Navy and Marine Corps Public Health Center

Occupational Audiology and Hearing Conservation Division

Hearing Conservation Compendium Report – CY14

March 18, 2015

NAVY AND MARINE CORPS PUBLIC HEALTH CENTER
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Contents

Executive Summary

- The Navy and Marine Corps Public Health Center (NMCPHC) Occupational Audiology and Hearing Conservation (OA/HC) Division develops an annual compendium report that summarizes enterprise hearing conservation program Measures of Effectiveness (MOEs).
- Hearing injury rates have declined from 17.2% in 2005 to 11.6% in 2014.
- At the time of this report data for Navy compliance was not available. For FY14 USMC compliance was at 80.8%. While this is below the target threshold of 85% this is significant improvement from CY13 compliance of 63.2%.
- The percentage of the Navy and USMC population with normal hearing has increased from 76.1% in 2005 to 83.3% in 2014.
    - Despite trending in a positive direction, only 59% of Navy and 55.9% of USMC civilians demonstrated normal hearing performance in 2014.
- Data indicates that 89.5% of new accessions have normal hearing in 2014 compared to 85.7% in 2005.
- Based on thresholds obtained on termination audiograms, the percentage of those eligible for Veteran's Benefits Administration (VBA) compensation has remained relatively unchanged at around 4% over the past 10 years.
- Initiative is underway to adopt the MOEs across the Department of Defense (DoD).

ACKNOWLEDGEMENTS

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LT Seth Garcia, Occupational Audiologist, USNH Guam
Mr. Steve Geiger, Naval Safety Center
Mr. Rufus Godwin, Commandant of the Marine Corps Safety Division (CMCSD)
LCDR Clayton Rollin, Commandant of the Marine Corps Safety Division (CMCSD)

Background

The goal of the Department of Navy's (DON) Hearing Conservation and Noise Abatement initiative is to proactively prevent noise-induced hearing loss and ensure optimal auditory readiness. Per Navy Bureau of Medicine and Surgery (BUMED) guidance, the Navy and Marine Corps Public Health Center (NMCPHC) Occupational Audiology and Hearing Conservation (OA/HC) Division is responsible for the overall management of the Navy and Marine Corps Hearing Conservation Program (HCP). The OA/HC Division Head is considered the subject matter expert pertaining to program oversight, data analysis and report development. This annual compendium report summarizes the MOEs and considers the impact on the Navy and USMC population. This report should be utilized to focus BUMED consultation, guidance and direction, augment the Naval Safety Center and the Marine Corps Safety Division, meet the Hearing Conservation and Noise Abatement Flag Level Steering Board (FLSB) Plan of Action and Milestones (POA&M) objectives and provide enterprise-wide comparison data for local commands and deck-plate inspection processes to monitor performance.

One key component of the HCP is program evaluation. DoD policy has traditionally used Standard Threshold Shift (STS) rate (change in hearing) and audiogram completion rate as the two metrics to evaluate the effectiveness of HCPs. Per the Navy Executive Safety Board (NESB), additional MOEs include percentages of hearing impaired, new accessions with hearing impairment, and those eligible for compensation on termination audiogram. These expanded MOEs serve as a standardized operational demand signal that is actionable from the unit commander through the chain of command. These MOEs serve as an enterprise tool to assess efforts made to minimize preventable hearing loss across the DON.

Requirement for Medical Surveillance

Service members are required to be under medical surveillance if exposed to noise equal to or greater than 85 A-weighted (dBA) as an 8 hour time-weighted average (TWA) and/or impulse noise equal to or greater than 140 peak decibel (dBP)

Required exams include: baseline audiogram within 1 month of first exposure, annual audiogram and subsequent follow-up, and termination audiogram when removed from exposure

Methods

The Defense Occupational and Environmental Health Readiness System-Hearing Conservation (DOEHRS-HC) is the database application used to monitor audiometry and manage the HCP within the DoD. Data is uploaded from DOEHRS-HC to the DOEHRS Data Repository (DR). Reports were generated through the DOEHRS DR for MOE 1, 3, 4 and 5 on 17 March 2015. MOE

2 Navy data is generated through the Medical Surveillance Command Report submitted by the Naval Safety Center and reflects self-reported data from echelon II commands. However, at the time of this report Navy compliance data was not available. MOE 2 USMC data was generated on 4 March 2015 through Medical Readiness Reporting System (MRRS) Command Summary Hearing Conservation Report and reflects performance based on the prior 365 days.

Data

When looking at the data below these definitions are pertinent:

Normal hearing is defined as no frequency exceeding 25 dBHL in either ear as directed by the American Speech Language and Hearing Association.

Hearing Impaired (HI) is defined as at least one frequency exceeding 25 dBHL in either ear.

Hearing Impaired Alarm (HIA) refers to a minimal threshold trigger that identifies individuals at higher risk. For termination exams the alarm is based on VA criteria for service connected disability. For all other populations the alarm is based on the approved "2K-150" single ear trigger. The "2K-150" trigger identifies those individuals most likely to benefit from amplification (hearing aids).

DON Measures of Effectiveness (MOEs)

MOE 1: Percentage of Injury Rate (STS) on Periodic Hearing Screening

MOE 2: Percentage of Compliance with Periodic Screening

MOE 3: Percentage of Hearing Impaired

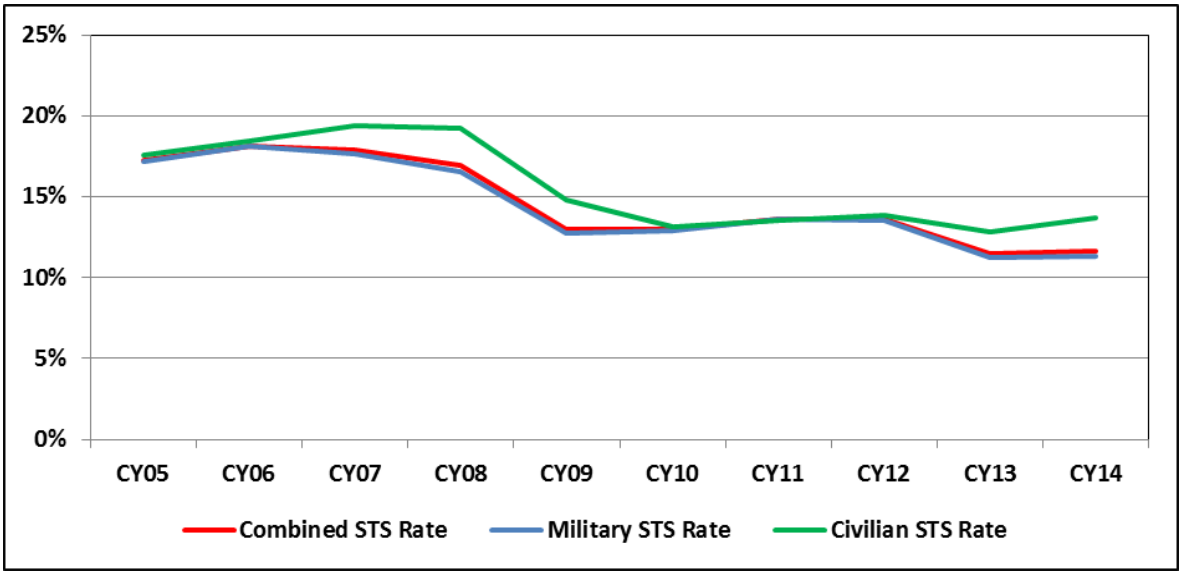
MOE 4: Percentage of New Accessions with Hearing Impairment

MOE 5: Percentage who meet minimum VA Compensation Requirements

Appendices A-D provides further breakout data for each MOE.

