

**MEMORANDUM OF UNDERSTANDING
BETWEEN
THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS),
CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC),
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
(NIOSH),
INTERNATIONAL PUBLIC SAFETY DATA INSTITUTE (IPSDI)
AND
MILWAUKEE FIRE DEPARTMENT**

The U.S. Department of Health and Human Services (HHS), Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH), and the International Public Safety Data Institute (IPSDI), and the City of Milwaukee, through its Milwaukee Fire Department (“Milwaukee Fire Department”), (collectively, the “Parties”) plan to collaborate and agree to accomplish the following:

1. DESCRIPTION OF COLLABORATION

As a part of an effort to leverage private sector advancements in surveillance and analysis tools for the fire service, which includes firefighters and emergency medical services (EMS), NIOSH is seeking to obtain data that will provide additional information regarding these workers’ occupational hazard exposures. Already existing data on fire department operations and exposure data for firefighter and EMS workers is desired to inform multiple projects across NIOSH divisions.

Specifically, for Project 1, occurring within the National Personal Protective Technology Laboratory (NPPTL), researchers desire to use the data immediately for its COVID-19 response efforts and, more long-term, its post-market conformity assessment activities for multi-use Personal Protective Equipment (PPE) such as turnout gear. It is important to understand the prevalence of these occurrences and under what circumstances and job roles firefighters face higher incidents of occupational exposure. These data can be used to assist in (1) understanding the burden of potential exposures for different-sized fire departments, (2) updating PPE guidelines related to PPE lifecycle, selection and decontamination, and (3) informing response capacity. Please refer to Appendix A for an overview of the project and planned uses for the data, including research questions to be addressed.

Additionally, for Project 2, occurring within the Division of Field Studies and Engineering (DFSE), NIOSH investigators desire to use the intended data for linking individual exposure records to existing surveillance data within the National Firefighter Registry (NFR). Please refer to Appendix A for an overview of the project and planned uses for the data.

Both NIOSH projects identified the same, viable partners to accomplish their overarching research and surveillance goals: 1) the International Public Safety Data Institute (IPSDI), an organization that administers the National Fire Operations Reporting System (NFORS);

and 2) the Milwaukee Fire Department, who desires to use and implement NFORS within their department.

The NFORS application collects two main types of data: 1) fire department operations information that is automated using the municipality's computer aided dispatch (CAD) system (or records management system [RMS]), which includes operations information such as the type of call, duration of call, and those assigned to the call; and 2) firefighter/EMS exposure information that is manually completed by first responders using the NFORS Exposure Tracker App on their mobile smart device or desktop computer. This information is linked to the CAD incident by the NFORS application and identifies the type of exposure experienced, activities and duration on scene, and the PPE worn and later decontaminated on the scene. NFORS is the only identified surveillance tool within the fire service that collects both the CAD and the individual exposure data and further allows the two data sets to be linked together by NFORS for more complete analyses. The linked data will not be available to the Milwaukee Fire Department, nor will any information entered by a first responder on her or his personal device. Before entering any data into the application on their personal devices pursuant to (2) of this paragraph, individual first responders must first agree to a user agreement on their personal devices, which is an agreement only between NFORS and the individual first responder, and to which the Milwaukee Fire Department is not a party. Therefore, the parties agree that information entered into the application by first responders is not a record "produced or collected" under this MOU pursuant to Wis. Stats. § 19.36(3).

Working with IPSDI in this collaboration, NIOSH intends to provide feedback to help update aspects of the NFORS platform, and subsequently purchase a NFORS voucher that will be transferred from NIOSH to the Milwaukee Fire Department (CDC award # 75D30120P09538). The vouchers include: 1) the one-time connection fee to the municipality's CAD (or RMS) system; and 2) a one-year subscription to NFORS. Under this Agreement, IPSDI will work with the Milwaukee Fire Department to conduct a department-wide educational campaign and training to its first responders in how to use the NFORS Exposure Tracker App and discuss the purpose of using the app for personal exposure tracking throughout their careers. Note that personal exposure data will only be shared with NIOSH if permission is obtained from the individual firefighters. Within this same collaboration, NIOSH desires and plans to fund, under the same CDC award with IPSDI, an application programming interface (API) that runs on the CDC environment to routinely receive the NFORS data including CAD and Exposure data elements. Both NPPTL and DFSE will use the respective API to process the received data and extract the desired data elements. Each project will separately store the NFORS data elements to meet its objectives. Because both divisions have different uses for the NFORS data elements, the cost of contract with IPSDI is being shared by NPPTL and DFSE.

