80 percent or more fields with complete information. For a field to be considered complete, the response must not be entered as blank, 'do not know', or 'data unavailable'. Army behavioral health providers are required to submit DoDSERs for all Active Duty completed suicides, suicide attempts, suicidal

ideations, and other self-injurious behaviors that result in hospitalization or evacuation. DoDSER data are ultimately used in analyses of Soldier risk factors, to support suicide surveillance reporting for leadership and policy makers, and to support program evaluations.

Rates of Suicidal Behavior

The Rate of Suicidal Behavior was established to monitor the rate of Army Soldiers with suicidal behaviors. The rate includes suicides identified by the Armed Forces Medical Examiner System, as well as suicide attempts and suicidal ideations among Active Duty Regular Army, activated National Guard, and activated U.S. Army Reserve Soldiers reported in DoDSERs. Monitoring this rate provides Army leadership with evidence of increases or decreases in suicidal behavior across the Army that is not available from other sources.

6 Injury and Violence Free Living Program Products

6.1 Unintentional Injury Prevention (Line of Effort 1)

6.1.1 Control charts for monitoring of installation injuries

In an effort to inform data-driven decision making about injury prevention needs, statistical process control charts for monitoring injury rates were created for each Army installation with an Active Duty population greater than 500 Soldiers. Rates were calculated from injury count and person-time data obtained from the DMSS using the definition described in Section 5.2.1. The control charts display installation-specific injury rates as part of a public health surveillance dashboard within the Army's SMS, a performance management tool accessible by leadership across the Army used to communicate and monitor progress toward strategic goals (Department of the Army, 2015). SMS use was also directed in AM2020 Campaign Plan guidance (Office of the Army Surgeon General, 2013b) and AR 5-1. In addition, in compliance with MEDCOM OPORD 15-74, control charts were included in injury summaries prepared by the APHC Injury Prevention Division for the installation injury prevention teams (described further in Section 6.1.2.).

The control chart design was adapted from systems engineering methods. The charts indicate ("signal") statistically significant increases or decreases in quantitative data points, above the upper control limit (UCL) or below the lower control limit (LCL). Additional methods details are available in Appendix B and an APHC report (U.S. Army Public Health Command, 2014).

Three examples of installation injury rate control charts (one increasing, one decreasing, and one stable over time) are shown in Figures 3, 4, and 5, respectively. Quarterly injury rates from 2007-2013 (28 data points) from DMSS defined the Phase I baseline for each installation, and Phase II monitoring began in Quarter 1 (Q1) 2014.

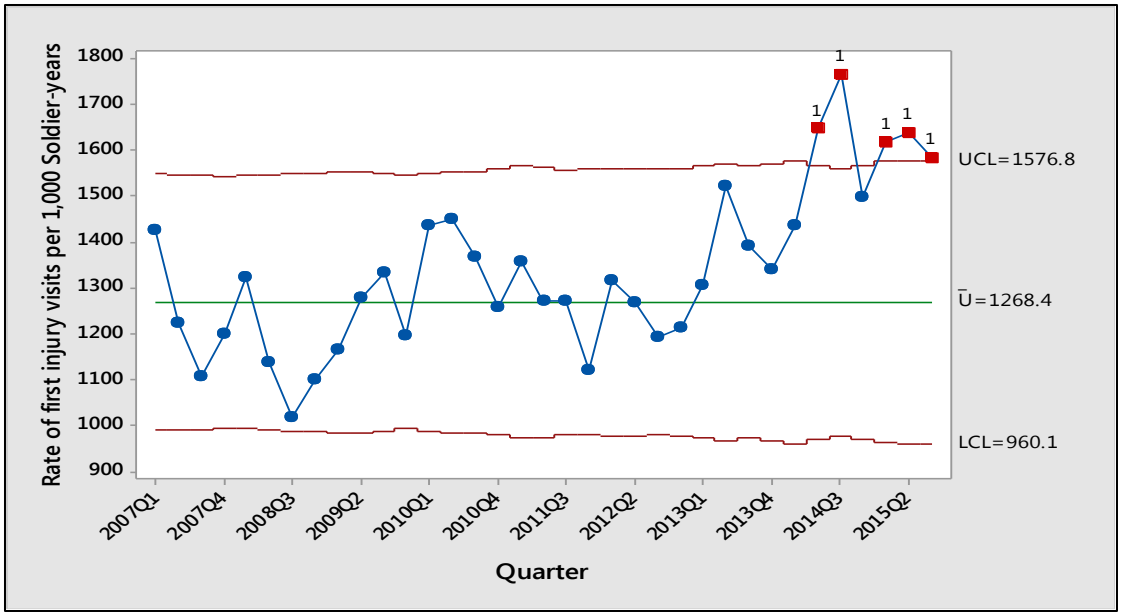

Figure 3: Control Chart for Injury Rates at Installation X: Increasing Injury Rates

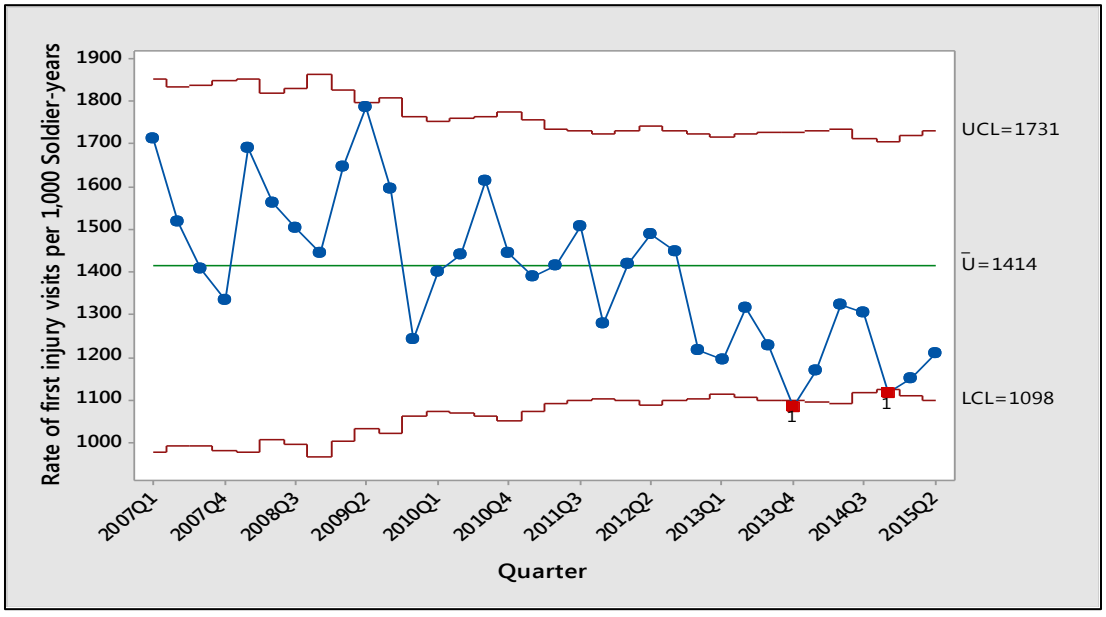

Figure 4: Control Chart for Injury Rates at Installation Y: Decreasing Injury Rates

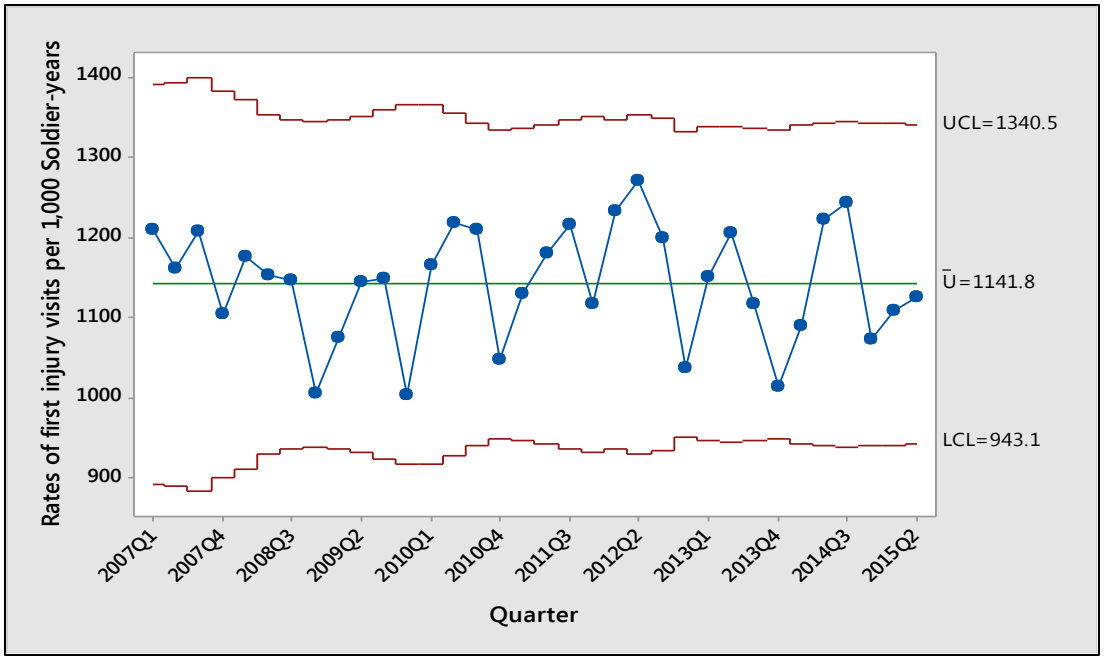

Figure 5: Control Chart for Injury Rates at Installation Z: Stable Injury Rates

Statistical process control (SPC) charts for monitoring injury rates provide a unique visualization and strategic management tool for leadership and installation injury prevention teams. The charts provide "signals" of statistically significant departures from baseline rates, facilitating monitoring of trends and progress toward injury reduction goals. Trends like those observed at Installation X (Figure 3) can be used to quantitatively motivate enhanced injury monitoring and prevention activities at these installations, given there is likely an assignable cause (or causes) for the increase and a need for increased leadership focus. SPC charts can be used to identify the negative implications (i.e., increasing injury rates) of recent changes such as new training requirements, weather-related factors, shifts in Soldier demographics, or enhanced reporting standards. SPC charts also signal statistically significant decreases, which could be due to injury prevention efforts; this can provide leaders and injury prevention stakeholders with important information about the effectiveness of prior and ongoing injury prevention strategies. The injury prevention staff at Installation Y (Figure 4) should document their current injury prevention efforts and share their successful approach with other installations. This information becomes an integral part of an ongoing continuous improvement feedback loop as new injury prevention strategies are applied.

