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MYTHBUSTERS!

The Myths and Truths of the National Fire Incident Reporting System



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(NFIRS)

Myth #1

USFA owns NFIRS data



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Truth #1

The data belong to the individual departments within each State

- States and departments can make their data available to anyone upon request at anytime
- USFA issues a “public data release” which is available to anyone upon request (does not contain sensitive information found in various fields)



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Myth #2

The Health Insurance Portability and Accountability Act of 1996 (HIPAA), Public Law 104191, prevents USFA and participating States from collecting certain information on NFIRS incident and casualty forms



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Truth #2

NFIRS is not considered a violation of HIPAA and can collect information on the existing data elements

- Section 1178 of HIPAA : “Nothing in this part shall be construed to invalidate or limit the authority, power, or procedures established under any law providing for the reporting of disease or injury...public health surveillance, or public health investigation or intervention”
- 49 U.S.C. 2208, which provides for the collection of the “number of injuries and deaths resulting from fires, including the maximum available information on the specific causes and nature of such injuries and deaths, and information on property losses,” constitutes a law providing for reporting of disease or injury (and arguably public health surveillance, investigation and intervention) under Section 1178 of HIPAA



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Myth #3

Law enforcement has a superior reporting system



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Truth #3

Law enforcement has a reporting system that is similar to the reporting system of the fire service



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Uniformed Crime Reporting (UCR) program

- Federal Bureau of Investigation (FBI)
- Approximately 17,000 law enforcement agencies voluntarily participate
- Participating agencies submit crime reports monthly to a centralized crime records facility within their State or directly to the FBI using one of two types of reporting methods—
 - 1) “Summary” reporting system
 - 2) National Incident-based Reporting System (NIBRS)



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“Summary” Reporting System (UCR)

1. Agencies provide summarized reports

- Eight Offenses: Murder and Non-negligent Manslaughter, Forcible Rape, Robbery, Aggravated Assault, Burglary, Larceny-theft, Motor Vehicle Theft, and Arson
- Also persons arrested, law enforcement officers killed and assaulted, and hate crime
- The “Hierarchy Rule” governs multiple offense reporting



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“Summary” Reporting System (UCR)

- **Estimation Methodology—**
 - Not all law enforcement agencies provide complete data for a given year
 - Crime is estimated at the Metropolitan Statistical Area, State, and National levels
 - For agencies that do not report data, the UCR Program staff assign the same proportional crime volumes based on the crime statistics of similar areas within a State (size, type, and geographic location)
- **Published Data—**
 - Summary information is used to develop “Crime in the United States” (“Crime in the United States 2006” was posted on the FBI’s website in September 2007)



“Summary” Reporting System (UCR)

- UCR’s “Summary” reporting system can be compared to the National Fire Protection Association’s (NFPA) annual survey—
 1. **NFPA’s annual stratified random sample survey collects summary information of fire department experience—**
 - Number of fire incidents, civilian deaths, civilian injuries and total property damage
 - Number of on-duty firefighter injuries (type of duty and nature of illness)
 - Information on type of community protected and the size of the population protected



“Summary” Reporting System (UCR)

- UCR’s “Summary” reporting system can be compared to the National Fire Protection Association’s (NFPA) annual survey—

2. Estimation Methodology—

- NFPA uses a stratified random sample (based on the type of community protected and the size of population protected) for projecting National totals from the summary sample results

3. Published Data—

- NFPA’s “Fire Loss in the United States During 2006” was issued in September 2007



National Incident-based Reporting System (NIBRS) (UCR)

1. Incident-based—

- Agencies report *detailed* data on each incident and arrest within 22 offense categories made up of 46 specific crimes called “Group A” offenses
- Arrest data collected for 11 other “Group B” offenses



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“National Incident-based Reporting System (NIBRS) (UCR)”

2. Collection of Multiple Data Elements—

- NIBRS captures up to 56 data elements of the offenses via six types of data segments: administrative, offense, victim, property, offender, and arrestee

3. Participation (2006)—

- Approximately 36 percent (6,120) of law enforcement agencies participating in the UCR Program (17,000 total) submitted data via NIBRS through 31 State programs that are certified for NIBRS participation
- Ten States submitted all data via NIBRS
- NIBRS data comprised approximately 23 percent of all data sent to the FBI
- The jurisdictions that reported via NIBRS covered approximately 24 percent of the Nation's population