The inaugural CY13 Compendium Report contained an Appendix E that provided additional breakdown on injury rates specific to Navy Air Wing, Navy Ship Class, and USMC Major Commands. However, the tri-service pre-defined reports used to generate this data are currently under review and modification to ensure data integrity.

Figure 1. MOE 1: DON Injury Rates on Periodic Hearing Screening



Data source: Periodic annual screenings.

Interpretation: Injury rates (STS) have declined from 2005 (17.2%) to 2014 (11.6%). There is a significant negative influence from the civilian workforce sector.

Goal: Reduction in injury rates indicates compliance with HCP requirements, proper engineering controls, and PPE use both at work and at home.

Discussion: Considering the "real-time" (within CY), percentage of hearing injury is more indicative of hearing loss prevalence in current personnel.

MOE 2: Compliance with Periodic Screening

Navy:

- CY14: At the time of this report Navy compliance data was not available.
- CY13: 83.8%
- CY12: 85.8%

USMC:

- CY14: 80.8%
- CY 13: 63.2%
- CY12: 71.4%

Data Source:

Navy: Medical Surveillance Exam Completion Report submitted by the Naval Safety Center.

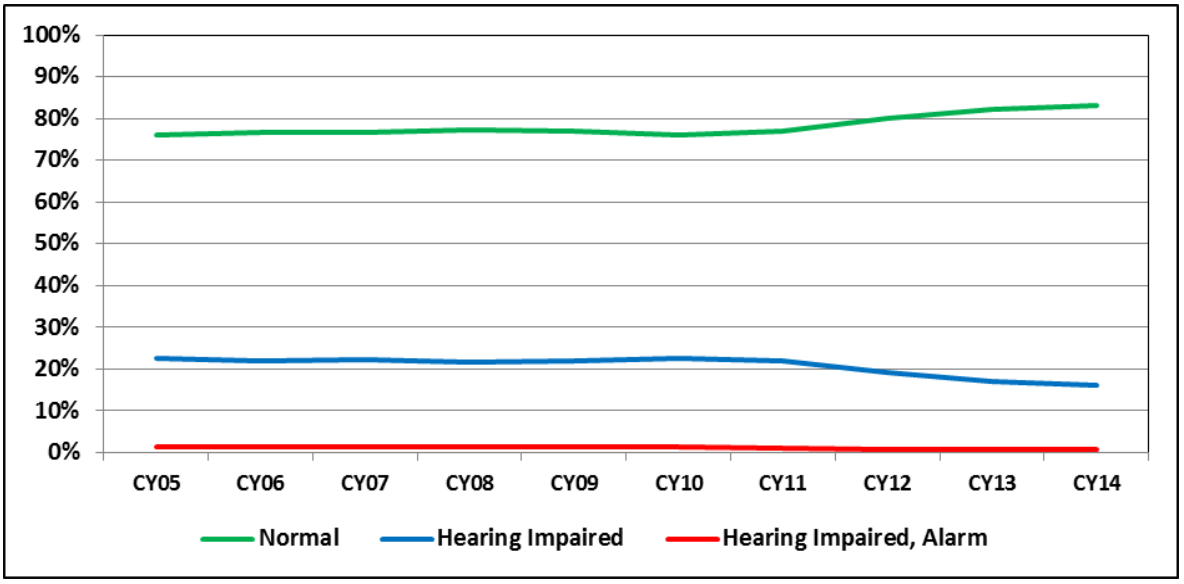
USMC: Medical Readiness Reporting System (MRRS) Command Summary Hearing Conservation.

Interpretation: Data reflects the number of periodic annual screenings (numerator) administered over the self-reported program enrollment (denominator) reported by the echelon II commands. At the time of this report data could not be processed for Navy compliance due to software and database update and repair. While USMC compliance (80.8%) is below target, significant improvement continues to be made since the release of MARADMIN 010-12 which placed 100% of the USMC on the HCP.

Goal: 85% target compliance threshold.

Discussion: A key element in a successful hearing conservation program is to ensure all personnel exposed to hazardous noise in the workplace are enrolled in the command's HCP and receive annual audiometric evaluations. While Navy Medicine is responsible for the overall management of the program, ultimately it is the command's responsibility to ensure its personnel receive annual audiograms. This compliance is on the rise when compared to previous years.

Figure 2. MOE 3: DON Percentage Hearing Impaired



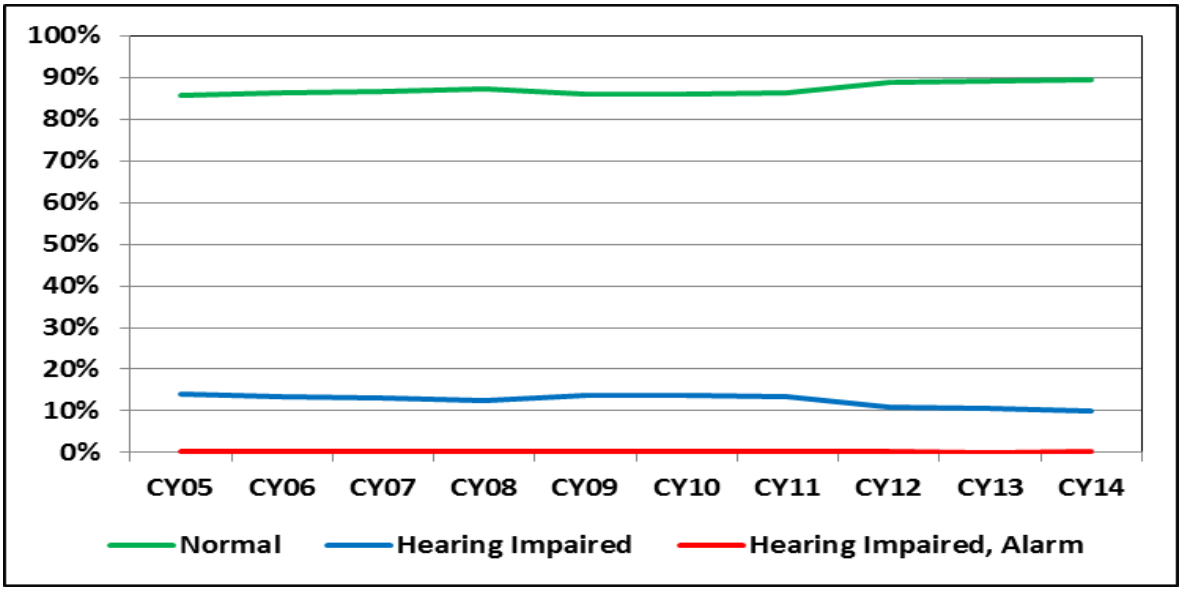
Data Source: All stable hearing screenings within a given calendar year.

Interpretation: Provides a corporate view of hearing impaired vice normal hearing populations. If intervention services are effective, the data should indicate a reduction in the percentage of hearing impaired personnel over time.

Goal: To increase percentage of normal hearing personnel and decrease the percentage of hearing impaired personnel.

Discussion: The data indicates an increase in the population of normal hearing personnel of 83.3% in 2014 when compared to 76.1% in 2005. Those with hearing impairment have decreased from 23.9% to 16.7% over the same time.