2. NIOSH's CONTRIBUTIONS

NIOSH will be responsible for the following:

- Providing IPSDI with guidance regarding additional COVID-19 occupational

- exposure information to include in the NFORS Exposure Module
- Providing IPSDI with guidance regarding additional, specific PPE respiratory protection options to include in the NFORS Exposure Module
- Purchasing, via CDC award #75D30120P09538, NFORS vouchers that include (1) the one-time CAD integration cost and (2) a one-year subscription for the Milwaukee Fire Department
- Transferring the purchased NFORS vouchers to the Milwaukee Fire Department
- Funding, via CDC award #75D30120P09538, the development of an API that provides NIOSH with direct access to data from all NFORS-participating fire departments and individual users (in accordance with separately executed data use agreements with IPSDI)
- Providing technical assistance to IPSDI and the Milwaukee Fire Department for possible improvements to an already established IPSDI implementation kit to help increase the response rate among individual firefighters and EMS workers in completing their Exposure Modules via the NFORS Tracker App
- Securely storing downloaded data to protect participant information

3. **IPSDI’s CONTRIBUTIONS**

IPSDI will be responsible for the following:

- Updating the NFORS Exposure Module prompts and user interface to include additional COVID-19 occupational exposure information as well as specific PPE respiratory selection options
- Modifying the NFORS Exposure Module capabilities and user interface to provide firefighters and EMS workers with the option to **opt-in or opt-out of sharing information logged into their Exposure Module with NIOSH** for research or cancer registry purposes
- Integrating a standardized data nomenclature and format in NFORS Analytics and Exposure Modules that is compliant with Health Level Seven International (HL7) Fast Healthcare Interoperable Resource (FHIR)
- Developing and delivering an API that runs on the CDC environment and meets all CDC security and compliance approvals to validate, parse, and store data received from fire departments using the NFORS-generated data (in accordance with the NFORS data use agreements) and firefighters/EMS (where these workers “opt in” to sharing their data)
- Onboarding the Milwaukee Fire Department
- Providing an “implementation kit” (e.g., interdepartmental communications, email from labor, social media, posters in stations, door, and refrigerator magnets) to the Milwaukee Fire Department for the NFORS Exposure Tracker App
- Improving the implementation kit based on feedback from NIOSH and the Milwaukee Fire Department

4. **MILWAUKEE FIRE DEPARTMENT’S CONTRIBUTIONS**

The Milwaukee Fire Department will be responsible for the following:

- Linking the department’s daily staffing or personnel data system to NFORS for automated logging of staff by shift on deployed apparatus
- Providing the opportunity for individual firefighters to download the NFORS mobile application and create an account, if they do not have one already
- Training their firefighters, using any previous or newly developed implementation kits, in how, when, and why to use NFORS
- Documenting the training(s) date, length, and number of firefighters present
- Supporting firefighters in completing the NFORS Exposure Module Tracker as a part of any closeout reports after an incident response
- Allowing access for NIOSH investigators or IPSDI staff to visit the fire department location (in-person or virtually), to talk to firefighters and provide training to explain the purpose of the research study and/or National Firefighter Registry

5. PARTICIPATION

NIOSH is responsible for conducting occupational safety and health research and injury and illness surveillance which may include area environmental/biological sampling, exposure monitoring, engineering evaluations, fatality investigations, tracking illness and injuries, or the collection of other occupational safety and health information. This information is critical for making recommendations to prevent worker injury and illness in the workplace. To support this mission, NIOSH partners with stakeholders to better understand how worker injuries, illnesses, and deaths occur and provide practical solutions, recommendations and interventions for fostering a healthy and safe workforce.

