

# Using Data Analytics to Improve Ohio's Public Safety and Criminal Justice Outcomes

*Presentation to  
The National Association of Sentencing  
Commissions Annual Conference  
August 28, 2017*

Dr. M. Murat Ozer, Ph.D.  
Daniel W. Gerard, M.S.

University of Cincinnati Institute of Crime Science

# Traditional Government and Criminal Justice Analysis

- Government and other researchers traditionally measure and analyze data from census tracts, cities, counties, zip codes or neighborhoods

# Traditional Government and Criminal Justice Analysis

- Police agencies routinely deploy their officers in: precincts, districts, zones, sectors or beats
- Court and Prosecution systems are: city, county, state, regionally or nationally based

# Traditional Criminal Justice Analysis

- All of these measurement areas are geographically large and therefore more difficult to precisely analyze
- Makes identifying the specific underlying causative factors of increased criminal justice system activity far more challenging

# Involvement in “The System”

Crime is not randomly distributed:

- Hot spot study in Minneapolis – *3% of city addresses generated 50% of crime calls for service*
- Small number of serious chronic offenders
  - Account for an overwhelming majority of crime and violence
- Repeats: repeat offenders, repeat victims, repeat crimes, repeat addresses, repeat mental health consumers, repeat substance abusers

- A narrow, offender focused, place-based methodology, that *focuses on smaller geographic units of analysis, such as: particular people or places* that serve as the primary criminal justice system drivers for an entire area

A smaller analytical focus allows for:

- Easier measurement of criminal/traffic/behavioral activity patterns
- Timely identification of underlying criminal causative factors so either criminal justice or social service interventions can occur

# Ankara Analytics

- Easier measurement and more timely identification of causative factors allows for quicker action plan development and strategy implementation
- Also faster modification of the plan if evaluation shows it is needed



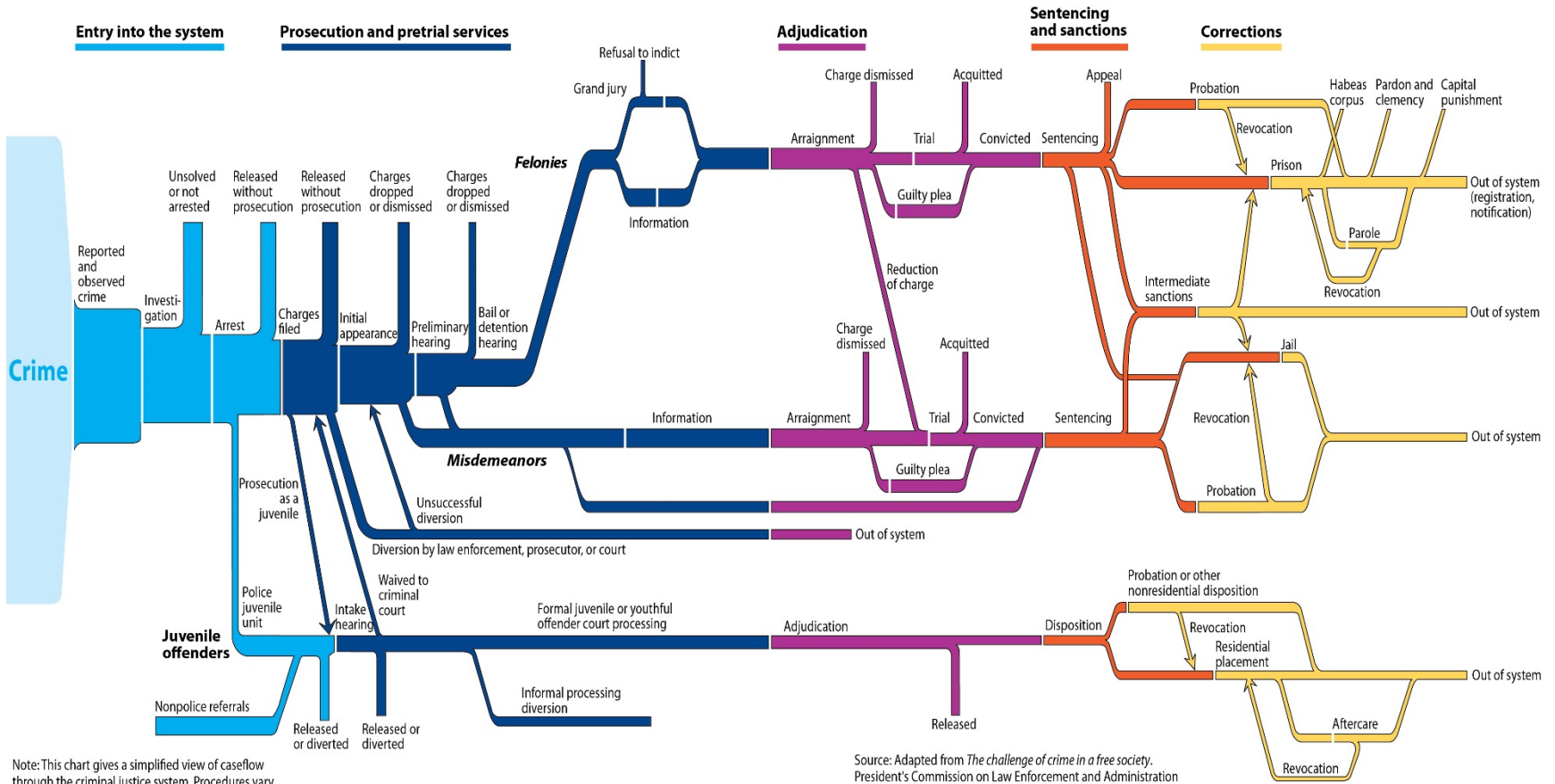
# Turning Criminal Justice Data into Actionable Intelligence

