

# Statisticians in the Federal Government: Producing Data on the Criminal Justice System

Washington Statistical Society  
Gonzaga College High School  
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# Disclaimer

The information and views presented here do not necessarily reflect the official information and views of the Bureau of Justice Statistics. For official information, see [www.BJS.gov](http://www.BJS.gov).

# Statisticians in the Federal Government – FY 2018

## **13 Principal Federal Statistical Agencies**

- Bureau of Economic Analysis
- Bureau of Justice Statistics
- Bureau of Labor Statistics
- Bureau of Transportation Statistics
- Census Bureau
- Economic Research Service
- Energy Information Administration
- National Agricultural Statistics Service
- National Center for Education Statistics
- National Center for Health Statistics
- National Center for Science and Engineering Statistics
- Office of Research, Evaluation and Statistics (SSA)
- Statistics of Income (IRS).

## **94 other statistical programs**

# A Bit about me

January 2019

Westat

Vice President, Director of Statistical Sciences

2016 – 2018:

**Bureau of Justice Statistics, DOJ**

Principal Deputy Director, Acting Director

2001 – 2016:

**National Center for Science and Engineering Statistics, NSF**

Deputy Director, Mathematical Statistician

1997 – 2001:

Ernst & Young

1996 – 1997:

NORC

1988 – 1996:

**Statistics of Income Division (SOI), IRS**

1985 – 1988:

Southern Illinois University

1984 – 1985:

**National Institute for Standards and Technology (NIST)**

# Bureau of Justice Statistics

**Role:** Principal Federal Statistical Agency within the Department of Justice.

**Mission:** Collect, analyze, and disseminate statistical information on crime, criminal offenders, victims of crime, and the operation of justice systems at all levels of government.

# The Criminal Justice System

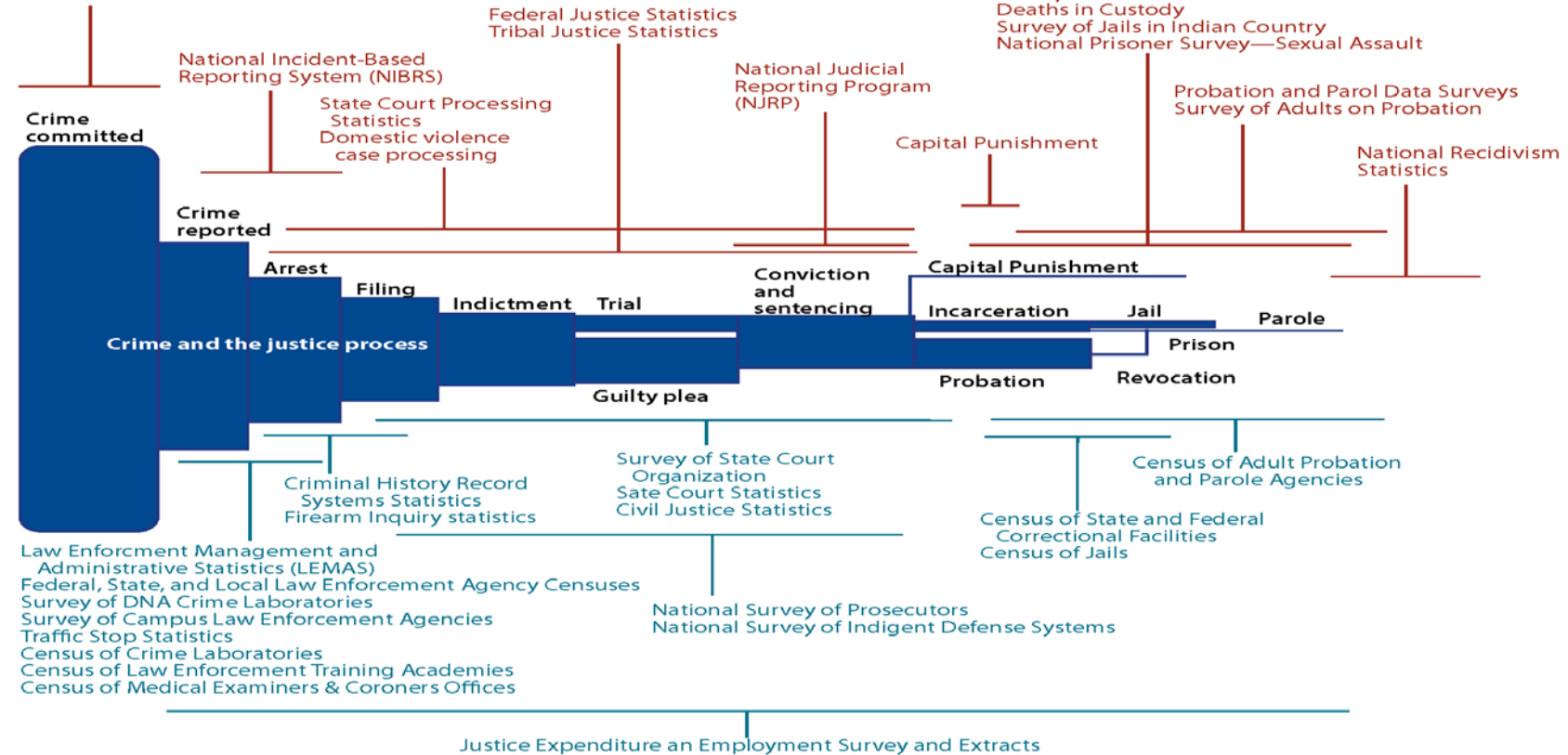
**Bureau of Justice Statistics—Statistical coverage**  
[www.bjs.gov](http://www.bjs.gov)