All activities conducted under this MOU will adhere to 42 CFR Part 85a and current NIOSH policies including as applicable tripartite review, worker notification, risk communication, etc. Participation in the collection of data by IPSDI and any of the firefighters in the Milwaukee Fire Department is strictly voluntary and may be discontinued at any time without penalty or reprisal. Data collected from firefighters and EMS workers and transferred to NIOSH will be protected to the extent allowed by law and as specified herein. NIOSH will provide individual firefighters with information sufficient for them to understand the limitations data protection allowed by law, which shall be separate from this MOU. All NIOSH research must comply with the Federal Policy for the Protection of Human Research Subjects (“Common Rule”) as defined under 45 CFR Part 46, including the requirements for informed consent at § 46.116 and applicable ethical guidelines. All parties agree to ensure that worker participants are not coerced or unduly influenced to participate, safeguard the rights of worker participants, and maintain the scientific integrity of the project.

6. ETHICAL GUIDELINES FOR RESEARCH ON WORKERS

All parties agree to uphold the following ethical guidelines, intended to supplement the requirements of the Common Rule, in all instances of research on workers¹:

- Participation in the effort is voluntary;
- Participants will not experience adverse employment consequences for declining to

- participate or withdrawing from the effort at any time;
- Participants have a right to ask questions and have their concerns addressed before deciding whether to participate in the effort;
- Participants will not experience employer, union or researcher pressure to participate in the effort;
- Any information or data collected about or from participants shall remain confidential and protected to the extent allowed by law; and
- Wherever possible, participants will have access to the individual and collective results of the effort and information regarding anyone else who will have access to the results.

NIOSH, IPSDI, and the Milwaukee Fire Department will work collaboratively to ensure worker participants understand their rights; however, the decision of an individual participant to participate is an agreement strictly between NIOSH and the individual participant, and the responsibility for ensuring that individuals are informed of their rights via an agreement with NIOSH rests with NIOSH. .

¹ Rose, S.L. & Pietri, B.A. (2002). Workers as Research Subjects: A Vulnerable Population. JOEM, 44(9), 801-805.
Rothstein, M.A. (2000). Ethical Guidelines for Medical Research on Workers. JOEM, 42(12), 1166-1171.

7. OWNERSHIP OF DATA AND RECORDS

All parties agree to protect confidential information, including but not limited to trade secrets, technical or business data, projections and plans and agree not to use or disclose such information except to the extent required for carrying out the work, or as further described below, or as required by law or regulation.

All original notebooks, data sheets, record charts, graphs, or other records maintained by NIOSH which are kept during, or arise out of, work done pursuant to this Agreement shall be the property of NIOSH. Upon request, copies of all such materials may be released to IPSDI, the Milwaukee Fire Department, or other parties outside of NIOSH to the extent NIOSH is permitted to do so by law, and except as otherwise specified herein. Records, data, descriptions, specifications, and information generated by IPSDI or the Milwaukee Fire Department (and its firefighters) and marked as proprietary and confidential will be treated in a confidential manner by NIOSH, per the stipulations listed below.

The Freedom of Information Act (FOIA), 5 USC § 552, and its amendments have resulted in an increasing number of requests from outside the Government for copies of information and data submitted to or generated by Federal agencies. If information and data provided by IPSDI or the Milwaukee Fire Department to NIOSH under this Agreement contains information that IPSDI or the Milwaukee Fire Department believes should be withheld from such requesters under FOIA on grounds that it is trade secret and/or commercial or financial information that is privileged or confidential [Exemption (b)(4) of FOIA], they should identify all such information **at the time it is provided**, so that if the information and data are ever the subject of a FOIA request, the decision by the responsible federal official to disclose or withhold can be made promptly. If IPSDI or the Milwaukee Fire Department considers parts of the information and data to contain

trade secrets and/or commercial or financial information which is privileged or confidential, IPSDI or the Milwaukee Fire Department should insert the following notices on the title or first page of the information which it is submitting:

Some parts of this document, as identified on individual pages, are considered by the submitter to be privileged or confidential trade secrets or commercial or financial information not subject to mandatory disclosure under the Freedom of Information Act. Material considered privileged or confidential on such grounds is contained on pages [indicate specific page numbers].

