U.S. Army Public Health Command

Industrial Hygiene Metrics Example Worksheet

Preventive Medicine Data: 40-5e

2011

USAPHC

Data is extracted from the Defense Occupational and Environmental Health Readiness System-Industrial Hygiene (DOEHRS-IH) for the Installation Status Report (ISR) 953 Preventive Medicine Series Metrics 953-04 through 953-11. The data is top-loaded from DOEHRS-IH to ISR.

ISR Metric Overview

ISR 953 #	Description
PM04	% BZ ≥ OEL, no controls documented in DOEHRS-IH
PM08	% BZ ≥ OEL, no controls identified, but w/ controls recommended
PM05	% dosimetry samples w/ noise TWA ≥ 85 dBA, no controls documented in DOEHRS-IH
PM09	% dosimetry samples w/ noise TWA ≥ 85 dBA, no controls identified, but w/ controls recommended
PM06	% sound level samples w/ impulse exposures ≥140 dBA, no controls documented in DOEHRS-IH.
PM07	% sound level samples w/ impulse exposures ≥140 dBA, no controls identified, but w/ controls recommended
PM11	% of installation personnel assigned a shop priority code in DOEHRS-IH.
PM10	% of DOEHRS-IH Priority 1 shops w/ at least one master schedule task completed in the past 12 months.

Note: decibel A-weighted (dBA)
occupational exposure limit (OEL)
time weighted average (TWA)
breathing zone (BZ)

953 – 04 – Data Element Calculation Example for Number of Air Breathing Zone Samples above Occupational Exposure Limit (OEL) without Controls.

There are 2500 personnel working at Fort Anywhere. The Industrial Hygienist (IH) assessed the work environments of 100 of the personnel at risk for an inhalation exposure and developed Similar Exposure Groups (SEG) based on that data that included 300 personnel. The IH determined that 50 of these 300 personnel had inhalation exposures at or above the OEL. Of those 50 over-exposures, there are no controls (administrative, personnel protective equipment, engineering) in place for 30. To ensure sufficient data is available in DOEHRS-IH to extract this metric the following is required:

1. Establish the Program Office
2. Add Supported Organizations
3. Capture Shops
4. Capture Processes
5. Capture Shop Personnel and assign to relevant processes
6. Capture Hazards
7. Capture Controls related to hazards
8. Establish SEG
9. Enter Air Breathing Zone Samples at SEG level
10. Calculate TWAs

Improvement in this metric will result if the IH Program Manager is able to identify control measures and work collaboratively with local safety, facilities, and medical personnel to implement the measures.

Calculation:

a = Breathing Zone samples above Occupational Exposure Limit (OEL), with no controls.
b = Breathing Zone samples above Occupational Exposure Limit (OEL).

Data element ‘a’ = 30
Data element ‘b’ = 50
Performance Measure = 30/50 X 100% = 60%, which is Red

953 – 08 – Data Element Calculation Example for Number of Breathing Zone Samples above OEL Not Controlled that are Recommended for Control

There are 2500 personnel working at Fort Anywhere. The Industrial Hygienist (IH) assessed the work environments of 100 of the personnel at risk for an inhalation exposure and developed Similar Exposure Groups (SEG) for 300 personnel. The IH determined that 50 of these 300 personnel had inhalation exposures at or above the OEL. Of those 50 over-exposures, there are no controls (administrative, personnel protective equipment, engineering) in place for 30. Of those 30 where there are no controls 10 have recommendations for controls. To ensure sufficient data is available in DOEHRS-IH to extract this metric the following is required:

1. Establish the Program Office
2. Add Supported Organizations
3. Capture Shops
4. Capture Processes
5. Capture Shop Personnel and assign to relevant processes
6. Capture Hazards
7. Capture Controls related to hazards
8. Establish SEG
9. Enter Air Breathing Zone Samples at SEG level
10. Calculate TWAs
11. Recommend Controls under the SEG Hyperlink for Samples over OEL.

Improvement in this metric will result if the IH Program Manager is able to identify control measures and work collaboratively with local safety, facilities, and medical personnel to implement the measures.

Calculation:

a = Number of Breathing Zone samples above Occupational Exposure Limit (OEL) not controlled that are recommended for control.
b = Number of Breathing Zone samples above Occupational Exposure Limit (OEL) not controlled.

Data element ‘a’ = 10
Data element ‘b’ = 30
Performance Measure = 10/30 X 100% = 33%, which is Red

953 – 05 - Data Element Calculation Example for Number of Personal Noise Dosimetry Samples >= 85 dBA without Controls

Soldiers rotate through Camp Swampy every year. The Industrial Hygienist (IH) assessed 15 Soldier work environments (shops), conducted full shift noise dosimetry, and created five Similar Exposure Groups (SEG). Two of the SEG consistently showed exposure to noise at or above 85 decibels A-weighted (dBA) based on 20 dosimetry samples in each SEG. Soldiers assigned to the one SEG wear hearing protection. However, the Soldiers assigned to the SEG-Motor Vehicle Maintenance, worked full shifts, did not consistently use hearing protection, and used power tools without noise mitigation devices. No noise control was in place. To ensure sufficient data is available in DOEHRS-IH to extract this metric the following is required:

1. Establish the Program Office
2. Add Supported Organizations
3. Capture Shops
4. Capture Processes
5. Capture Shop Personnel and assign to relevant processes
6. Capture Noise Hazard
7. Capture Controls related to Noise hazard
8. Establish SEG
9. Enter Personal Noise Dosimetry at SEG level
10. Calculate TWAs

Improvement in this metric will result if the IH Program Manager is able to identify control measures and work collaboratively with local safety, facilities, and medical personnel to implement the measures.