SPC charts can also be used to establish injury reduction goals based on the LCL displayed for each specific installation. A process shift toward the LCL would be desired since, in most cases, it is unlikely that the historical average injury rate in any population is low enough to be deemed "acceptable".

A major benefit of the control-chart methodology is that the parameters for each population (e.g., installation) are created using its own historical baseline data, so that Phase II data can be monitored against thresholds that are reasonable for the environment and circumstances specific to

that installation. In this way, the use of control charts should provide a significant advantage for Army leadership in setting installation performance targets. Control charts eliminate the burden of defending arbitrary thresholds and provide goals that may be more acceptable and feasible. Additionally, they provide data-driven motivation to prevent injuries and decrease injury rates.

Some challenges for implementing SPC charts for Army injury monitoring include responding to increases in injury rates without additional information about the leading causes and mechanisms or specific units affected on an installation and encouraging injury prevention for populations that exhibit in-control injury rates. Adaptation to military needs have included the introduction of tighter (two-standard deviation) limits to provide greater sensitivity and encourage earlier investigation into potential causes of deviations (Benneyan, 2008) and reporting of monthly data, which signals process shifts more quickly and reduces data loss (Benneyan, 2008; Schuh, Woodall, & Camelio, 2013; Sonesson & Bock, 2003). Future considerations include monitoring specific injury types in order to monitor effects of programs expected to reduce certain types of injury and monitoring injury-related activities. These challenges and potential next steps are discussed in more detail elsewhere (U.S. Army Public Health Command, 2014).

6.1.2. Installation injury data summaries

Installation injury data summaries were prepared to synthesize key injury surveillance data available for Active Duty and Civilian staff assigned to or working on an Army installation or Joint Base. The reports summarized existing data available from centralized data systems to provide a population-level "injury picture" for each installation. The APHC Injury Prevention Division prepared summaries for distribution to the installation Unintentional Injury Prevention Team, CHPC, and others (upon request) at each installation. The data were intended to be used together and alongside other data available at the installation level. Interpreting this data provides insights about injuries at each installation (e.g., trends, causes) and assist leadership with prioritizing injury prevention efforts to focus scarce resources on the leading causes, occupations, and/or workplaces. Army data were also provided for comparison. Summaries included Active Duty injury medical encounter data, Civilian workers' compensation data, and safety report data.

Active Duty Army injury medical encounters

Appendix D provides an example of an installation summary of Active Duty Army injury medical encounters. Installation Active Duty injury summaries combined data displayed in the Public Health 360 (Army Public Health Center, 2016a) and SMS injury dashboards (Department of the Army, 2015). Charts specific to each installation included:

- Relative burden of injury and diseases, past calendar year
- Injury rates and training-related lower extremity overuse injury rates, past 7 years
- Injury rates by age and year, past 7 years
- Injury rates by gender and age, past calendar year
- Top five causes of unintentional injuries
- Quarterly injury rates with control limits

To characterize the relative burden of injury and diseases, conditions were grouped into diagnostic categories adapted from the World Health Organization Global Burden of Disease Study (Armed Forces Health Surveillance Center, 2014) and consistent with Army surveillance reporting (Army Public Health Center, 2014, 2016b; Marshall et al., 2013). Methods for categorizing non-injury related diagnostic categories mirrored that used in AFHSB's April 2014 Medical Surveillance Monthly Report, which summarized the Department of Defense annual morbidity burden (Armed Forces Health Surveillance Center, 2014). Injury rate data were reported using the definition described in Section 5.2.1. Causes of unintentional injury were identified from International Classification of Disease external cause of injury codes entered during Soldiers' outpatient visits for each incident injury. Methods for producing quarterly injury rates with control limits are described in Section 6.1.1.

Civilian workers' compensation

Appendix E provides an example of an installation summary of data obtained from Civilian workers' compensation records. Installation Civilian injury summaries included the following:

- Overview of the current Civilian population
- Rates of Civilian lost time each fiscal quarter, past five years
- Top causes of Civilian lost time, previous fiscal year
- Top occupations with Civilian lost time, previous fiscal year
- Costs related to Civilian compensation claims, previous calendar year

Overview and lost time data were obtained from the Force Risk Reduction System (Office of the Secretary of Defense Personnel and Readiness, 2016). The number of lost-time cases and lost days were determined from workers' compensation claims submitted via the Electronic Data Interchange and the Safety First Event Reporting [SaFER] system and from Continuation of Pay and Leave Without Pay data from the Defense Finance Accounting System pay files. Monetary lost time and medical treatment costs associated with claims were obtained from the Defense Injury and Unemployment Compensation System (DIUCS) (Department of Defense, 2016). DIUCS reports all claims for injury unemployment compensation and the total dollar amount paid out for each claim (sometimes $0, if the claim was denied or no payments have been made yet). Accruing claim costs are assigned to the original claim date, and payments are made only after the claim is submitted, approved, and processed, so a lag in data is probable.

Army accident reports

Appendix F provides an example of installation safety report data. Accidents involving Army Civilians and Active Duty Army Soldiers were reported to the Army Safety/Combat Readiness Center (AS/CRC) as described in DA Pam 385-40 (Department of the Army, 2009) and entered into the AS/CRC Risk Management Information System (RMIS). RMIS is queried for ground accidents occurring at that installation (aviation-related incidents are not included in the summary), and data summaries were produced for the following (most recent calendar year):

- Active Duty Army accident and non-fatal injury counts and rates by age and gender
- Active Duty Army accident and non-fatal injury counts by accident classification, duty status, accident type and activity
- Fatal injury counts by age, gender, accident classification, duty status, accident type, and activity
- Cost information by accident classification, duty status, and accident type

6.1.3 MEDCOM Operational Order 15-74

Following the development of tools to describe and monitor injuries at Army and Joint Base installations, activities in Unintentional Injury Prevention (LOE 1) focused on establishing a COP regarding MEDCOM unintentional injury prevention support, given that responsibilities are described in a variety of Army regulations and distributed across multiple Army disciplines. Development of an OPORD was initiated in November 2013. Over the course of OPORD discussions and presentations to the CSWG, it was agreed that organizing Army medical assets (e.g., physical therapy, health promotion, preventive medicine, occupational medicine, safety) was a necessary first step toward synchronizing installation injury prevention efforts, though a future goal was to involve organizations external to MEDCOM and integral to injury prevention and control, such as U.S. Army Forces Command (FORSCOM), U.S. Army Training and Doctrine Command (TRADOC), and Army Safety.

Primary goals of the MEDCOM OPORD were to coordinate installation-level medical input on injuries and standardize the approach to installation unintentional injury reporting and prevention planning. During its development, existing Army guidance governing injury prevention was reviewed and incorporated, including Army safety, health promotion, occupational health, and preventive medicine regulations (Department of Army, 2014; Department of the Army, 2007, 2013, 2015; Department of the Army Headquarters, 2013; Office of the Assistant G-1 for Civilian Personnel, 2013). OPORD tasks built upon infrastructure established by Army EXORD 110-13 (*Ready and Resilient Campaign (R2C) Plan*), which required the creation of CHPCs at each installation.

The OPORD also operationalized medial responsibilities outlined in the Injury Prevention Section 5-3 of AR 600-63 (*Army Health Promotion*). As described in AR 600-63, CHPC injury prevention responsibilities reside with the CHPC Physical Health Working Group and require collaboration between unit commanders and medical and safety professionals. Unit commanders have decision-making authority over conditions contributing to injury. Medical and safety professionals have the subject matter expertise to advise and assist commanders with monitoring injury and injury profile rates, develop physical training plans that optimize performance gains while minimizing overtraining and injury, modify worksites to reduce injury hazards, and establish other injury prevention initiatives reflective of each unit's unique Soldier and/or Civilian population and mission requirements.

Following an initial staffing through APHC in March 2014, coordination with multiple MEDCOM partners was initiated, including the AM2020 Clinical and Community Preventive Services Program and the AM2020 Physical Performance Service Line, given the goals and objectives of these

programs were linked. MEDCOM OPORD 15-74 (*Improving Readiness through Reduction of Unintentional Injuries*) review and staffing was initiated in January 2015. Comments were received from throughout MEDCOM, with comments received from Regional strategy and innovation offices, the OTSG R2C Office, MEDCOM Reserve Affairs, and Regional safety officers. Subsequent review of the OPORD was also obtained from the Army Resiliency Directorate Liaison, Office of the Assistant Secretary of the Army for Installations, Energy, and Environment (ASA IEE), the MEDCOM Safety Director, Army Command/Army Service Component Command (ACOM/ASCC) Health Promotion Project Officers, and Command Surgeons Offices. The revised OPORD was again staffed for MEDCOM comments in July 2015. Following adjudication of comments, MEDCOM OPORD 15-74 (*Improving Readiness through Reduction of Unintentional Injuries*) was published on 22 September 2015. Appendices contain a detailed listing of review and coordination that was conducted (Appendix F) as well as formal staffing and decision points (Appendix G). A brief summary of OPORD key tasks, products, and impact is presented in Appendix H.

The OPORD timeline is shown in Figure 6.