Mark each individual item considered to be a trade secret or privileged or confidential commercial or financial information with one of the following notices:

This data or information is considered a trade secret and not subject to mandatory disclosure under the Freedom of Information Act; or

This data or information is considered commercial or financial information, which is confidential or privileged, and not subject to mandatory disclosure under the Freedom of Information Act.

All information and data which are not so designated may be subject to automatic public disclosure if requested under FOIA. It must be emphasized that under FOIA no information is automatically exempt from public disclosure. However, no disclosures under FOIA will be made without a careful and exacting evaluation by NIOSH giving due regard to the need for safeguarding material considered by the submitter to be privileged or confidential. Pursuant to 45 CFR § 5.65, HHS will provide advance notice of a decision to disclose information which has been so designated by IPSDI or the Milwaukee Fire Department. Note that any data transferred to the National Firefighter Registry (NFR) database will be protected by an Assurance of Confidentiality, which is one of the exemptions under FOIA, as described in Appendix A.

NIOSH will consult with IPSDI and the Milwaukee Fire Department prior to taking photographs or screenshots relevant to their facilities, employees, or products to ensure consideration and protection of trade secret information or proprietary equipment. Written release will be obtained prior to obtaining the photograph or as soon as possible thereafter from any individuals appearing in a photograph. Photographs will only be authorized for release after IPSDI and the Milwaukee Fire Department review for trade secret information or proprietary equipment relevant to their facilities, employees, or products.

Furthermore, NIOSH understands that the Milwaukee Fire Department is bound by the Wisconsin Public Records Law, Wis. Stat. §19.21, et. seq. Pursuant to Wis. Stat. §19.36(3), The Milwaukee Fire Department may be obligated to produce, to a third party, the records of NIOSH that are “produced or collected” by NIOSH under this MOU (“Records”).

NIOSH is further directed to Wis. Stat. §19.21, et. seq, for the statutory definition of Records subject to disclosure under this paragraph, and NIOSH acknowledges that it has read and understands that definition. Irrespective of any other term of this MOU, NIOSH is (1) obligated to retain Records for seven years from the date of the Record's creation, and (2) produce such Records to the Milwaukee Fire Department if, in the Milwaukee Fire Department's determination, the Milwaukee Fire Department is required to produce the Records to a third party in response to a public records request.

8. PUBLICATION

It is understood that one of the purposes of the work performed by NIOSH is to obtain information that may be made available by NIOSH to industry and the public through publication. It is agreed by all parties that any proposed report or publication related to this Agreement will be reviewed by the Parties for technical accuracy, and trade secret information. Any possible disputes regarding IPSDI's or the Milwaukee Fire Department's designation of trade secret information shall be governed by the regulations of NIOSH at 42 CFR Part 85a. In no case shall NIOSH abandon its right to publish information resulting from the expenditure of public funds.

IPSDI and the Milwaukee Fire Department shall not publicize, or otherwise circulate, promotional material (such as advertisements, sale brochures, press releases, speeches, still and motion pictures, or other digital or electronic media, articles, manuscripts, or other publications) which states or implies Governmental, Departmental, NIOSH, or Government employee endorsement of a product, service, or position which either party represents. No release of information relating to this Agreement may state or imply that the Government approves of IPSDI's work product or considers IPSDI's work product to be superior to other products or services.

All information submitted for publication or other public releases of information by IPSDI and the Milwaukee Fire Department regarding this project shall carry the following disclaimer:

The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the U.S. Government. Mention of trade names or commercial products does not constitute their endorsement by the U.S. Government.