Figure 3. MOE 4: DON Percentage of New Accessions with Hearing Impairment



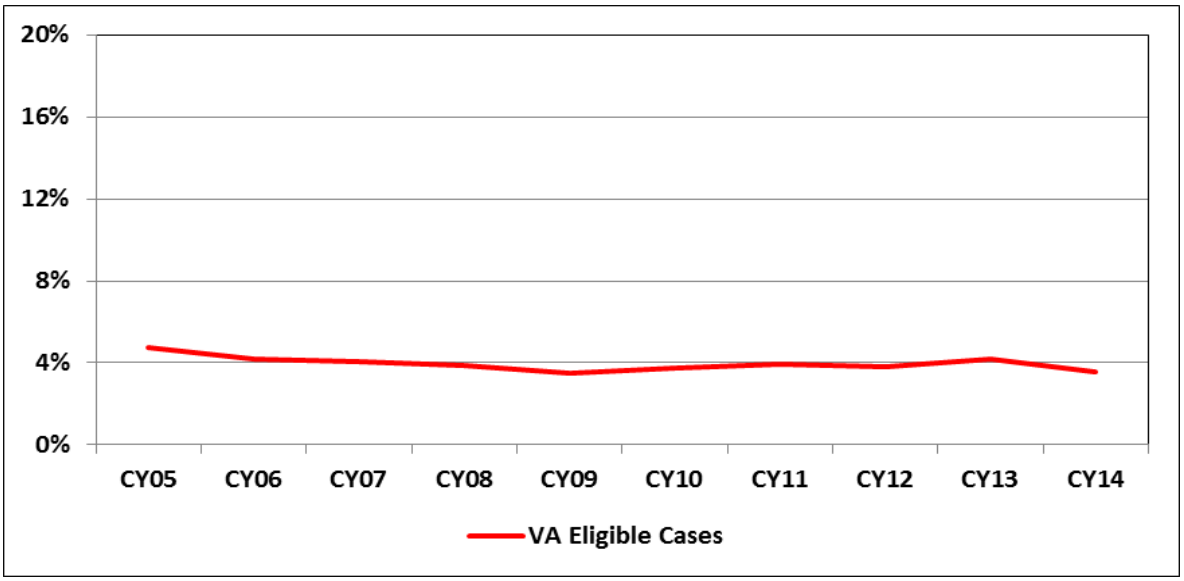
Data Source: All stable initial baseline screenings generated at identified accession point within a given calendar year.

Interpretation: Provides a corporate view on the effectiveness of accession policy and enforcement. Data indicates that 89.5% of new accessions have normal hearing in 2014 compared to 85.7% in 2005. There is a significant negative influence from the civilian sector.

Goal: To increase percentage of normal hearing personnel entering into military or civil service.

Discussion: According to the Accession Medical Standards Analysis and Research Activity (AMSARA), retention is negatively affected by recruits entering military service with a medical waiver for hearing loss; more so than recruits with any other type of medical waiver.

Figure 4. MOE 5: Percentage of Sailors and Marines who meet minimum VA Threshold Compensation Requirements



Data Source:

The numerator consists of all stable termination screenings that meet or exceed the VA standards for compensation consideration. The denominator consists of all stable termination hearing screenings.

Interpretation: VA eligible alarm rates have remained unchanged over the past 10 years ranging from 4.8% in 2005 to 3.6% in 2014.

Goal: Reduce the percentage of VA eligible cases, based on thresholds obtained on termination hearing screenings.

Discussion: The goal to reduce the percentage of VA eligible cases is a different and more reflective outcome to consider program effectiveness than the overall hard count of Veterans Benefits Administration (VBA) prevalence and disability payout.

Summary and Conclusions

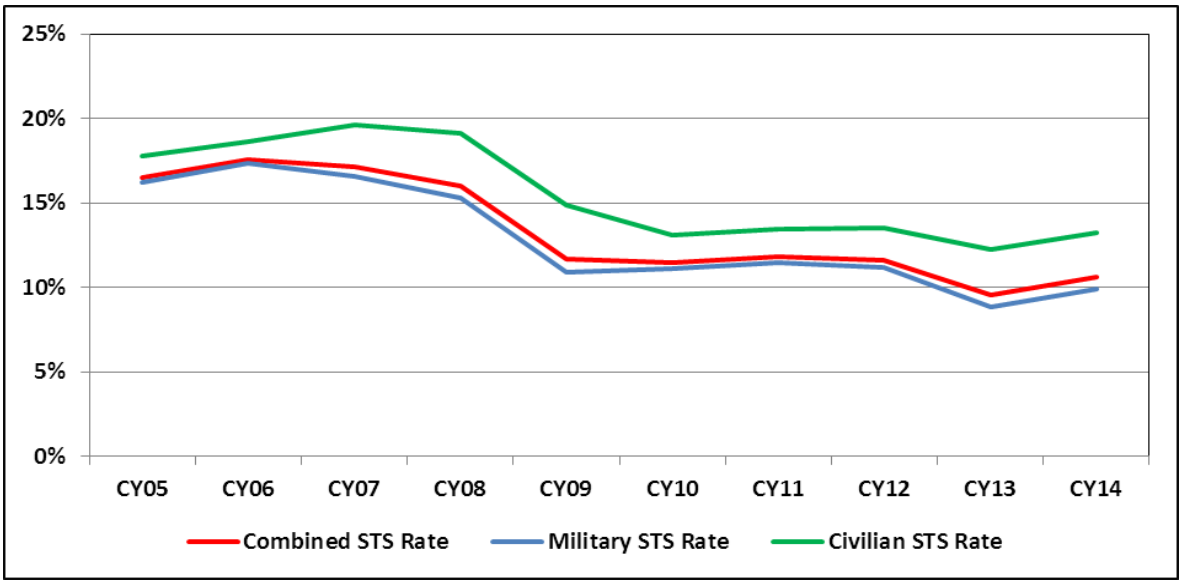
The goal of the Department of Navy's Hearing Conservation and Noise Abatement program is to prevent noise-induced hearing loss, ensure auditory readiness, and drive mission success. While Navy Medicine is responsible for the overall management of the HCP, success depends on command execution. Compiling injury and compliance program metrics at a local level is critical to determining and communicating program effectiveness. However, there is an important place for population metrics when considering the enterprise level management of the HCP. The expanded metrics and this annual compendium report allow for a standardized approach to consider "real-time" (within the calendar year) population metrics that span the entire career lifecycle from accession to separation (termination).

The way ahead:

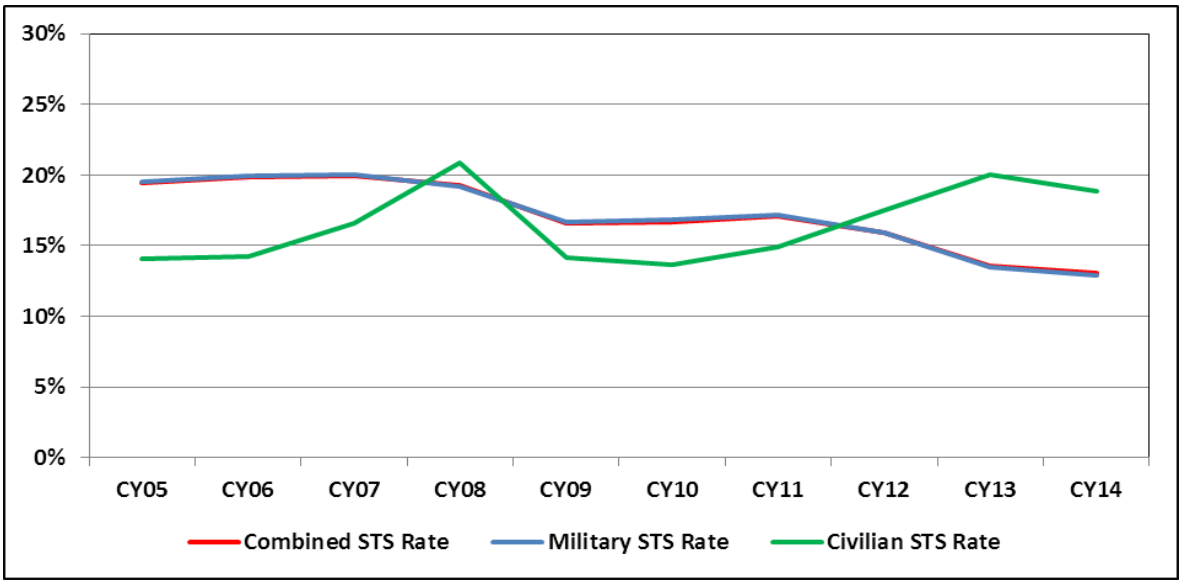
- The Navy Hearing Conservation community will continue to aggressively incorporate prevention models to reduce occupational hearing loss.
- Establish noise control baselines for engineering and acquisition communities.
- Explore opportunities to improve trends among the civilian workforce.
- Annually report population metrics for the expanded MOEs.
- Champion standardizing the MOEs across the services.