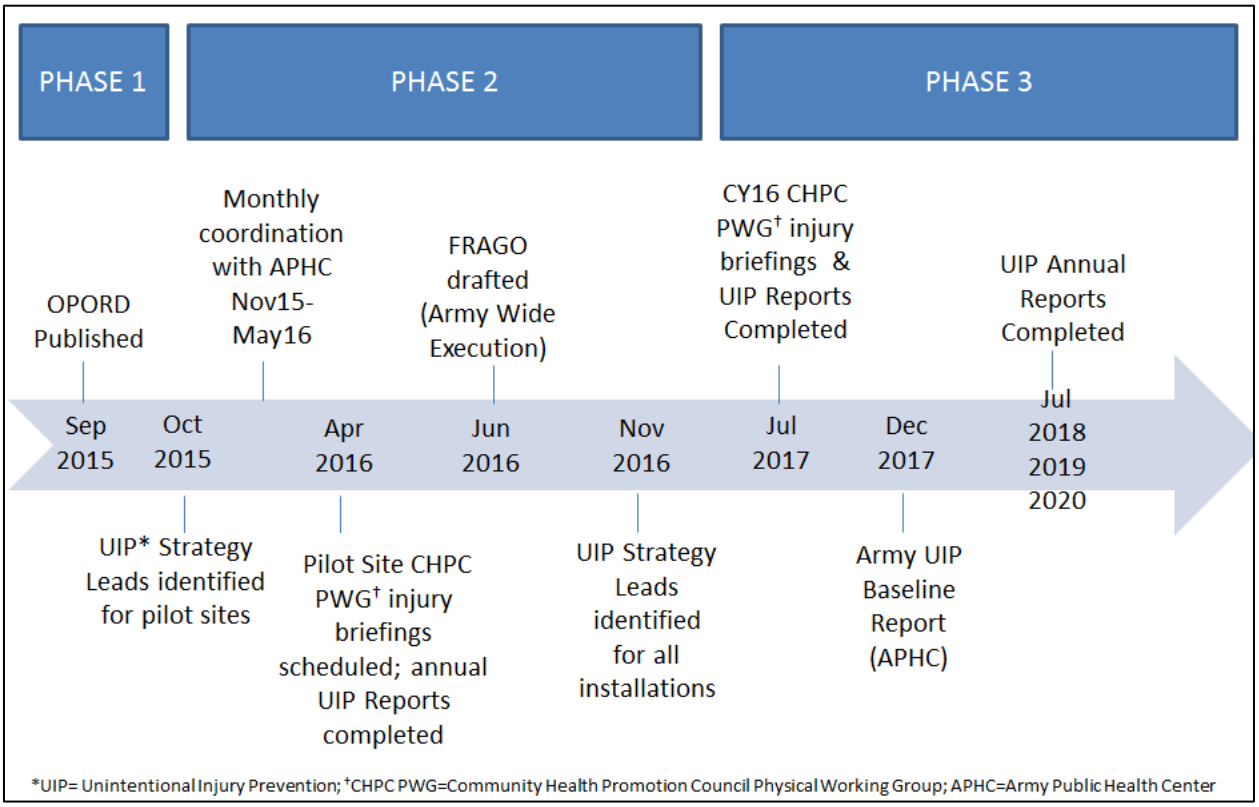

Figure 6. MEDCOM OPORD 15-74
(Improving Readiness through Reduction of Unintentional Injuries) Timeline

OPORD Pilot Phase

The OPORD directed completion of a pilot phase to establish a common operating picture and assess necessary changes or additional guidance needed prior to full execution. In November 2015, the OPORD pilot phase was initiated with seven installations identified by the Regional Health Commands (RHCs), with representation from all four MEDCOM Regions (Atlantic, Central, Pacific, Europe). Garrison pilot sites represented TRADOC (Forts Lee, Leonard Wood, Rucker) and FORSCOM (Fort Carson). Pilot sites were as follows: Forts Lee, Rucker, Leonard Wood, Carson, U.S. Army Region Hawaii, U.S. Army Garrison (USAG) Rheinland-Pfalz, and USAG Bavaria.

The pilot phase was conducted over an 8-month period, November 2015 through June 2016. An Unintentional Injury Prevention Lead was appointed at each pilot site, as specified in the OPORD. The Lead was responsible for completion of the following tasks: (1) identification of MEDCOM injury prevention partners at the installation with subject matter expertise in Active Duty Army musculoskeletal injuries, Civilian injuries, and Safety; (2) coordination with appropriate offices to schedule CHPC Physical Working Group briefing(s) summarizing existing installation-level injury data related to Active Duty Army injury-related medical encounters, Civilian injuries, and safety reports; (3) produce a baseline annual installation report containing interpretations of these data, installation prevention priorities, and descriptions of existing programs and evaluation plans; (4) provide input and recommendations for a fragmentary order (FRAGO) describing full execution at Army installations with a CHPC.

Monthly teleconferences for each Region were led by the APHC Injury Prevention Division and included RHC representatives and installation Injury Prevention Leads. Discussion items included the OPORD background, intent, and timeline; interpretation of installation-specific Active Duty and Civilian data summaries provided by APHC; examples and use of unit-level data available in the Medical Readiness Assessment Tool; results of ad-hoc analyses requested by the installations; review of the report template; and emerging questions and concerns. During the last two meetings, each Region and its installation Team Leads contributed to an analysis of the strengths, weaknesses, opportunities, and threats (SWOT) related to: (1) the pilot phase OPORD process and tasks and (2) utility of available data and data monitoring tools.

Given the introduction of the Army Medicine Campaign 2017 shortly after completion of the pilot phase, a summary of pilot phase findings and future activities related to MEDCOM OPORD 15-74 will be captured as part of the Army Medicine Campaign 2017, Public Health Service Line initiatives (see Section 7, Summary and Next Steps).

6.1.4 Dissemination of Injury Prevention Knowledge

The AM2020 Research to Practice Work Group led the development of communication products associated with the AM2020 Injury and Violence Free Living Program. The AM2020 Research to Practice Work Group was initially formed in January 2015, when it transitioned from the Soldier Medical Readiness Campaign (APHC, 2016). With its integration into the AMED2020 Campaign, the Research to Practice Work Group became a joint effort between APHC, OTSG R2D, the U.S. Army Research Institute for Environmental Medicine (USARIEM), the U.S. Army Medicine

Department Center & School (AMEDD C&S), the Uniformed Services University of the Health Sciences Consortium for Health and Military Performance, and the Army Medical Specialist Corps Research Committee. The APHC Injury Prevention Division partnered with APHC Health Communication Science Division to manage monthly work group meetings.

The Research to Practice Work Group promoted two initiatives: (1) provide the online AMED2020 Injury Prevention and Performance Optimization Education Series and (2) share injury prevention/performance optimization communication products and resources available or in development across organizations. During an 18-month period, the work group supported and/or developed more than 60 communication products in the form of news articles, educational materials, Web pages, and online seminars. Communication activities were targeted to several Army audiences to include medical providers, health promotion professionals, health policy makers, and others working to support the readiness and health of Soldiers. The concept for the Research to Practice Work Group is described further in Appendix I.

6.1.4.1 Web Page(s)

Two new Web pages for the AM2020 Research to Practice Work Group were created in early 2015 to describe its role in the AM2020 campaign. The main page briefly described the work group's goals and provided links to news articles and other online resources related on injury prevention and performance optimization-related topics. Although this page encompassed only one aspect of the total campaign, it represented the only Web presence for the campaign. A sub-page was created to advertise the AM2020 Research to Practice Education Series (an online presentation series for Army medical providers). Information regarding upcoming sessions, continuing education credits, and links to presentation slides were provided on the Web page. Both pages were hosted on the APHC public Web site.

In addition to the Web pages, the Army Learning Blackboard System (an online learning management system used to conduct trainings and courses) was created to advertise the Education Series. The Blackboard course was used to keep a roster of attendees, provide course information, administer surveys, and communicate directly with registrants. The course was discontinued after three seminars in 2015 due to frequent technical issues and low participation by attendees registered on the platform. It was replaced by the sub-page mentioned above.

6.1.4.2 Educational Materials

Educational materials were developed to deliver practical, actionable, and accurate health information to professional and lay audiences. Many work group members were involved in developing educational products for their organizations and shared these materials with fellow members. For example, the APHC Injury Prevention Division created the "Injury Prevention: Just the Facts" fact sheet series for medical personnel, which summarizes scientific evidence on injury causes, risk factors, and prevention strategies for unintentional injuries in the Army. In addition, the APHC Health Communication Science Division launched a digital publication for Soldiers and Family members, entitled "Army Health and Fitness." The publication was created in response to focus group testing that identified digital media as a preferred source from which to receive educational information. Each magazine issue contained fitness and nutrition-related information.

The premiere issue featured an article on the key components of the Army Physical Readiness Training program, which was written in collaboration with the Army Physical Fitness School.

As with the Soldier Medical Readiness Campaign, materials were also developed as part of other Army campaigns and initiatives. Materials created for the Performance Triad campaign included injury prevention and physical training messaging for Soldiers and beneficiaries. Campaign materials (e.g., guidebooks, tip cards) were updated in 2015 based on evaluation data from the previous year. Topics that support the AM2020 Research to Practice Work Group initiatives included strength training safety, recommendations to reduce injury risk during physical training, running shoe selection, and extreme conditioning programs.

All materials developed in support of AM2020 or in conjunction with existing Army initiatives were created through extensive collaboration with subject matter experts, graphic designers, and health communication specialists across the APHC and the MEDCOM. These materials were distributed to intended audiences through APHC's Health Information Operations e-Catalog, Army Medicine.mil, APHC social media, and other relevant channels.

6.1.4.3 News Articles

Injury prevention and performance optimization-related news articles were coordinated by the APHC Public Affairs office. Articles were written by subject matter experts and public affairs staff to highlight health promotion activities throughout the APHC and Army, as well as to inform audiences about various health topics. AM2020-related articles have included topics such as healthy nutrition to reduce chronic disease risk, incorporating exercises throughout the work day, and avoiding cold weather injuries. Articles were disseminated monthly through channels such as the Army Times, Army.mil, and the APHC public website.

6.1.4.4 Online Seminar

The AM2020 Research to Practice Education Series fulfilled the Work Group's first initiative. The series was designed to provide military medical providers and staff with up-to-date information on diverse medical readiness topics. It was hosted quarterly on Defense Collaboration Services (DCS), and each seminar included two presentations from experts in the fields of injury prevention, health promotion, and physical performance optimization. A total of six seminars were held from March 2015 to June 2016. Seminars were marketed to physical therapists, physicians, health educators, and nurses throughout the Army. Researchers from several organizations, both internal and external to the Army, participated in the series including USARIEM, OTSG R2D, and the University of Pittsburgh's Human Performance Research Center. Presentation topics included, "The Process of Reducing Injury and the Effects of Injury in the Military," "Physical Training Strategies for Women in Combat," and "Using Nutrition to Optimize Performance."

The series averaged 24 participants per session, with physical therapists being the most common provider type. Continuing Medical Education (CME) and Continuing Nursing Education credits were offered to further draw interest in the series. In June 2016, it was discovered that the CME non-provider certificate could be used by dietitians as documentation for the Continuing Professional Education Unit. The Education Series Web page and flyer were the primary tools for

advertising, in addition to other methods (e.g., APHC Administrative Announcements page). The Series will continue under the Army Medicine Campaign 2017.

6.2 Intentional Injury Prevention (Line of Effort 2)

6.2.1. DoDSER completion reports

The DoDSER completion reports were established as a mechanism to address the quality of suicide event reports submitted by Behavioral Health providers and support the need for timely, actionable suicide and suicidal behavior data to inform Army leadership decisions. The rate of completeness is presented for each Army installation on a rolling 12-month time frame. The report is provided monthly to the OTSG Behavioral Health Service Line, who shares it with Regional RHCs and MTFs.