IPSDI and the Milwaukee Fire Department must obtain prior Government approval for any public information releases concerning this Agreement which refer to NIOSH or its employees (by name or title). The specific text, layout, photographs, etc., of the proposed release must be submitted with the request for approval.

NIOSH cannot endorse a particular product and its name or logo should not be used in such a manner that may suggest endorsement. However, IPSDI and the Milwaukee Fire Department can refer to NIOSH-published or jointly-published results.

9. LIABILITY

Each party will be responsible for its own acts and the results thereof and shall not be responsible for the acts of the other party and the results thereof. All parties therefore agree that it will assume all risk and liability to itself, its agents or employees, for any injury to persons or property resulting in any manner from the conduct of its own operations and the operations of its agents or employees under this Agreement, and for any loss, cost, damage, or expense resulting at any time from any and all causes due to any act or acts, negligence, or the failure to exercise proper precautions, of or by itself or its agents or its own employees, while conducting activities under and pursuant to this Agreement. The Government's liability shall be governed by the provisions of the Federal Tort Claims Act [28 U.S.C. §§ 2671-80 (1976)]. Irrespective of the foregoing, Milwaukee Fire Department shall not be liable for: (1) any acts or omissions of its employees or agents acting outside the scope of their employment or agency pursuant to Wis. Stat. §§ 895.46(a) and 893.80, (2) nor shall Milwaukee Fire Department be liable for any claim, demand, action, proceeding, judgment, damage, liability, loss, cost, or expense for which Milwaukee Fire Department is immune pursuant to statutory or common law defenses or immunities.

10. FUNDING

With the exception of the funding provided to IPSDI under CDC award #75D30120P09538 and the vouchers provided to the Milwaukee Fire Department, each party is expected to bear its own costs of its participation in this project. However, nothing in this Agreement shall obligate NIOSH, CDC, HHS, or the United States government to any current or future expenditure of resources in advance of the availability of appropriations from Congress.

11. PROJECT OFFICERS

CDC, NIOSH

Emily J. Haas
Research Health Scientist
National Personal Protective Technology Laboratory
Bruceton Research Laboratory
626 Cochran Mill Rd
Pittsburgh, PA 15236
412-386-4627
EJHaas@cdc.gov

Kenny Fent
Research Industrial Hygienist/Team Lead
National Firefighter Registry
Division of Field Studies and Engineering
1090 Tusculum Ave., MS R-14
Cincinnati, OH 45226
513.841.4569
kif5@cdc.gov

IPSDI

Lori Moore-Merrell, DrPH, MPH
President & CEO
International Public Safety Data Institute
c/o 4795 Meadow Wood Ln, Suite 100,
Chantilly, VA 20151
Office 703-273-0911 Ext 521
Cell 202-549-5080
Lori@i-psdi.org

Melissa Knight
Director of Operations, IPSDI
978-726-9660
melissa@i-psdi.org

Milwaukee Fire Department POC
Name, Address, Email, Phone

12. DURATION OF AGREEMENT AND MODIFICATION/CANCELLATION

This Agreement shall become effective upon signature of all parties and will expire on October 1, 2023, but may be extended for additional periods by written Agreement between the parties hereto, provided, however, that it may be terminated at any time by either party giving written notice of termination to the other party at least thirty (30) days prior to the date fixed in such notice. This Agreement may be modified at any time with the concurrence of all signatories.

The parties recognize that the purpose of this Agreement is to set out the roles of the parties in this collaborative effort. Except as expressly provided herein, it is not intended to create any right or benefit, substantive or procedural, enforceable by law or equity, against the United States, its agencies, its officers or employers or any other party to this Agreement. The parties also recognize that the foregoing terms may need to be supplemented with additional terms and, in some cases renegotiated, as this project progresses.

13. AUTHORITY

This agreement is authorized under 29 U.S.C. § 669(a).