# Data

- Data collected from different sources is raw and only exists in agency computers or in official documents.
- Often, these various sources are not linked which means the information on offenders is neither complete nor actionable.

# Criminal Justice Data Points

What is the sequence of events in the criminal justice system?



Note: This chart gives a simplified view of caseload through the criminal justice system. Procedures vary among jurisdictions. The weights of the lines are not intended to show actual size of caseloads.

Source: Adapted from *The challenge of crime in a free society*. President's Commission on Law Enforcement and Administration of Justice, 1967. This revision, a result of the Symposium on the 30th Anniversary of the President's Commission, was prepared by the Bureau of Justice Statistics in 1997.

# Individual Entity Data

## Police

- Enforce specific laws
- Investigate specific crimes
- Search people, vicinities, buildings
- Arrest or detain people

## Prosecutors

- File charges or petitions for adjudication
- Seek indictments
- Drop cases
- Reduce charges

# Individual Entity Data

## Judges or magistrates

- Set bail or conditions for release
- Accept pleas
- Determine delinquency
- Dismiss charges
- Impose sentence
- Revoke probation

# Individual Entity Data

## Correctional officials

- Assign to type of correctional facility
- Inmate Classifications
- Record all individual activity within the institution

## Paroling authorities

- Determine date and conditions of parole
- Revoke parole

# Current Data Visualization

- Government data is traditionally housed in many individual databases
- Often requires purchase of a bridging software to link them
- Limits ability of users to access and use their data both internally and across agencies

# ICS Ankara Data Visualization

- Builds upon the work UC School of Criminal Justice has done with police departments across the world
- Started with database development and social network analysis
- Now incorporates those features in one comprehensive analytics and visualization package



# ICS Ankara Data Visualization

- Has the ability to link people and places using information from a variety of sources
- Clearly displays analyzed information in an easily actionable format
- Can process an unlimited amount of records

# Agency Items Needed

- Data
- Data Access/MOU
- Process for UC ICS to remotely acquire agency data at regular intervals

# Ankara Analytics Demonstration

# Questions?

# Contact Information

**M. Murat Ozer**

[ozermm@ucmail.uc.edu](mailto:ozermm@ucmail.uc.edu)

(513) 556-8423

**Daniel Gerard**

[daniel.gerard@uc.edu](mailto:daniel.gerard@uc.edu)

(513) 368-1064