6.2.2. Suicidal behavior annual report

On an annual basis, a report summarizing suicidal behavior surveillance is produced by the APHC Behavioral and Social Health Outcomes Division (Army Public Health Center, 2015). The report describes frequencies and trends of suicides and suicide attempts among Active Duty Army Soldiers, and current demographic, health, and lifestyle characteristics of Soldiers engaging in suicidal behavior. Data include suicides identified by the Armed Forces Medical Examiner System, as well as suicide attempts and suicidal ideations reported in the DoDSER among Active Duty Regular Army, activated National Guard, and activated U.S. Army Reserve Soldiers. The report provides military leaders, public health practitioners, and behavioral health providers with data to inform prevention planning efforts and allocation of resources.

7 Summary and Next Steps

From March 2013 through July 2016, Program 3-3.4 (Injury and Violence Free Living) of the AM2020 Campaign provided data necessary for informed decision making and developed links between Army injury prevention partners across the medical and public health enterprise, enabling optimized use of medical resources, information exchange, and standardized data on installation injuries. As part of Unintentional Injury Prevention (LOE 1), metrics and tools were developed for installation injury data monitoring, communication of emerging injury prevention and performance optimization science to the field continued, and a MEDCOM Operational Order was published to establish routine coordination of injury prevention activities across the Army medical and public health enterprise. As part of Intentional Injury Prevention (LOE 2), metrics were established to monitor data necessary to inform Army leadership of suicide rates and trends.

In February 2016, following the induction of the 44th Army Surgeon General, LTG Nadja West, (ARNEWS, 2015), the Army Medicine Strategy was reviewed and restructured. In August 2016, a revised Army Medicine Vision was released (Army Medicine Public Affairs, 2016) and the Army Medicine Campaign Plan 2017 was published in November 2016 (U.S. Army Medical Command, 2016). The PHSL was established to align public health resources, missions, and activities across Army Medicine. Further execution of MEDCOM OPORD 15-74, as well as the Research to Practice Education Series, will be captured under the PHSL.

8 Point of Contact

The APHC Injury Prevention Division is the point of contact for this project, e-mail usarmy.apg.medcom-phc.mbx.injuryprevention@mail.mil, or phone number 410-436-4655, DSN 584-4655. Specific questions may be directed to authors listed at the front of this report.

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Appendix A

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Appendix B

Control Charts for Monitoring of Installation Injuries: Additional Details

Location:

Army Strategic Management System (SMS): https://www.sms.army.mil/.

Pathway (as of January 2017): Dashboards>User Workspace>OTSG/MEDCOM>OTSG/MEDCOM HQ> DCS, Public Health>Epidemiology and Disease Surveillance Portfolio (EDS)>Active Duty Injuries by Installation and MEDCOM Region (Quarterly).

Design/Methods:

A Shewhart u-chart was chosen to monitor Army injury rates, as this is the most appropriate type of Shewhart chart for Poisson-distributed aggregated data when the rate could potentially be greater than one (i.e., a person may experience more than one injury) (Benneyan, 2008). The upper and lower thresholds on a control chart (i.e., control limits) are defined as three standard deviations above and below an historical average rate. The historical average (also known as Phase I) is typically determined from at least 20–25 historical baseline data points, and then subsequent data points (Phase II) are monitored using the parameters established during Phase I (Chakraborti, Human, & Graham, 2008).

Data from large samples will often naturally display greater variation than is statistically expected (referred to as overdispersion) (Saghir and Lin, 2014) due to changing distributional parameters; the potential for this was taken into account in the quarterly injury control charts by also incorporating the between-group standard deviation into the calculation of control limits. First proposed by David Laney, the chart that results from this adjustment is known as a Laney u'-chart (Laney, 2002; Mohammed & Laney, 2006). The upper control limit (UCL) and lower control limit (LCL) for a Laney μ'-chart can be represented in their simplest form as:

$$UCL_i = \bar{\mu} + 3\sigma_{within\ group,i}\sigma_{between\ groups} \quad [1]$$

$$LCL_i = \bar{\mu} - 3\sigma_{within\ group,i}\sigma_{between\ groups} \quad [2]$$

and more specifically as:

$$UCL_i = \bar{\mu} + 3\sqrt{\frac{\bar{\mu}}{n_i}}\left[\frac{1}{1.128(k-1)}\sum_{i=2}^{k} abs\left(\frac{\mu_i - \bar{\mu}}{\sqrt{\frac{\bar{\mu}}{n_i}}} - \frac{\mu_{i-1} - \bar{\mu}}{\sqrt{\frac{\bar{\mu}}{n_{i-1}}}}\right)\right] \quad [3]$$

$$LCL_i = \bar{\mu} - 3\sqrt{\frac{\bar{\mu}}{n_i}}\left[\frac{1}{1.128(k-1)}\sum_{i=2}^{k} abs\left(\frac{\mu_i - \bar{\mu}}{\sqrt{\frac{\bar{\mu}}{n_i}}} - \frac{\mu_{i-1} - \bar{\mu}}{\sqrt{\frac{\bar{\mu}}{n_{i-1}}}}\right)\right] \quad [4]$$

where $\bar{\mu}$ is the historical average baseline rate, μ_i is the rate during time period i, n_i is the population during time period i, and k is the total number of baseline time periods. In the present application to

installation-level injury monitoring, the rate is the installation injury rate, the population is the number of non-deployed person-years for Soldiers assigned to that installation, and the time period is a specified quarter during a calendar year.

This control charting methodology has been extended for monitoring injuries in other subpopulations (such as operational units and the military Civilian employee population) and to other public health metrics (like the rates of sexually transmitted infections among Soldiers and the proportion of obese Soldiers at each installation) (U.S. Army Public Health Command, 2014). They can also be used to monitor the occurrence of certain types of injuries (sprains or fractures) and activities associated with injuries in these populations (physical training, sports, occupational tasks, or motor vehicle accidents). These same methods can likewise be applied to other industries and non-military populations, as long as historical data/information has been collected and nuances in the monitored metric are understood and addressed.

For additional details, see U.S. Army Public Health Center Report No. S.0023112, *Statistical Process Control Charts for Public Health Monitoring*, by A. Schuh, M. Canham-Chervak. USAPHC, Aberdeen Proving Ground, MD. 2014. http://www.dtic.mil/get-tr-doc/pdf?AD=ADA613300

Appendix C

Example Installation Injury Medical Encounter Data for Army Active Duty

Prepared by APHC Injury Prevention Division

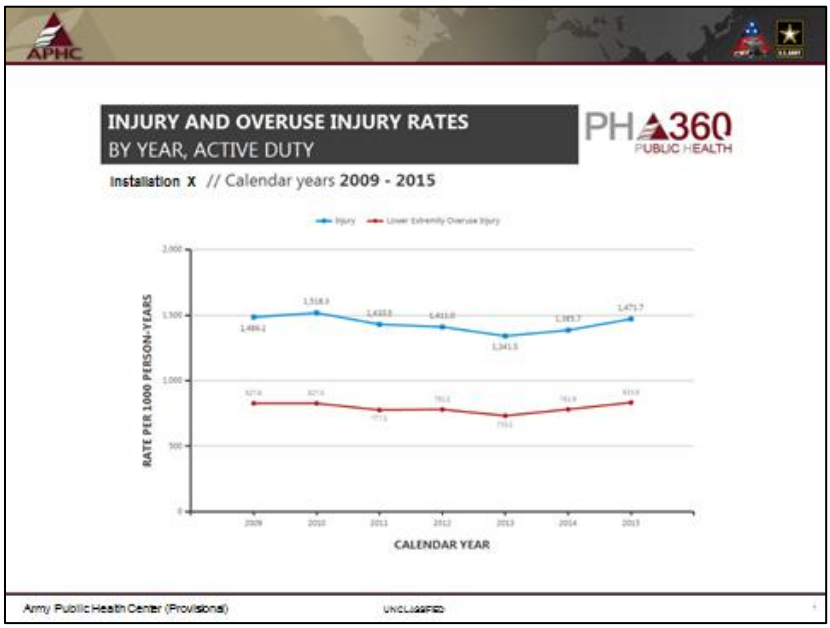


FIGURE C-1. Injury and overuse injury rates among Active Duty Army Soldiers, by year, 2009-2015

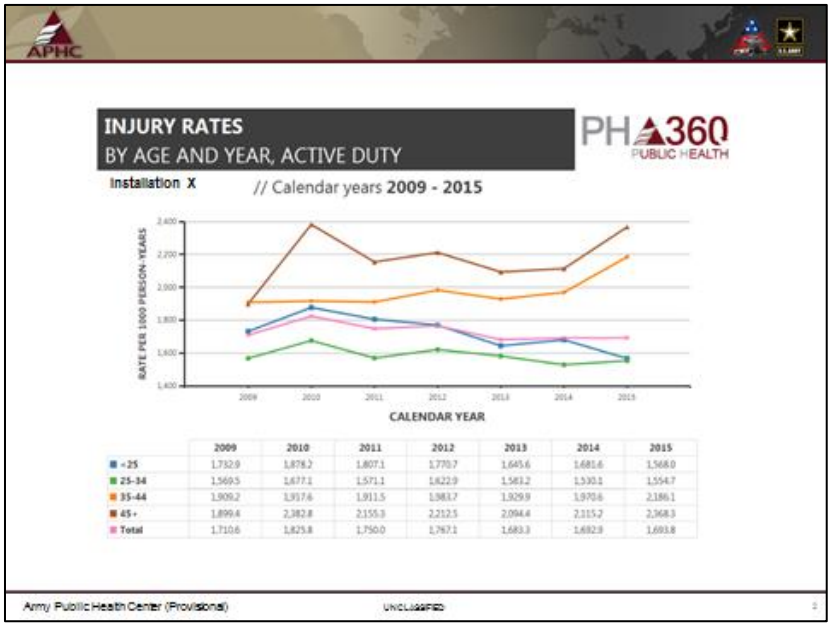


FIGURE C-2. Injury rates among Active Duty Army Soldiers, by age group and year, 2009-2015