Appendix A: Additional MOE 1 Data and Figures

Injury Rate on Periodic Hearing Screening for Navy

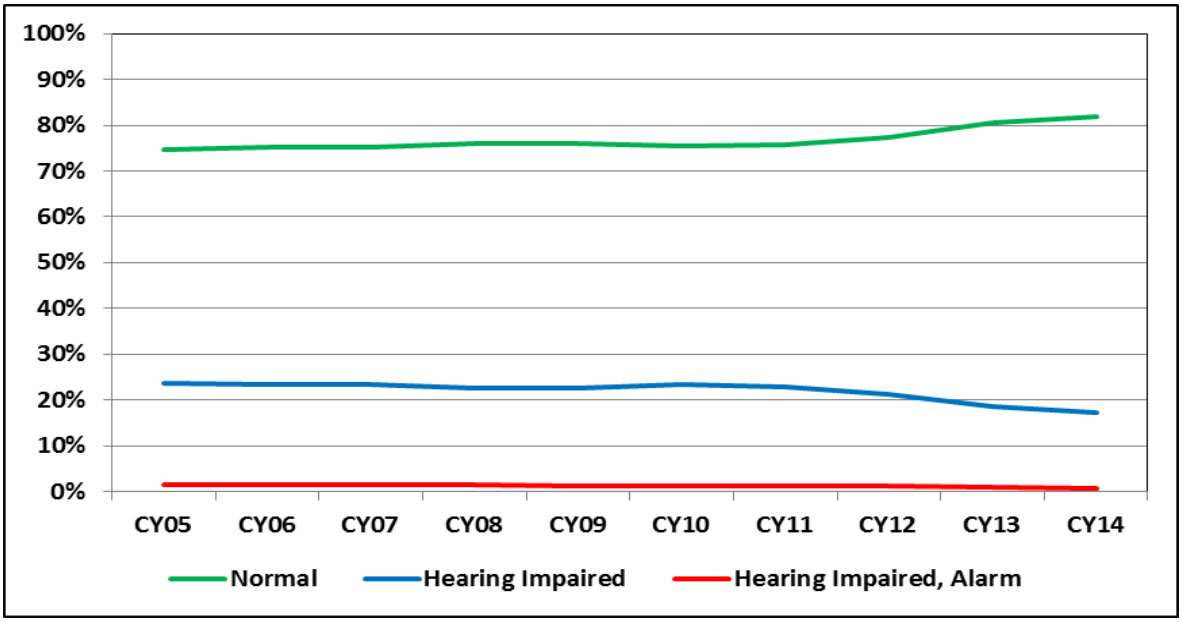


Injury Rate on Periodic Hearing Screening for Marine Corps

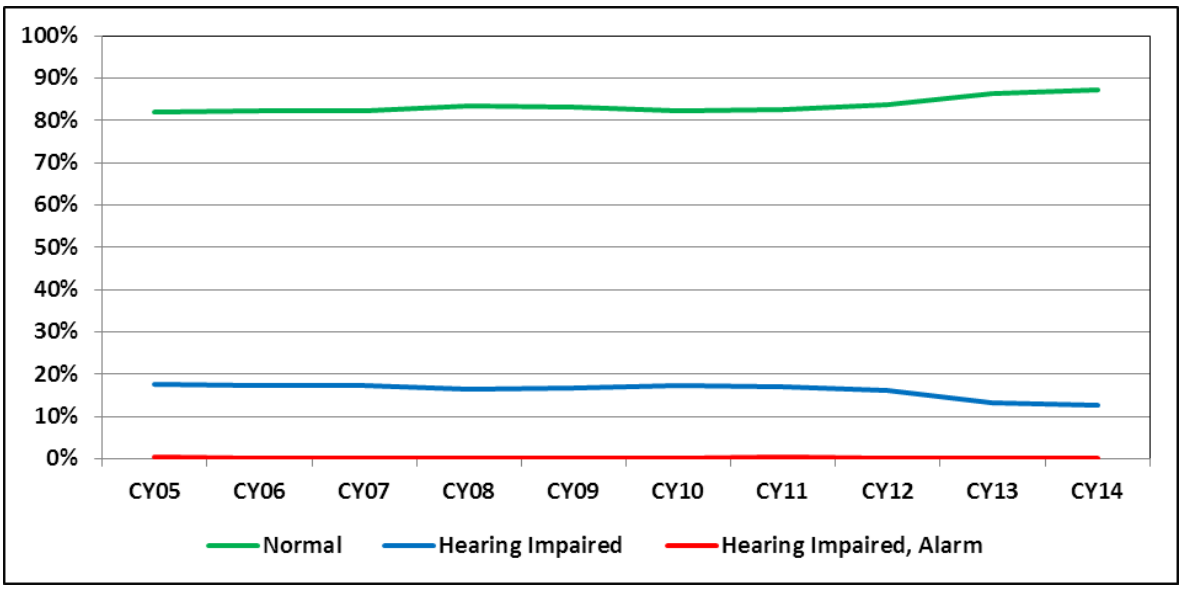


Appendix B: Additional MOE 3 Data and Figures

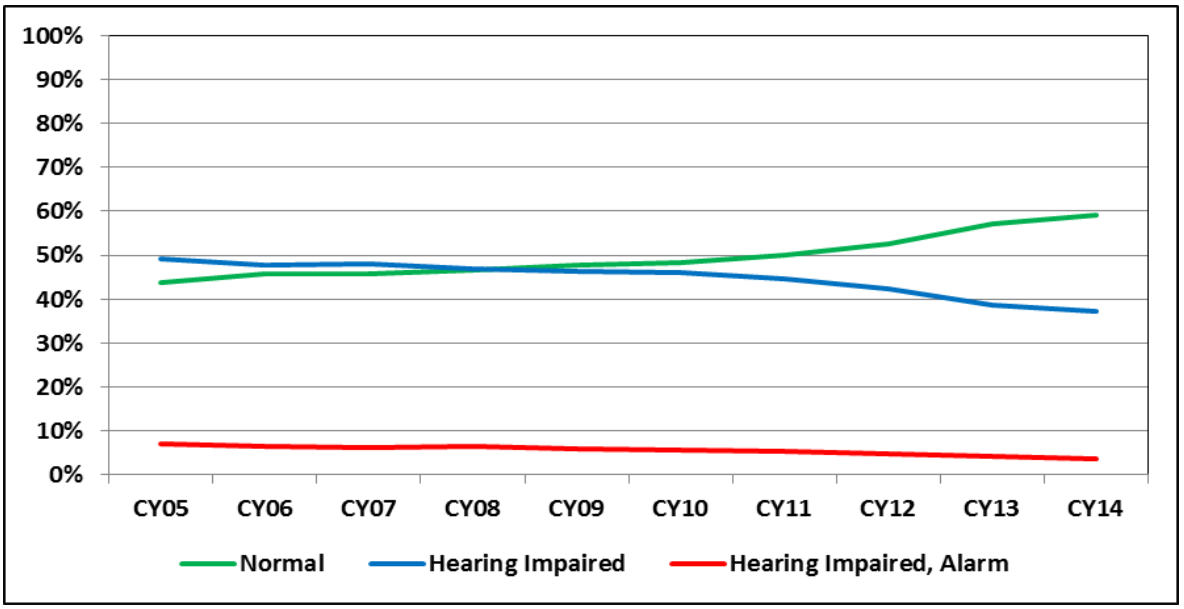
Percentage of Hearing Impaired Across the Navy