14. SIGNATORIES

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

By

Maryann D'Alessandro, PhD
Director
National Personal Protective Technology Laboratory

Date

By

Lauralynn McKernan, ScD CIH
Director
Division of Field Studies and Engineering

Date

International Public Safety Data Institute

By

Lori Moore-Merrell, DrPH, MPH
President & CEO
International Public Safety Data Institute

Date

Milwaukee Fire Department

By

Name
Title
Fire Department

Date

Appendix A

NIOSH Uses of Data

This collaborative effort will be used to determine the value that the NFORS system will provide to NIOSH's current research and surveillance efforts, as well as future work related to understanding and preventing exposures, illness, and injuries in the Public Safety Sector. After the completion of this MOU, NIOSH will determine applicable next steps for these projects.

Project 1

Division: National Personal Protective Technology Laboratory (NPPTL)

Title: EMS and Firefighter Operations and Exposure Characteristics

Project Overview: NPPTL plans to use information provided by IPSDI's NFORS data elements to inform short-term and long-term activities on fire service operations and exposures experienced by firefighters and EMS workers.¹ In other words, the research strategy is multipronged. First, NPPTL intends to understand firefighter and EMS COVID-19 exposure characteristics. During typical incident response calls, the CAD data elements allow for call volume, time of day, and shift length for individual EMS workers to be documented, which can then inform NIOSH guidelines and research related to shift work during COVID-19. These data will also provide NIOSH the ability to estimate the number and duration of COVID-19 exposures amongst EMS workers across the country. More specifically, descriptive and correlation analyses will be completed using the files from NPPTL's secure data storage location to understand under what circumstances and job roles firefighters and EMS face higher incidents of occupational exposure (examples below).

Is there a relationship between COVID-19 exposures and:

- activity roles on response calls?
- types of PPE worn?
- PPE decontamination practices?
- how workers transport PPE back to their station?
- duration of ambulatory runs?
- nature of the call (e.g., planned patient transport between facilities or unplanned patient transport to an emergency department)?
- geographic location and population diversity in which the fire department serves?

Results from these analyses will be used to inform: 1) the burden of potential COVID-19 exposures for different-sized fire departments and how this impacts response capacity during the pandemic; and 2) PPE guidelines related to PPE selection, decontamination, and transport before and after responses, based on potential COVID-19 exposures.

Second, this research seeks to provide critical information about degradation of protections provided by multi-use PPE as a function of use/exposure conditions. In the fire service, most of the PPE is multi-use and degrades over time as it is exposed to hazards (e.g., heat, flame, and chemicals) and decontaminated after use. No performance standards exist around judging the efficacy of multi-use PPE over time. The NFORS data will provide detail about multi-use PPE including:

- What are the common exposure types for multi-use PPE?
- What are the durations of those exposures?
- How do cleaning/decontamination practices change, if at all, for exposure types and duration?
- What common repairs are made to multi-use PPE?

¹ the fire departments selected to receive the vouchers will be selected to ensure the diversity of the fire department providing data for this effort.

This data will inform the development of needed, evidence-based recommendations to support improvements to existing performance, care, and maintenance standards language. NIOSH can coordinate improved performance and retirement criteria for these PPE.

Project 2

Division: Division of Field Studies and Engineering (DFSE)

Project Title: Fire Operations and Exposure Data for National Firefighter Registry

Project Overview: Another effort includes NIOSH’s National Firefighter Registry (NFR) program. On July 7, 2018, the President signed the Firefighter Cancer Registry Act of 2018. With the passage of this Act, the Centers for Disease Control and Prevention (CDC) was charged with the task to “develop and maintain ... a voluntary registry of firefighters ... to collect relevant health and occupational information of such firefighters for purposes of determining cancer incidence.” Part of this charge includes subsection (d)(1), which states, “The Secretary [represented by the CDC] shall, in consultation with the relevant stakeholders identified in subsection (e), including epidemiologists and pathologists, develop a strategy to coordinate data collection activities, including within existing State registries, for inclusion in the Firefighter Registry established under this Act.” This strategy may include, “...a reliable and standardized method for estimating the number of fire incidents attended by a firefighter as well as the type of fire incident attended...” It is critical for the NFR program to determine what relevant data are available and how easily accessible they are to the newly established registry.