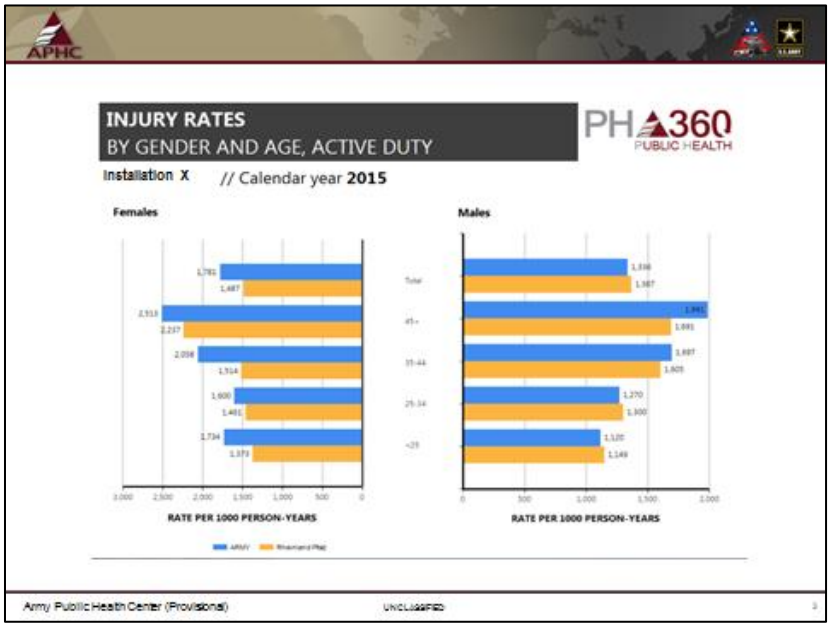


FIGURE C-3. Injury rates among Active Duty Army Soldiers, by gender and age group, 2015

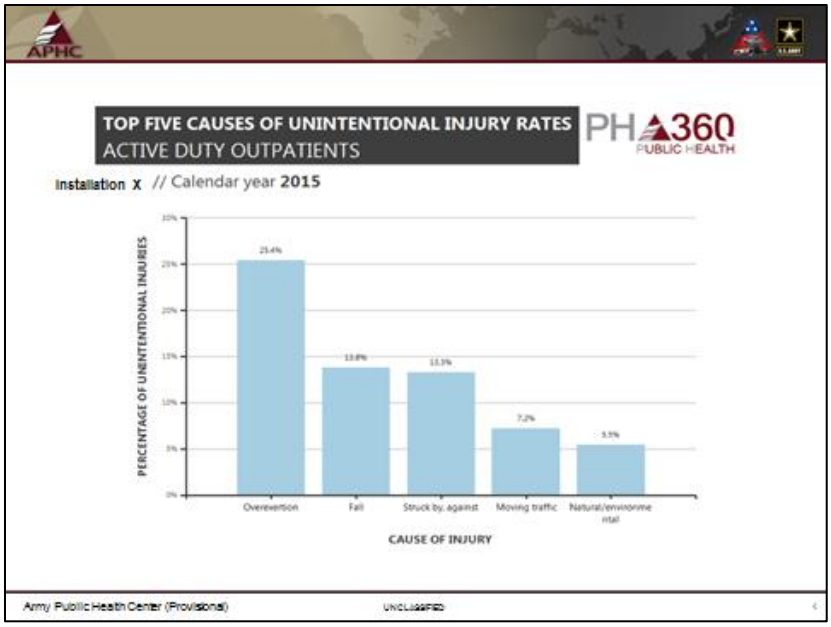


FIGURE C-4. Top five causes of unintentional injury rates among Active Duty outpatient Soldiers, 2015

Appendix D

Example Installation Workers' Compensation Data for Army Civilians

Prepared by APHC Injury Prevention Division

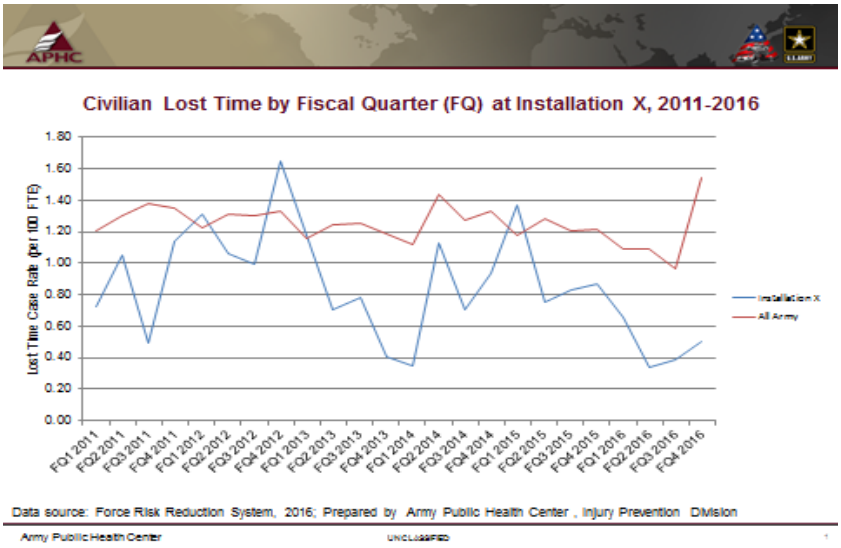


FIGURE D-1. Civilian lost time by fiscal quarter at an Army installation, 2011-2016

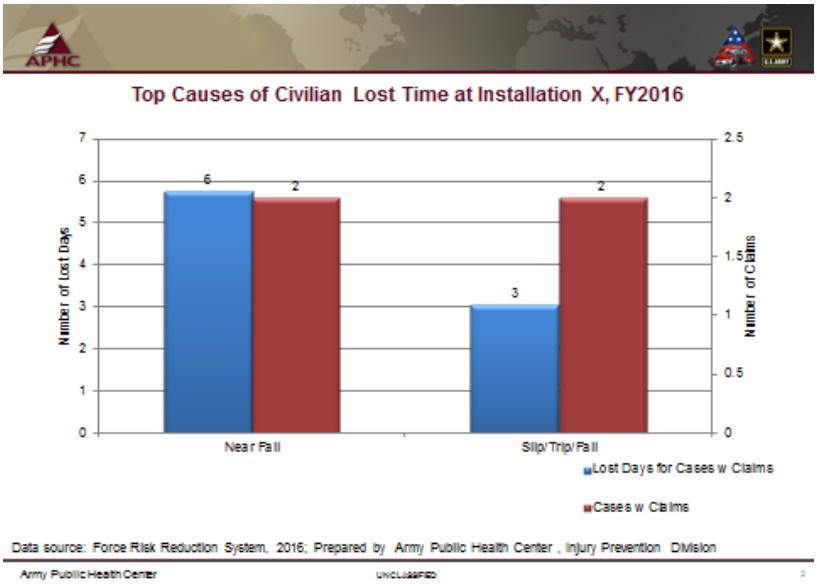


FIGURE D-2. Top causes of Civilian lost time at an Army installation, 2016

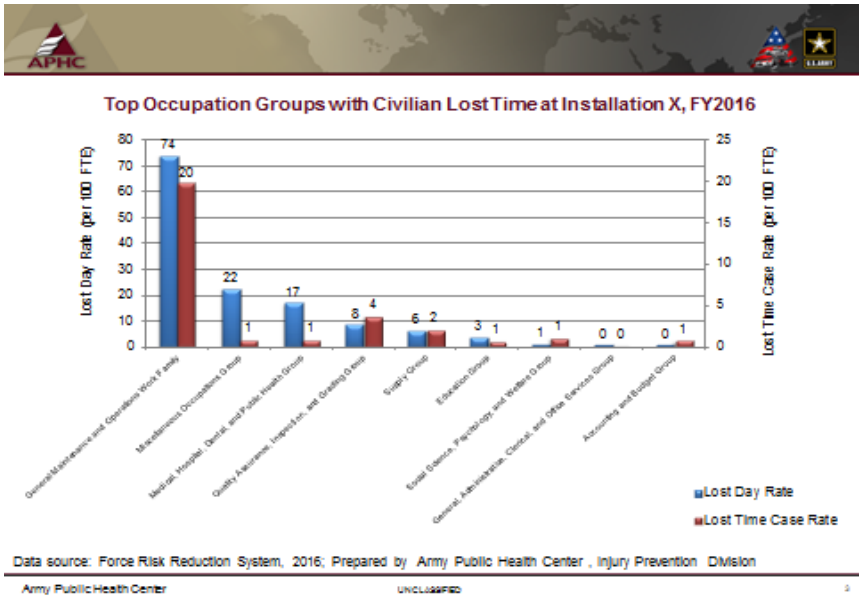


FIGURE D-3. Top occupations with Civilian lost time at an Army installation, 2016

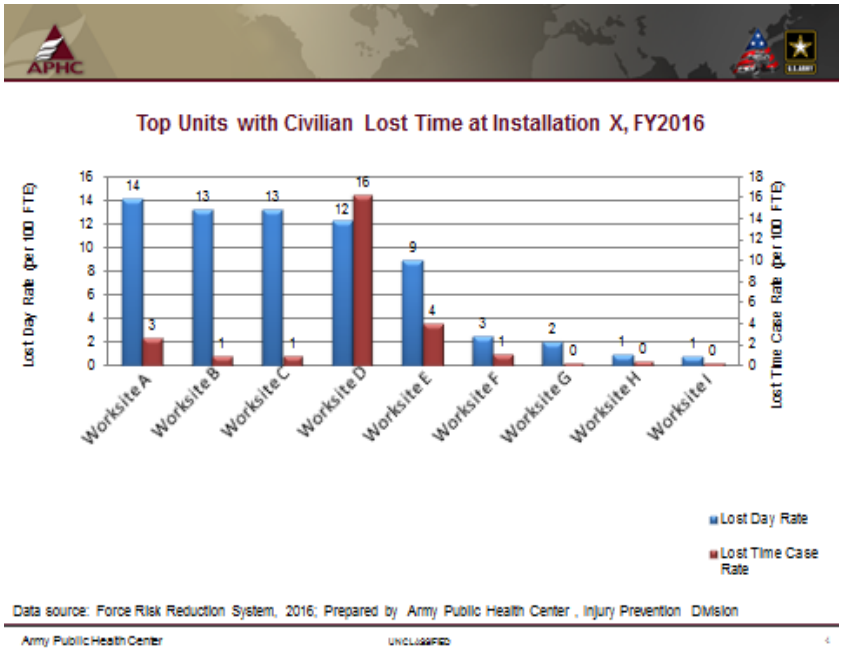
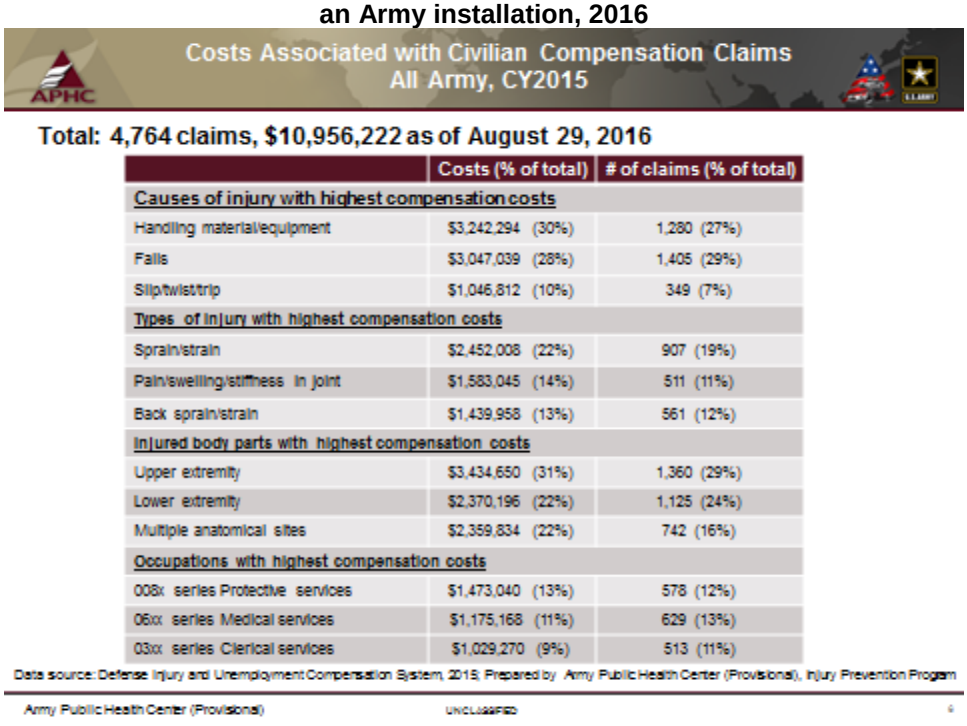