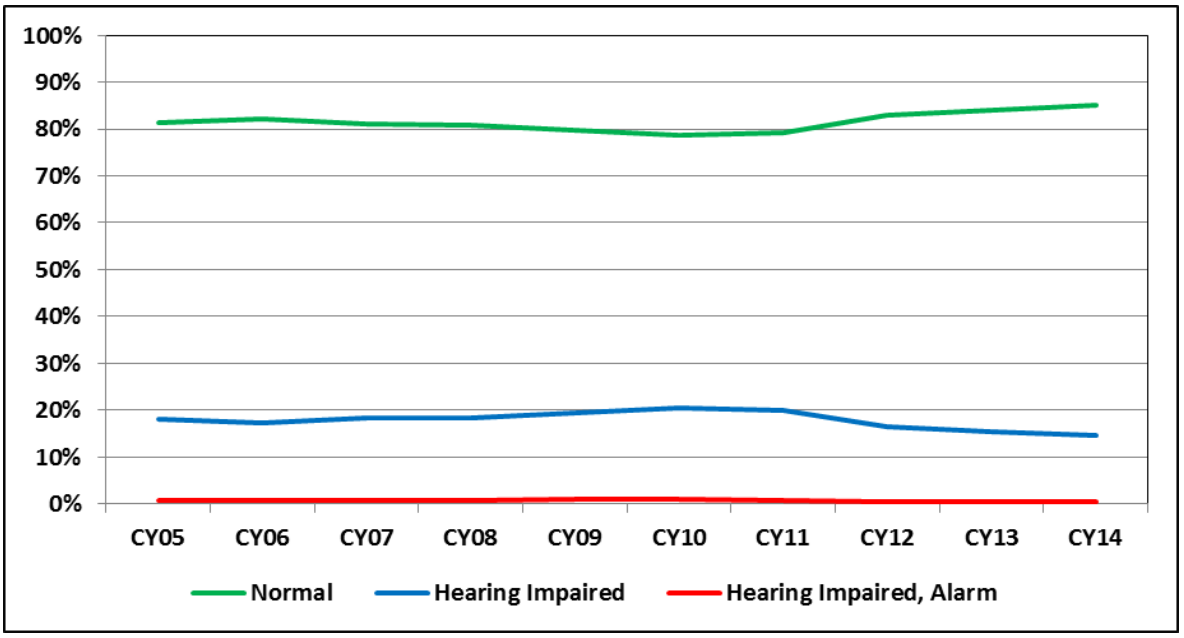
Percentage of Hearing Impaired Navy Active Duty



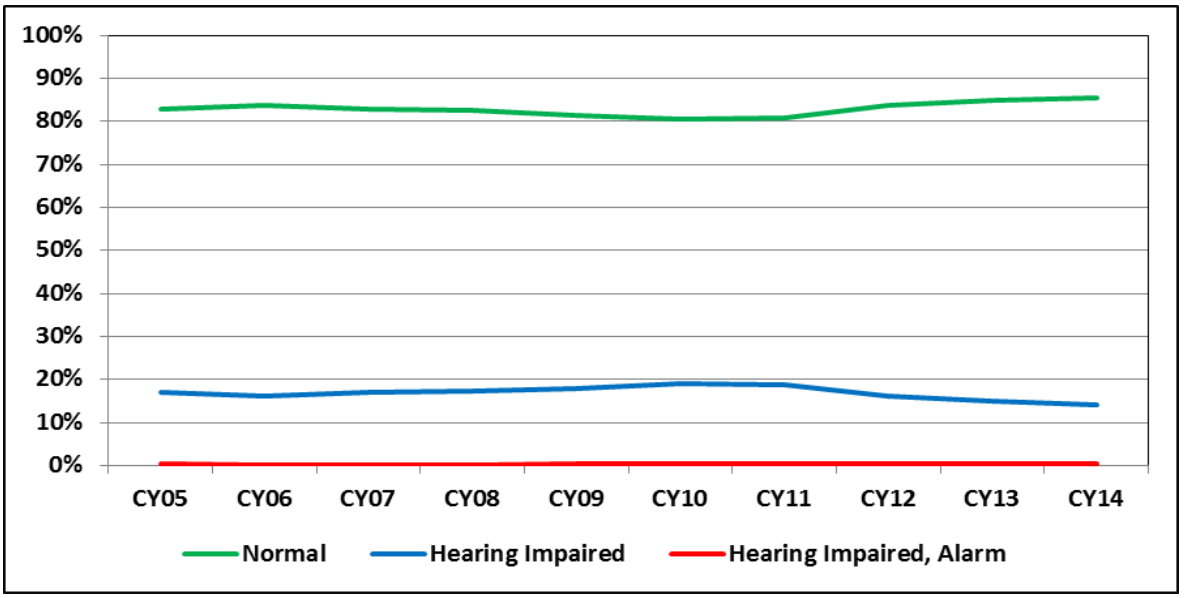
Percentage of Hearing Impaired Navy Civilian



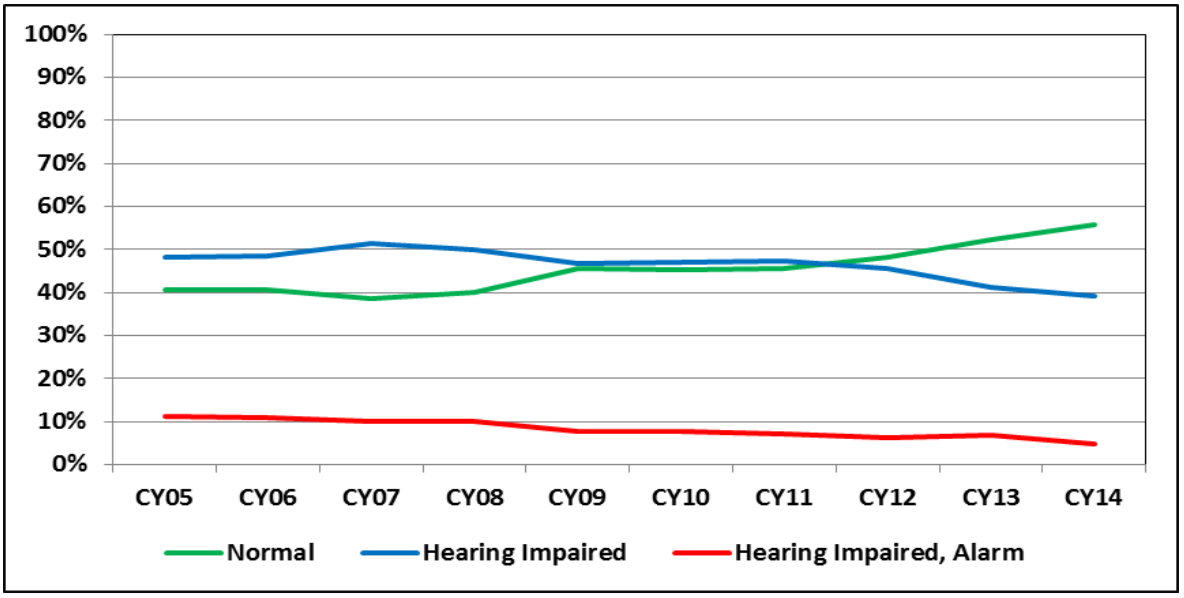
Percentage of Hearing Impaired Across Marine Corps