U.S. Department of Justice  
 Office of Justice Programs

**Victim and offender information**

National Crime Victimization Survey (NCVS)  
 Police public contact, School crime, identity theft, stalking, hate crime, crime against the disabled, workplace violence  
 Computer Security Survey  
 National Protection Order Files

National Prisoner Statistics (NPS)  
 National Corrections Reporting Program (NCRP)  
 Annual Survey of Jails  
 Surveys of State and Federal Prison Inmates  
 Survey of Inmates in Local Jails  
 Deaths in Custody  
 Survey of Jails in Indian Country  
 National Prisoner Survey—Sexual Assault



# Selected data collections & activities

- National Crime Victimization Survey (NCVS)
- National Crime Statistics Exchange (NCS-X)
- Creating a statistical database of criminal history records
- Assessing publicly available courts data
- Linking data projects

# National Crime Victimization Survey

- Key measures of crime in the U.S. (complements FBI's Uniform Crime Reports)
  - Conducted continuously since 1973.
  - Measures crime NOT reported to police
- National data on:
  - Intimate partner violence, hate crime, workplace violence, injury, firearms and crime, cost of crime, and reporting to police.
  - Periodic data: Identity theft, school crime, stalking, police contact, and fraud
- Complex sample design
  - Persons within households are interviewed every 6 months for a 3-year period. Interviews conducted by the U.S. Census Bureau
  - In any given month, 1/7 of the sample is in the field
  - 130,000 households, 220,000 person interviews a year
  - Sample designed to provide state level and large metro area estimates
- Complex survey instrument
  - Asks about characteristics of the incident, not about "crime"
  - Complicated skip patterns





- Collaboration with the Federal Bureau of Investigation (FBI) to expand their National Incident-based Reporting System (NIBRS)
  - Administrative data on incidents and circumstances of a crime
- Goal is to expand and improve NIBRS, administrative data used by local law enforcement, into a nationally representative system that can produce incident-based crime statistics.
- Two phase project:
  - Phase 1: Recruit a sample of 400 law enforcement agencies and provide funding for them to begin reporting to NIBRS
  - Phase 2: Develop complex estimation routines that can adapt to the changing number of reporting agencies and produce national, state, and local level estimates of crime known to law enforcement
    - Disaggregated by victim & offender characteristics, circumstances of the event, victim-offender relationship, and other elements of the criminal events

# Creating a statistical database of criminal history records

- Use and improve existing administrative records in 50+ disparate databases
  - Each state and the FBI maintain its own repository of criminal history records, aka rap sheets
  - Only criminal justice agencies are allowed to access the records
- Record layout, fields, and criminal codes vary across states
- Creating a statistical database for research purposes requires processing and standardization
  - Create programs to parse text strings
  - Copy text strings into a standardized format
  - Develop a set of common codes
  - Map state specific statutes into common codes
  - Maintain and update a library of state crosswalk

# Assessing publicly available data on the U.S. court system

- Use data science/statistical skills to access and assess the range of publicly available court data
  - Some states have centralized court data systems
  - In decentralized states, court data systems maintained at the jurisdiction level
- Evaluate coverage, quality, comparability and costs
- Develop an approach to create estimates of court case filings
  - Convictions by type of offense, by type of sentence

# Linking data: Two selected projects

- Federal Justice Statistics Program
  - U.S. Marshals Service
  - Drug Enforcement Administration
  - Executive office for U.S. Attorneys
  - Administrative Office of the U.S. Courts
  - Federal Bureau of Prisons
  - U.S. Sentencing Commission
- National Corrections Reporting Program
  - Data provided to U.S. Census Bureau's Center for Administrative Records Research and Applications (CARRA)
  - Approval to link to Longitudinal Employer – Household Dynamics (LEHD)

All justice data are local!

# Opportunities for data scientists and statisticians in government

Many more and different types of data available

But what about the quality?

Continually improving technologies to harvest and process data

How to make these efficient and effective?

Developing statistical methodologies to collect and analyze complex data, to link disparate databases, to visualize and display estimates, ....

# What can you do?

- Meet fellow data scientists/statisticians, build and keep up your networks, seek mentors. Find interesting problems/projects to work on.
- Join the Washington Statistical Society, the local chapter of the American Statistical Association. Join ASA. Volunteer your time (see previous bullet).
- Check out USAjobs (GS-1530 or 1529 series)

# My WSS Involvement

Herriot Award Committee

Representative-at-Large

Quality Assurance Planning Committee

Social Committee

Board Representative

Short Course Committee



# My ASA Involvement

Impact Initiative Workgroup

Links Award Committee

Mentoring Award Committee

ASA Board of Directors, Vice President

Fellows Committee

In-Reach Workgroup, Chair

ASA Board of Directors, Representative from Council of Sections

Accreditation Committee

Ad-hoc Committee to Propose Individual Accreditation

Council of Sections Governing Board, Vice Chair

Committee on Women in Statistics

Committee on Membership Retention & Recruitment, Chair

Committee on Membership, Vice Chair

Q&A