FIGURE D-4. Top units with Civilian lost time at an Army installation, 2016



	Costs (% of total)	# of claims (% of total)
Causes of injury with highest compensation costs		
Handling material/equipment	$3,242,294 (30%)	1,280 (27%)
Falls	$3,047,039 (28%)	1,405 (29%)
Slip/twist/trip	$1,046,812 (10%)	349 (7%)
Types of injury with highest compensation costs		
Sprain/strain	$2,452,008 (22%)	907 (19%)
Pain/swelling/stiffness in joint	$1,583,045 (14%)	511 (11%)
Back sprain/strain	$1,439,958 (13%)	561 (12%)
Injured body parts with highest compensation costs		
Upper extremity	$3,434,650 (31%)	1,360 (29%)
Lower extremity	$2,370,196 (22%)	1,125 (24%)
Multiple anatomical sites	$2,359,834 (22%)	742 (16%)
Occupations with highest compensation costs		
008x series Protective services	$1,473,040 (13%)	578 (12%)
06xx series Medical services	$1,175,168 (11%)	629 (13%)
03xx series Clerical services	$1,029,270 (9%)	513 (11%)

FIGURE D-5. Costs associated with Civilian compensation claims Army, 2015

Appendix E
Example Installation Safety Report Data
Prepared by APHC Injury Prevention Division

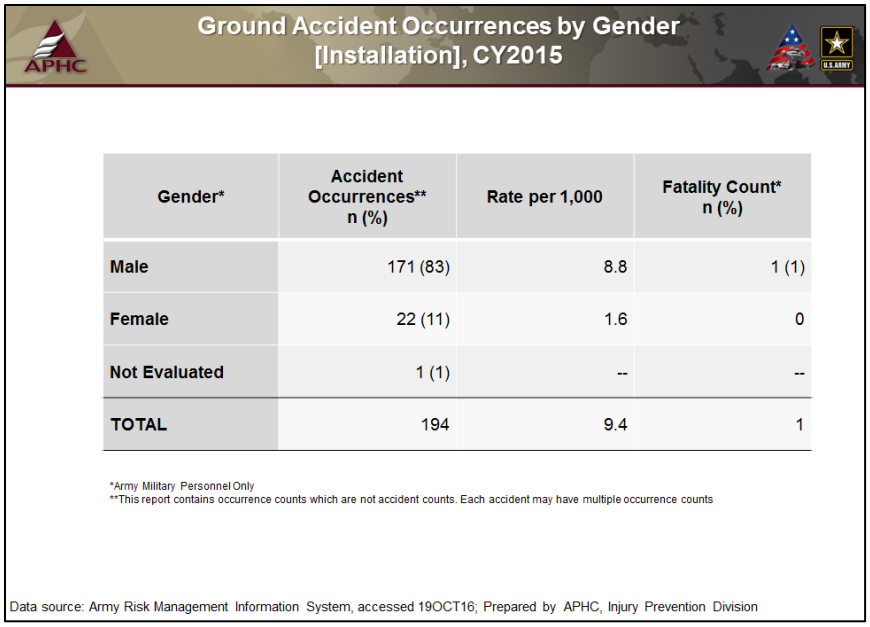
Ground Accident Occurrences by Age [Installation], CY2015

Age*	Accident Occurrences** n (%)	Rate per 1,000	Fatality Count* n (%)
<25	105 (54)	10.3	1 (100)
25 to 34	60 (31)	8.5	0
35 to 44	10 (5)	3.5	0
45+	3 (2)	5.7	0
Not Evaluated	15 (8)	--	--
Not Reported	1 (1)	--	--
TOTAL	194	9.4	1

*Army Military Personnel Only
**This report contains occurrence counts which are not accident counts. Each accident may have multiple occurrence counts

Data source: Army Risk Management Information System, accessed 19OCT16; Prepared by APHC, Injury Prevention Division

FIGURE E-1. Ground accident occurrence by age at an Army installation, 2015



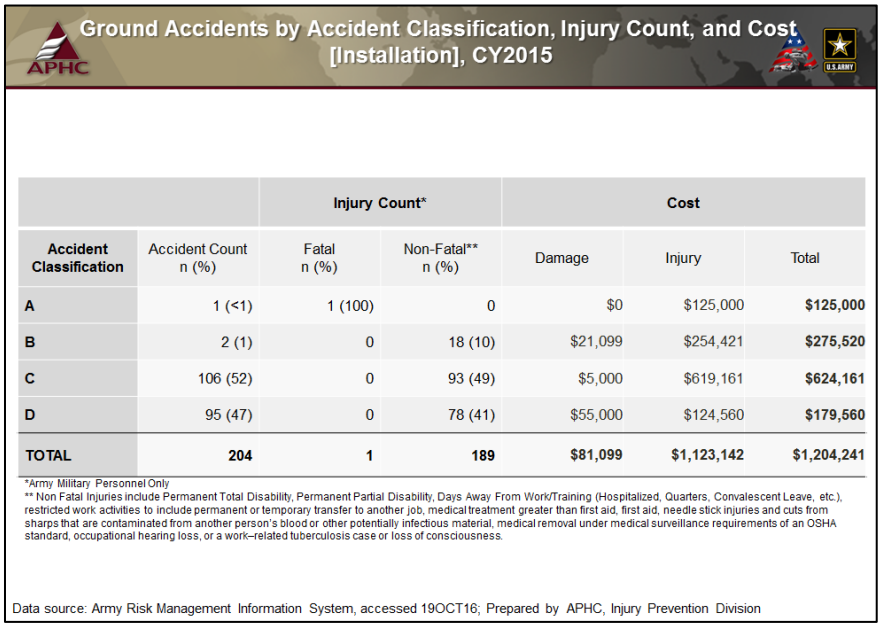
Ground Accident Occurrences by Gender
[Installation], CY2015

Gender*	Accident Occurrences** n (%)	Rate per 1,000	Fatality Count* n (%)
Male	171 (83)	8.8	1 (1)
Female	22 (11)	1.6	0
Not Evaluated	1 (1)	--	--
TOTAL	194	9.4	1

*Army Military Personnel Only
**This report contains occurrence counts which are not accident counts. Each accident may have multiple occurrence counts

Data source: Army Risk Management Information System, accessed 19OCT16; Prepared by APHC, Injury Prevention Division

FIGURE E-2. Ground accident occurrence by gender at an Army installation, 2015



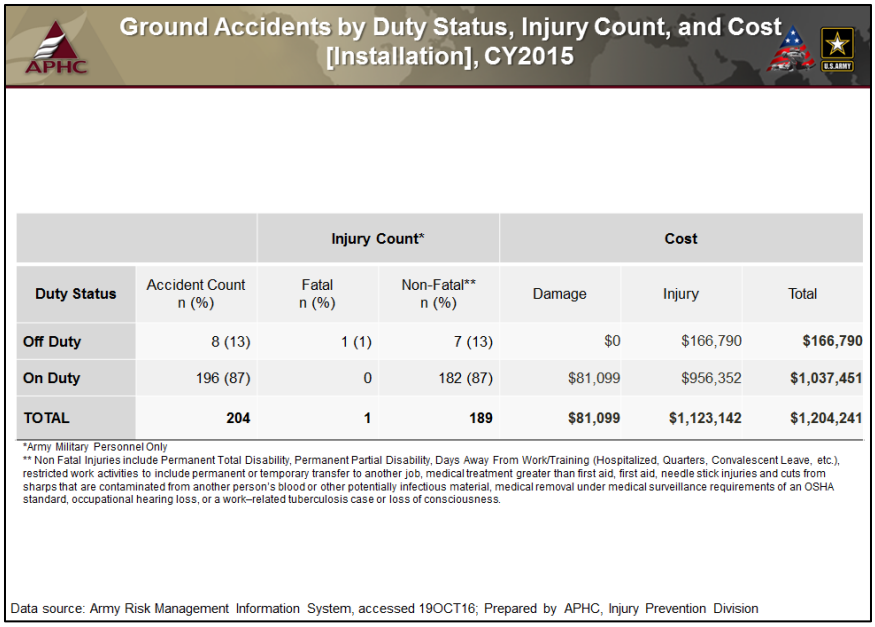
Ground Accidents by Accident Classification, Injury Count, and Cost
[Installation], CY2015

		Injury Count*		Cost		
Accident Classification	Accident Count n (%)	Fatal n (%)	Non-Fatal** n (%)	Damage	Injury	Total
A	1 (<1)	1 (100)	0	$0	$125,000	**$125,000**
B	2 (1)	0	18 (10)	$21,099	$254,421	**$275,520**
C	106 (52)	0	93 (49)	$5,000	$619,161	**$624,161**
D	95 (47)	0	78 (41)	$55,000	$124,560	**$179,560**
TOTAL	**204**	**1**	**189**	**$81,099**	**$1,123,142**	**$1,204,241**

*Army Military Personnel Only
** Non Fatal Injuries include Permanent Total Disability, Permanent Partial Disability, Days Away From Work/Training (Hospitalized, Quarters, Convalescent Leave, etc.), restricted work activities to include permanent or temporary transfer to another job, medical treatment greater than first aid, first aid, needle stick injuries and cuts from sharps that are contaminated from another person's blood or other potentially infectious material, medical removal under medical surveillance requirements of an OSHA standard, occupational hearing loss, or a work–related tuberculosis case or loss of consciousness.