Thus, there is a need to determine what data are collected from firefighter response activities, including firefighters’ on-scene duties, duration, and self-reported exposures, along with important characteristics of the incident. NIOSH is able to select the NFORS data elements that are most relevant to furthering firefighter cancer surveillance. NFORS provides robust data to inform this type of research and surveillance activities including details on the type of fire, fire spread, activities and duration on scene, and PPE contamination and cleaning/decontamination efforts. However, through this project, the number of fire departments participating in NFORS will increase while strategically targeting fire departments that have great diversity (i.e., more women and racial minorities) amongst their firefighters. By supporting the vouchers for these other fire departments, NIOSH can better ensure that this diversity in workforce data is available for the registry (as required under the Firefighter Cancer Registry Act of 2018).

There is also a need to evaluate the feasibility of obtaining such data elements from local fire departments or other sources. This current project will be able to accomplish these activities by receiving data from a common data model that normalizes the variety of incoming data across many sources so that is comparable across departments. Such normalized data will prove increasingly useful for understanding firefighters’ unique exposures and their relationship to cancer outcomes.

Importantly, directly and indirectly identifiable information recorded in NFORS will only be included in the NFR database if two conditions are met: 1) IPSDI/NFORS has obtained permission/consent from the individual firefighter(s) to share this information with NIOSH-NFR; and 2) the directly and indirectly identifiable information can be matched to a participant who is already registered and has completed informed consent in the NFR.

NFORS data that is transferred to the NFR database will be protected by an **Assurance of Confidentiality** (as described below):

The Secretary of Health and Human Services (HHS) delegated authority to the National Institute for Occupational Safety and Health (NIOSH) of the Centers for Disease Control and Prevention (CDC) to collect health and occupational information for the purpose of monitoring and evaluating the cancer incidence among firefighters in the United States and its territories as outlined in the Firefighter Cancer Registry Act of 2018. National Firefighter Registry (NFR) data will be used by scientists of the Field Research Branch (FRB) and the Division of Field Studies and Engineering (DFSE) at NIOSH to evaluate occupational factors and health outcomes in firefighters.

We have requested and received authorization under Section 308(d) of the Public Health Service Act, (42 U.S.C. 242 m (d)) to give assurance of confidentiality for NFR data obtained from individual firefighters, fire departments, and other institutions. Directly identifiable information collected will be kept confidential and, aside from NIOSH or other Federal employees assigned to the project, government contractors, visiting scientists, guest researchers, and fellows and trainees, no one will be allowed to see or have access to the information. All individuals who handle the information will be required to adhere to a security and confidentiality protocol, participate in annual security training, and sign a 308(d) Nondisclosure Agreement and 308(d) Confidentiality Pledge.

Such data will be used only for the purposes stated in this assurance of confidentiality and will not be disclosed or released without the consent of the parties who were given this assurance. No directly identifiable information will be disclosed even after death of the individuals in this surveillance system. Identifiable information will not be disclosed to consumer advocacy groups; insurance companies; any party involved in civil, criminal, or administrative litigation; or any other member of the public.

If NIOSH receives a Freedom of Information Act (FOIA) request for the NFR data, we will respond that 308(d) exempts these data from release under FOIA. NFR data will only be accessible to external researchers through a Research Data Center (RDC). All requests for NFR data files must be made through a proposal to the RDC. The proposal will be reviewed by the RDC, NIOSH, and any applicable population-based cancer registries (when cancer status information is requested) outlined in the proposal. If approved by all parties, the appropriate data files will be provided to the RDC for analysis. All direct identifiers will be removed but indirect identifiers at the individual level will be provided to allow for the requested analysis, unless release of that data is restricted by another party (e.g., population-based cancer registry). Some data (e.g., cells with $n < 10$) may be redacted to minimize the possibility of identifying participants through indirect identifiers.

Only summary data tables may be removed from the RDC and will be reviewed by RDC staff to ensure that participants cannot be indirectly identified.