Calculation:

a = Number of Personal Noise Dosimetry samples >= 85 dBA with no controls.
b = Number of Personal Noise Dosimetry samples >= 85 dBA.

Data element ‘a’ = 20 (samples >= 85 dBA of personnel assigned to the Motor Vehicle Maintenance SEG w/o controls)
Data element ‘b’ = 40 (20 noise dosimetry samples >= 85 dBA for each of the two SEGs)
Performance Measure = 20/40 X 100% = 50%, which is Red

953 – 09 - Data Element Calculation Example for Number of Personal Noise Dosimetry samples >= 85 dBA Not Controlled that are Recommended for Control

Soldiers rotate through Camp Swampy every year. The Industrial Hygienist (IH) assessed 15 Soldier work environments (shops), conducted full shift noise dosimeter, and created 5 Similar Exposure Groups (SEG). Two of the SEG consistently showed exposure to noise at or above 85 dBA based on 20 dosimetry samples in each SEG. Soldiers assigned to the one SEG wear hearing protection; the Soldiers assigned to the SEG-Motor Vehicle Maintenance, worked full shifts, did not consistently use hearing protection, and used power tools without noise mitigation devices. No noise control was in place. However, an IH recorded control recommendations for the Motor Vehicle Maintenance SEG. To ensure sufficient data is available in DOEHRS-IH to extract this metric the following is required:

1. Establish the Program Office
2. Add Supported Organizations
3. Capture Shops
4. Capture Processes
5. Capture Shop Personnel and assign to relevant processes
6. Capture Noise Hazard
7. Capture Controls related to Noise hazard
8. Establish SEG
9. Enter Personal Noise Dosimetry at SEG level
10. Calculate TWAs
11. Recommend Controls under the SEG Hyperlink for Samples over OEL.

Improvement in this metric will result if the IH Program Manager is able to identify control measures and work collaboratively with local safety, facilities, and medical personnel to implement the measures.

Calculation:

a = Number of Personal Noise Dosimetry samples >= 85 dBA with no controls, but recommended controls.
b = Number of Personal Noise Dosimetry samples >= 85 dBA with no controls.

Data element ‘a’ = 20 (IH recorded control recommendations for the SEG)
Data element ‘b’ = 20 (Noise Dosimetry samples >= 85 dBA taken in Motor Vehicle Maintenance SEG where no controls are in place)
Performance Measure = 20/20 X 100% = 100%, which is Green

953-06 (Number of Noise Sound Level Samples >= 140 dBA without Controls) is similar to 953-04-05 (Number of Noise Dosimetry Samples >= 85 dBA without Controls)

953-07 (Number of Noise Sound Level Samples >= 140 dBA Not Controlled that are Recommended for Control) is similar to 953-08-09 (Number of Noise Dosimetry Samples >= 85 dBA Not Controlled that are Recommended for Control)

953 – 10 – Data Element Calculation Example for Number of Priority 1 DOEHRS-IH Shops, which have at least one task completed in the past 12 Months.

A Priority 1 Shop requires an annual review based on lack of information or documented hazards, insufficient controls, regulation or other criteria.

There are 2500 personnel working at Fort Anywhere. The Industrial Hygienist (IH) assessed the work environments and determined that there are 76 Priority 1 Shops.

The IH program Manager scheduled visits in DOEHRS Master Schedule to these 76 shops throughout the calendar year. These visits vary from IH sampling to Periodic Surveys. When data is reviewed at the end of the 1st quarter of FY 2010 Fort Anywhere completed 65 tasks on Priority 1 Shops for the date range of 1 January 2009 to 31 December 2009. To ensure sufficient data is available in DOEHRS-IH to extract this metric the following is required:

1. Establish the Program Office
2. Add Supported Organizations
3. Capture Shops
4. Schedule Visits to Priority 1 Shops in Master Schedule
5. Complete the Master Schedule Task
6. Capture a Close Date for the Master Schedule Task.

Calculation:

a = Total number of DOEHRS-IH shops coded as Priority 1 which have at least one task performed in the past 12 months.
b = Total number of DOEHRS-IH shops coded as Priority 1

Data element ‘a’ = 65
Data element ‘b’ = 76
Performance Measure = 65/76 X 100% = 86%, which is Green.

953 – 11 – Data Element Calculation Example Number of Personnel Assigned DOEHRS-IH Priority Code.

Fort Anywhere IH program office recorded 100 organizations for which they provide service. There are 2500 personnel assigned to the 100 UICs. The program office recorded Priority 1, 2, and 3 shops and recorded 998 personnel in those shops. To ensure sufficient data is available in DOEHRS-IH to extract this metric the following is required:

1. Establish the Program Office
2. Capture Shops
3. Capture Shop Personnel
4. Add Identified UICs to Supported Organization List

Calculation:

a= Number of personnel (DoD ID) assigned DOEHRS-IH priority code.
b= Total number of personnel (DoD ID) in installation UIC list.

Data element ‘a’ = 998
Data element ‘b’ = 2500
Performance Measure = 998/2500 X 100% = 40%, which is Red.

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