Data source: Army Risk Management Information System, accessed 19OCT16; Prepared by APHC, Injury Prevention Division

FIGURE E-3. Ground accidents by accident classification, injury count, and cost at an Army installation, 2015



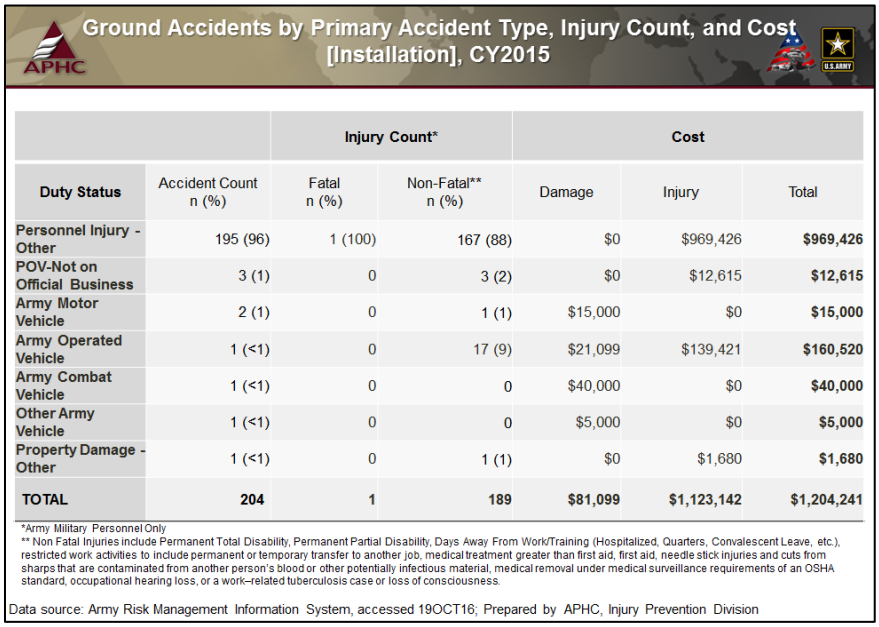
Ground Accidents by Duty Status, Injury Count, and Cost [Installation], CY2015

		Injury Count*		Cost		
Duty Status	Accident Count n (%)	Fatal n (%)	Non-Fatal** n (%)	Damage	Injury	Total
Off Duty	8 (13)	1 (1)	7 (13)	$0	$166,790	$166,790
On Duty	196 (87)	0	182 (87)	$81,099	$956,352	$1,037,451
TOTAL	204	1	189	$81,099	$1,123,142	$1,204,241

*Army Military Personnel Only
** Non Fatal Injuries include Permanent Total Disability, Permanent Partial Disability, Days Away From Work/Training (Hospitalized, Quarters, Convalescent Leave, etc.), restricted work activities to include permanent or temporary transfer to another job, medical treatment greater than first aid, first aid, needle stick injuries and cuts from sharps that are contaminated from another person's blood or other potentially infectious material, medical removal under medical surveillance requirements of an OSHA standard, occupational hearing loss, or a work–related tuberculosis case or loss of consciousness.

Data source: Army Risk Management Information System, accessed 19OCT16; Prepared by APHC, Injury Prevention Division

FIGURE E-4. Ground accidents by duty station, injury count, and cost at an Army installation, 2015



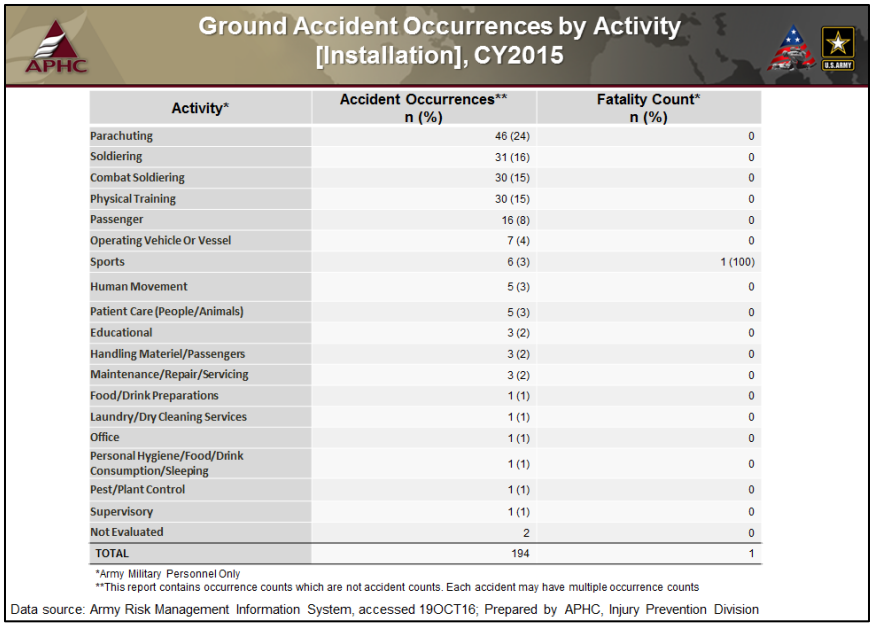
Ground Accidents by Primary Accident Type, Injury Count, and Cost [Installation], CY2015

		Injury Count*		Cost		
Duty Status	Accident Count n (%)	Fatal n (%)	Non-Fatal** n (%)	Damage	Injury	Total
Personnel Injury - Other	195 (96)	1 (100)	167 (88)	$0	$969,426	$969,426
POV-Not on Official Business	3 (1)	0	3 (2)	$0	$12,615	$12,615
Army Motor Vehicle	2 (1)	0	1 (1)	$15,000	$0	$15,000
Army Operated Vehicle	1 (<1)	0	17 (9)	$21,099	$139,421	$160,520
Army Combat Vehicle	1 (<1)	0	0	$40,000	$0	$40,000
Other Army Vehicle	1 (<1)	0	0	$5,000	$0	$5,000
Property Damage - Other	1 (<1)	0	1 (1)	$0	$1,680	$1,680
TOTAL	204	1	189	$81,099	$1,123,142	$1,204,241

*Army Military Personnel Only
** Non Fatal Injuries include Permanent Total Disability, Permanent Partial Disability, Days Away From Work/Training (Hospitalized, Quarters, Convalescent Leave, etc.), restricted work activities to include permanent or temporary transfer to another job, medical treatment greater than first aid, first aid, needle stick injuries and cuts from sharps that are contaminated from another person's blood or other potentially infectious material, medical removal under medical surveillance requirements of an OSHA standard, occupational hearing loss, or a work–related tuberculosis case or loss of consciousness.

Data source: Army Risk Management Information System, accessed 19OCT16; Prepared by APHC, Injury Prevention Division

FIGURE E-5. Ground accidents by primary accident type, injury count, and cost at an Army installation, 2015



Ground Accident Occurrences by Activity [Installation], CY2015

Activity*	Accident Occurrences** n (%)	Fatality Count* n (%)
Parachuting	46 (24)	0
Soldiering	31 (16)	0
Combat Soldiering	30 (15)	0
Physical Training	30 (15)	0
Passenger	16 (8)	0
Operating Vehicle Or Vessel	7 (4)	0
Sports	6 (3)	1 (100)
Human Movement	5 (3)	0
Patient Care (People/Animals)	5 (3)	0
Educational	3 (2)	0
Handling Materiel/Passengers	3 (2)	0
Maintenance/Repair/Servicing	3 (2)	0
Food/Drink Preparations	1 (1)	0
Laundry/Dry Cleaning Services	1 (1)	0
Office	1 (1)	0
Personal Hygiene/Food/Drink Consumption/Sleeping	1 (1)	0
Pest/Plant Control	1 (1)	0
Supervisory	1 (1)	0
Not Evaluated	2	0
TOTAL	194	1

*Army Military Personnel Only
**This report contains occurrence counts which are not accident counts. Each accident may have multiple occurrence counts

Data source: Army Risk Management Information System, accessed 19OCT16; Prepared by APHC, Injury Prevention Division

FIGURE E-6. Ground accident occurrences by activity at an Army installation, 2015

Appendix F
MEDCOM OPORD 15-74 Review and Coordination

MAY14, SEP14, OCT14, FEB15, MAY15, SEP15: Coordination AM2020 Clinical and Community Preventive Services (CCPS) Program Action Officer

- Considered creating Injury Annex to CCPS OPORD, considerably increasing its length and complexity
- Decided Injury should have its own OPORD

OCT14, JAN15, FEB15, APR15, MAY15, JUL15, JAN16, AUG16, OCT16: Coordination with AM2020 Physical Performance Service Line (PPSL) and OTSG Rehabilitation and Reintegration Division

- Added appendix with timeline & key dates
- Added links to PPSL metrics to AM2020 Injury and Violence Free Living Program metrics in the Army Strategic Management System
- Routinely invited to OPORD Working Group meetings

FEB15: OPORD review by Army Resiliency Directorate Liaison

FEB15: OPORD review by the Office of the Assistant Secretary of the Army for Installations, Energy, and Environment (ASA IEE)

MAR15: OPORD briefing for Health Promotion Operations Staff Call

MAR15, MAY15, SEP15, NOV15, FEB16: Coordination/update with OTSG G8/9, Integrated Clinical Analytics

- Added Medical Readiness Assessment Tool (MRAT) metrics to OPORD
- Confirmed assistance with installation Team Lead registration and training
- Provided pilot site feedback on MRAT

MAR15: Coordination with SRMC Safety Officer

APR15: Coordination with MEDCOM Safety Director

MAY15, JUL15, SEP15, JAN16, APR16: Coordination with APHC Health Promotion Operations

- Revisions to OPORD: added a reference to civilian injury costs, specified review of data on Army civ only (not contractors), & pushed initial implementation dates to July.
- Recommended obtaining ACOM/ASCC Surgeons comments.