Percentage of Hearing Impaired Marine Corps Active Duty

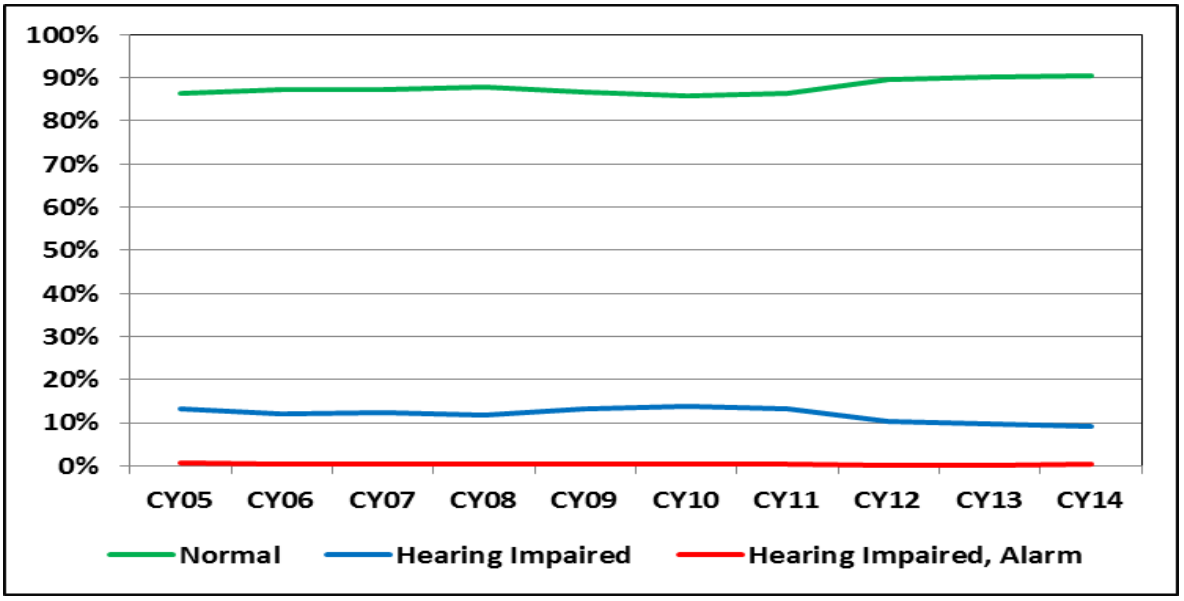


Percentage of Hearing Impaired Marine Corps Civilian

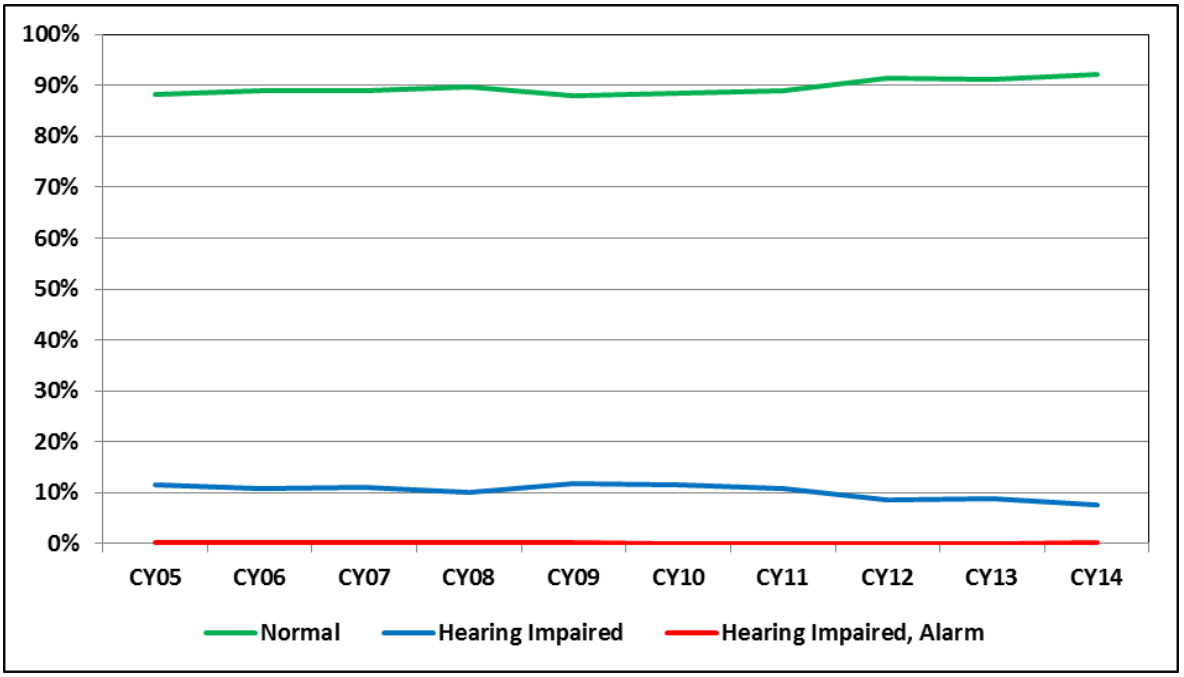


Appendix C: Additional MOE 4 Data and Figures

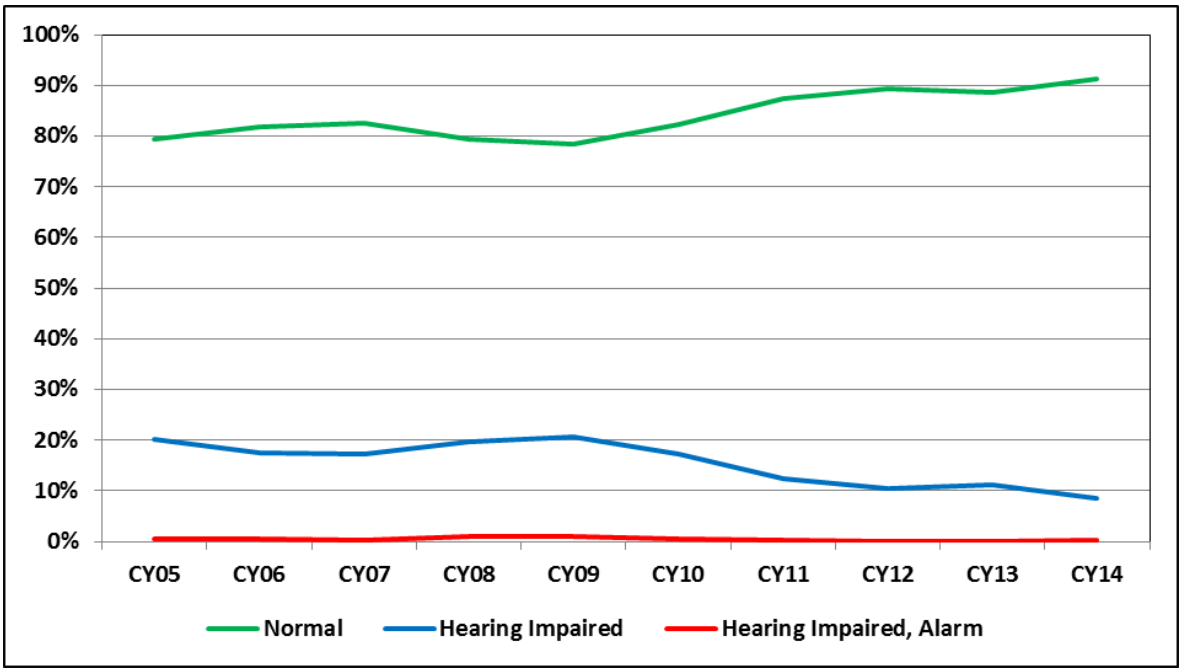
Percentage of Navy Accessions with Hearing Impairment