National Incident-based Reporting System (NIBRS) (UCR)

4. Published and Unpublished Data—

- NIBRS data is converted to provide the equivalent of what is gathered from the “Summary” reporting program for “*Crime in the United States*”
- Several monographs using fully detailed NIBRS data (latest uses 2000-2004 data)
- “Raw data” files are made available (FBI website states that 2006 “raw data” will be available in spring 2008)



National Incident-based Reporting System (NIBRS) (UCR)

- NIBRS can be compared to NFIRS—
 1. Incident-based—
 - NFIRS also collects *detailed* information on fire department incidents
 - Captures up to 650 total fields



National Incident-based Reporting System (NIBRS) (UCR)

- NIBRS can be compared to NFIRS—
 2. Published Data—
 - *Fire in the United States* (latest version uses data up to 2004)
 - Monograph type reports that use 2005 NFIRS data (*School Fires Topical Report*)
 3. Public Release of Unpublished Data—
 - NFIRS “Public Data Release” file of 2005 data was available in January 2007 (release schedule should be similar for 2006 data)



National Incident-based Reporting System (NIBRS) (UCR)

- **Notable differences between NIBRS and NFIRS—**
 - 1. Total Data Elements/Fields—**
 - NIBRS—56 data elements
 - NFIRS—up to 650 fields
 - 2. Extent of Participation—**
 - NIBRS—approximately 6,120 law enforcement agencies and 31 certified State programs
 - NFIRS—approximately 21,000 fire departments and 49 States, the District of Columbia, Puerto Rico, Guam and Native American Tribes participate (DoD also uses NFIRS but does not release the data to USFA)
 - 3. Number of Incidents—**
 - NIBRS—from 2000-2004 (five years), there were approximately 17,000,000 incidents reported
 - NFIRS—Participating departments report an average of 15,000,000 incidents (14,000,000 non-fire and 1,000,000 fire) each year



Myth #4

The current NFIRS is not capable of collecting fire department data in real-time



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Truth #4

NFIRS currently has the infrastructure that enables all fire departments to report their data directly to USFA in real-time



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NFIRS Real-time Data Collection

- **Real-time reporting functionality is not used by some fire departments—**
 1. Some fire departments using CAD or vendor software only report out of their local systems to their State periodically (once a year for some)
 2. Some States require their departments to report directly to the State database (not directly to USFA) and do not release the data until the annual submission deadline of July 1
 3. A few States do not release their data until after the July 1 deadline



Myth #5

All U.S. fire departments participate in NFIRS and this system represents the total U.S. fire problem



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Truth #6

NFIRS is a voluntary sample of fires reported to fire departments—not a census.



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The Unknowns of NFIRS

- **Because it is a sample, there are two unknowns of NFIRS—**
 1. **How large a share of the total fire problem is represented by the NFIRS sample?**
 - NFIRS does not represent 100 percent of incidents reported to fire departments each year
 2. **How representative is the NFIRS sample of communities and regions of different sizes?**
 - Participation rates in NFIRS are not necessarily uniform across regions and sizes of community



Scaling NFIRS estimates with NFPA total fire estimates

- Because of the unknowns, it is necessary to project NFIRS results to National estimates by:
 1. Collecting as much data as possible from reporting states and their departments (after the July 1 deadline when States have released their data)
 2. Quality control reviews and corrections of the data
 3. “Scaling” the representative NFIRS data with the NFPA total fire estimates from NFPA’s annual survey



Myth #6

NFIRS analysis can be validly done
in real-time at the National level



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Truth #6

Unless 100% reporting is achieved, there are limits on analyses of "real-time" data done at the National level



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Methodology of scaling NFIRS estimates with NFPA total fire estimates would continue

Why?

- NFIRS does not represent 100 percent of incidents reported to fire departments each year
- Therefore, whether the data is reported in real-time or not, it will still be necessary to project National estimates by scaling NFIRS data with NFPA total fire estimates

Other impacts—

- Data quality issues must be addressed before analyses are done



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