MAY15: OPORD review by ACOM/ASCC Health Promotion Project Officers

JUL15: OPORD review by ACOM/ASCC Command Surgeons

AUG15: Coordination with Reserve Affairs

- Added text on coordinating with Reserve and National Guard

SEP15: Update to ASA IEE

DEC15, JUN16: Briefings to Community Health Promotion Council (CHPC) Governance Working Group

APHC Activities Supporting AM2020 Injury and Violence Free Living Program (PHR No. S.0023112)

JUL16: Review of draft fragmentary order (FRAGO 1) by pilot phase RHC representatives and installation Unintentional Injury Team Leads

JAN16: OPORD briefing to Preventive Medicine Worldwide VTC

MAY16: OPORD briefing to Army Ready and Resilient Campaign (R2C) Council of Colonels

Appendix G
MEDCOM OPORD 15-74 Formal Staffing and Decision Points

NOV13: AM2020 Campaign Synchronization Working Group (CSWG) agreed with OPORD focus on unintentional injury

MAR14: APHC staffing of OPORD

DEC14: AM2020 CSWG concurred with pursuing OPORD separate from Clinical and Community Preventive Services and advised proceeding with an OPORD versus initiating a FRAGO to the original AM2020 OPORD, consistent with other AM2020 Programs.

JAN15: MEDCOM staffing of OPORD

26MAR15: AM2020 CSWG advised obtaining verification of communication of OPORD objectives to key stakeholders

JUL15: MEDCOM staffing of revised OPORD

SEP15: MEDCOM Operations considers creating a FRAGO to the original AM2020 OPORD; decide to move forward as an OPORD

22SEP15: OPORD published

Appendix H
MEDCOM OPORD 15-74 Summary Slides

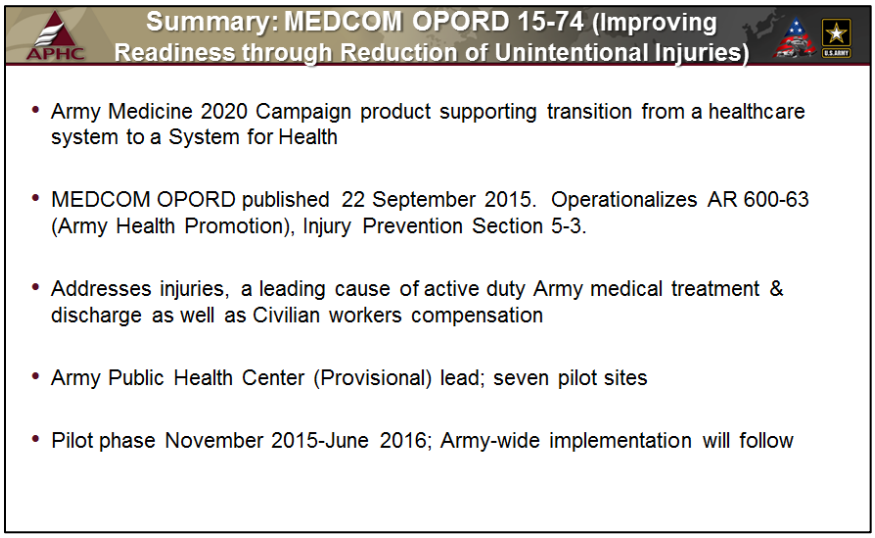


FIGURE H-1. Summary of MEDCOM OPORD 15-74 (Improving Readiness through Reduction of Unintentional Injuries)

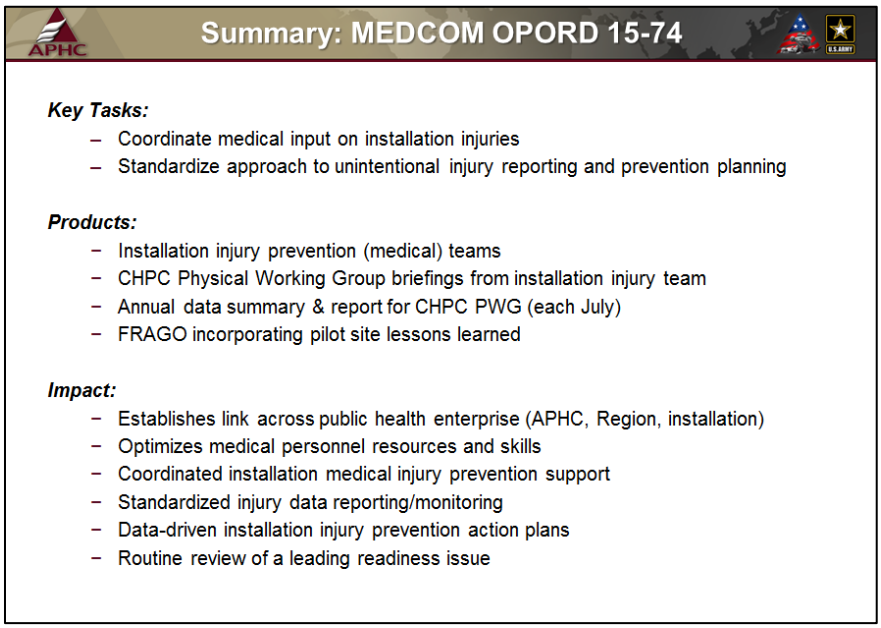


FIGURE H-2. Summary of MEDCOM OPORD 15-74 key tasks, products, and impacts

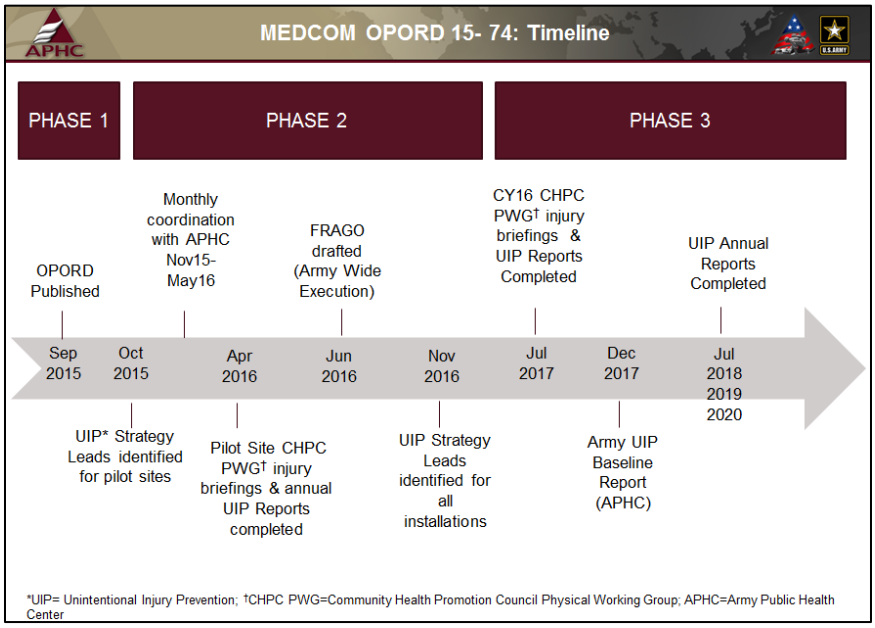


FIGURE H-3. MEDCOM OPORD 15-74 TIMELINE

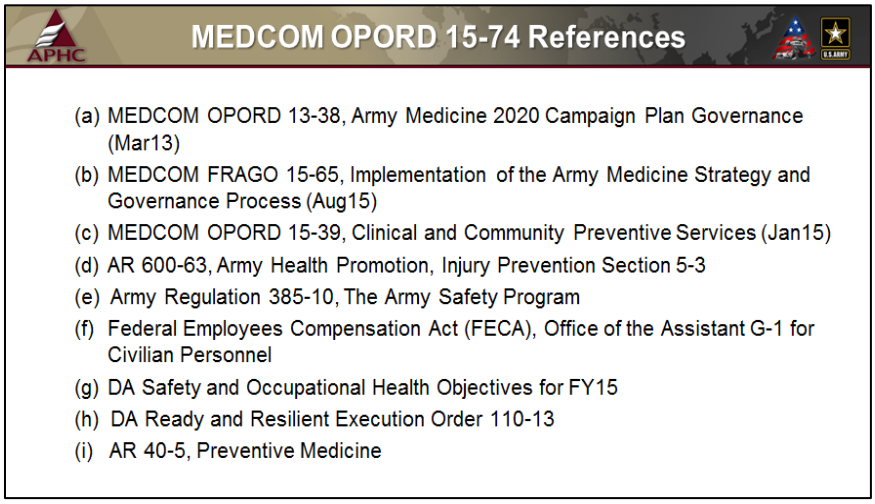


FIGURE H-4. MEDCOM OPORD 15-74 references

Appendix I
AM2020 Research to Practice Work Group Description

AM2020 Research to Practice Work Group
An initiative of the Army Medicine 2020 Injury and Violence Free Living Program and the Army Medicine 2020 Physical Performance Service Line

Mission: Link military injury research, policy, public health, public affairs, and health communication communities in order to bring unintentional injury prevention and human performance science to those in the field.

Objective: Optimize injury prevention and performance optimization information sharing.

> Initiative 1: Provide the online AM 2020 Injury Prevention and Performance Optimization Education Series
>
> Initiative 2: Share IP/HPO communication products and resources available or in development across organizations.

Audience: Army medical providers, health promotion professionals, health policy makers, and others working to support the readiness and health of Soldiers.

Topics: Unintentional injury prevention and physical performance, including healthy eating, performance nutrition, and tobacco-free living.

Co-Chairs:
Dr. Michelle Chervak, Action Officer, AM2020 Injury and Violence Free Living Program
LTC Chad Koenig, Chief, Physical Performance Service Line

Membership:
U.S. Army Research Institute for Environmental Medicine
Uniformed Services University of the Health Sciences/DOD Human Performance Resource Center
AMEDD Center and School
OTSG Rehabilitation and Reintegration Division
Army Medical Specialist (SP) Corps Research Committee
APHC Injury Prevention Division
APHC Health Promotion Policy and Operations Division
APHC Community Health Nursing Division
APHC PAO
APHC G-7 (Health Communications)

Background: This group first began meeting in 2011, as part of the Soldier Medical Readiness Campaign (SMRC). Over 50 communication products and an Education Series were developed in support of the SMRC (see http://phc.amedd.army.mil/topics/campaigns/smrc/Pages/default.aspx). The work group mission continues under the AM2020 Campaign, with a major focus on the planning and execution of a quarterly online educational seminar for Army medical providers, health promotion professionals, and health policy makers for which continuing medical and nursing education credits are offered (see http://phc.amedd.army.mil/topics/campaigns/amed2020/Pages/Army2020EducationSeries.aspx).