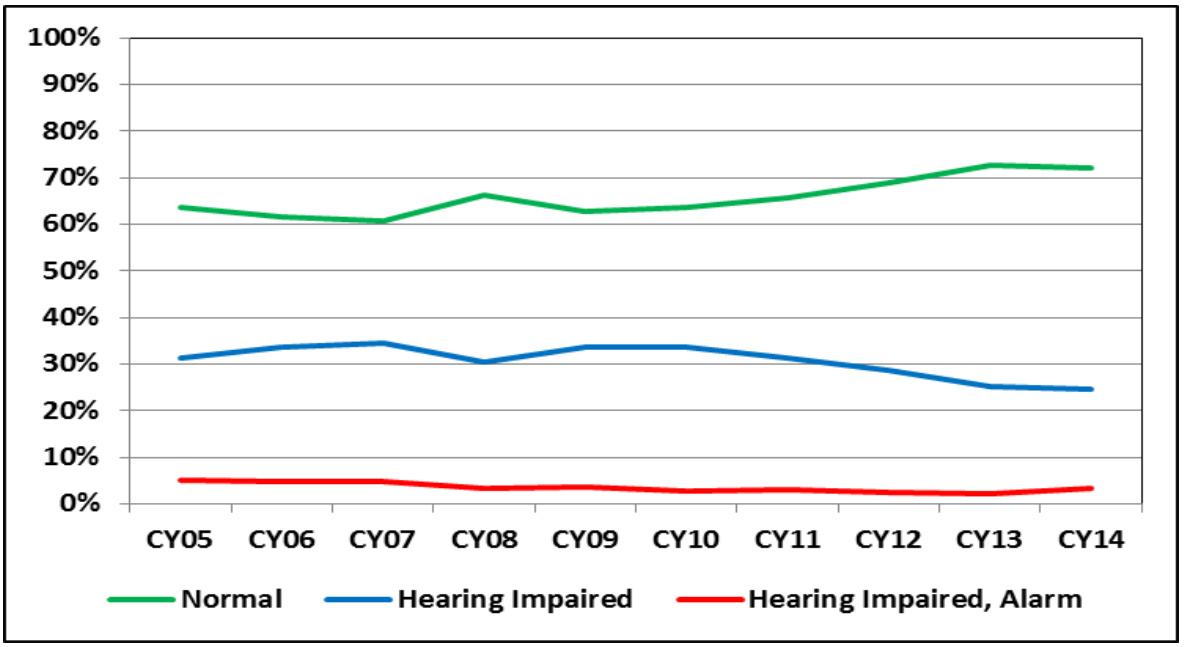
Percentage of Navy Active Duty Accessions with Hearing Impairment



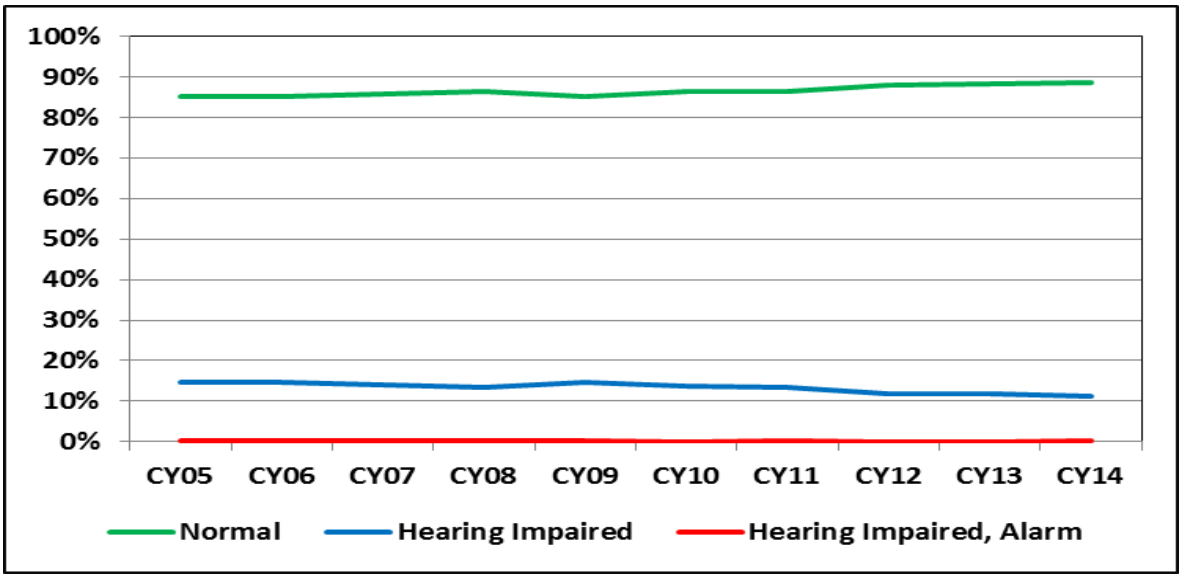
Percentage of Navy Reserve Accessions with Hearing Impairment



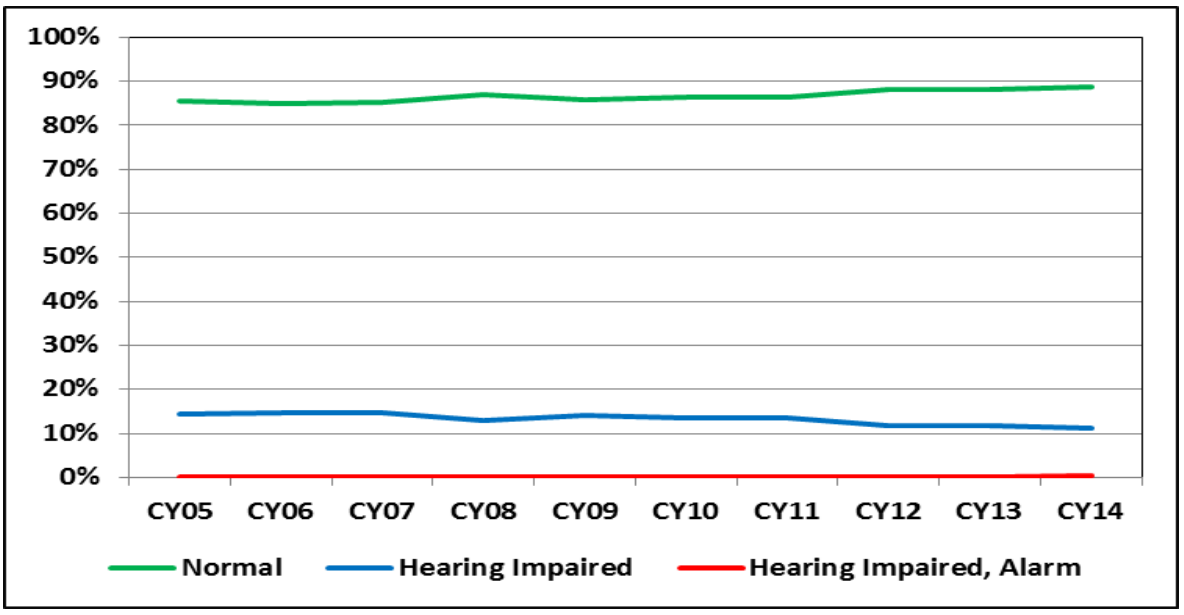
Percentage of Navy Civilian Accessions with Hearing Impairment



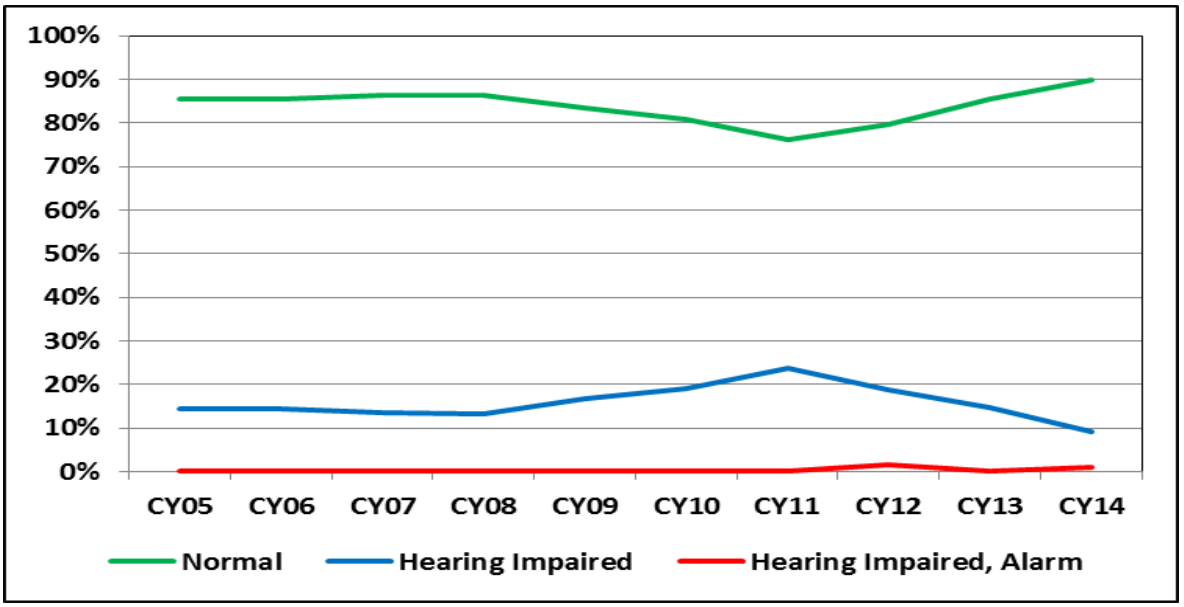
Percentage of Marine Corps Accessions with Hearing Impairment



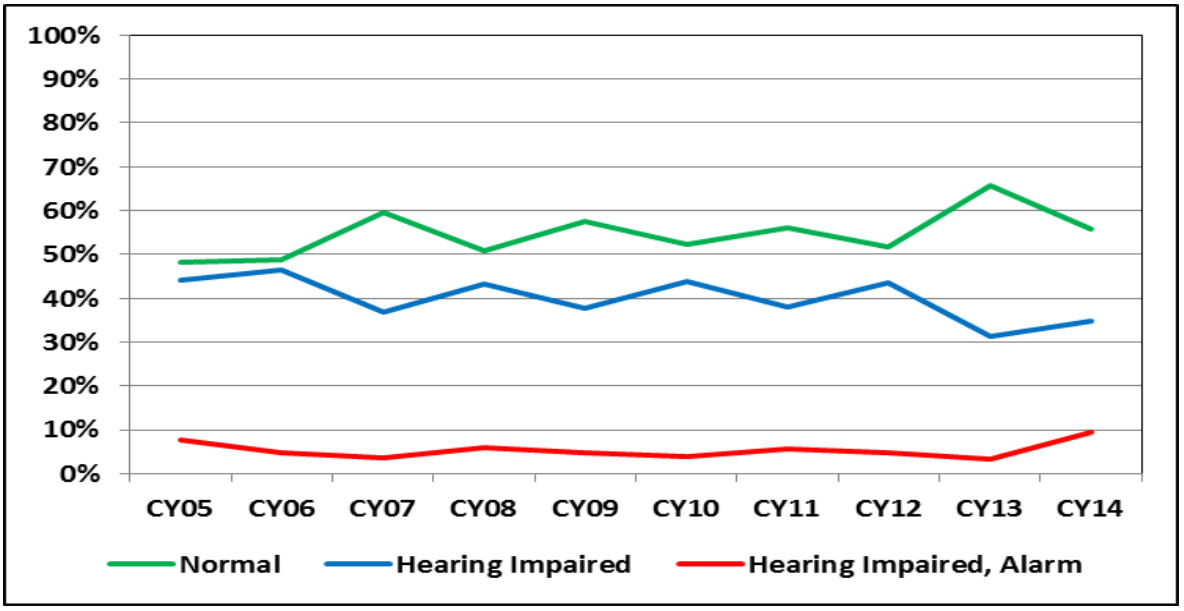
Percentage of Marine Corps Active Duty Accessions with Hearing Impairment



Percentage of USMC Reserve Accessions with Hearing Impairment

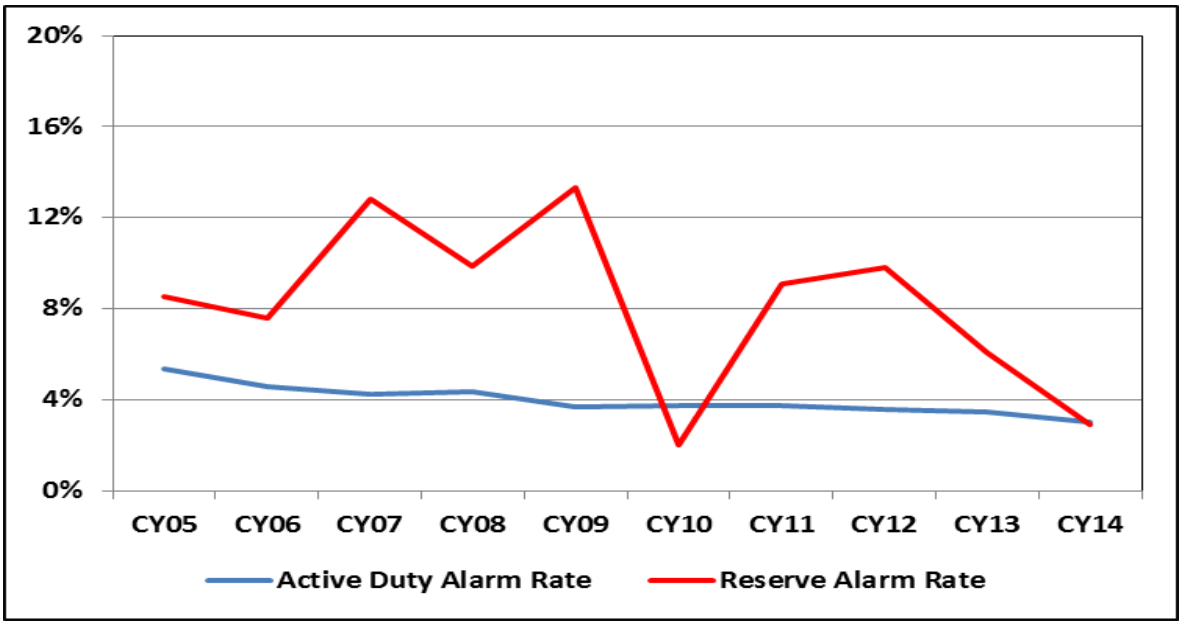


Percentage of Marine Civilian Accessions with Hearing Impairment



Appendix D: Additional MOE 5 Data and Figures

Percentage of Sailors who Alarm VA Compensation Requirements



Percentage of Marines who Alarm VA Compensation Requirements