



New Mexico Tech: Data Science in the Public Interest Work

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Who are your briefers today?

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Overview

ICASA and DSPI

Research, Training, and Solutions for a Data-Rich World

- Institute for Complex Additive Systems Analysis (**ICASA**)
- **Established:** Created by New Mexico legislative act (§21-11-8.1) in 2001 as a research center at New Mexico Tech.
- **Mission:** Advance research, science, and technology to protect critical infrastructure.
- **Vision:** Develop the next generation of critical thinkers to address complex, data-rich challenges.
- **Strategic Focus:** Leverage state investment to advance analytics for noisy, incomplete, and cross-domain data through interdisciplinary research and collaboration.

Key Features:

- **Interdisciplinary Approach:** ICASA adopts a cross-discipline perspective to address complex issues.
- **Research Spectrum:** Our work encompasses both basic and applied research, along with software development
- **Support for Education:** We have provided support to over 200+ students, fostering their growth and development.

Recognition: ICASA holds legislative recognition as a RPSP. We engage in projects at the federal, national, international, and private-sector levels. Notably, RiskSense emerged as a spin-off from ICASA.



New Mexico Healthcare Workforce Dashboard

\$750,000 funding from the State of NM (SFY24-SFY27)

Project Funding

	Item	General Fund	Other State Funds	Intrnl Svc Funds/Inter-Agency Trnsf	Federal Funds	Total/Target
1	(227) NEW MEXICO STATE UNIVERSITY	1,000.0				1,000.0
2	For nonrecurring costs in athletics.					
3	(228) NEW MEXICO STATE UNIVERSITY					
4	The period of time for expending the ten million dollars (\$10,000,000) appropriated from the general					
5	fund in Subsection 232 of Section 5 of Chapter 210 of Laws 2023 for land acquisition, planning, design					
6	and construction of the New Mexico reforestation center is extended through fiscal year 2025.					
7	(229) NEW MEXICO STATE UNIVERSITY	2,500.0				2,500.0
8	For the department of agriculture for soil and water conservation districts to carry out their statutory					
9	responsibilities for operations and programs pursuant to Section 73-20-25 NMSA 1978 through Section 73-					
10	20-48 NMSA 1978.					
11	(230) NEW MEXICO STATE UNIVERSITY	250.0				250.0
12	For trailers at the department of agriculture.					
13	(231) EASTERN NEW MEXICO UNIVERSITY	100.0				100.0
14	For tribal education initiatives at eastern New Mexico university Ruidoso.					
15	(232) NEW MEXICO INSTITUTE OF					
16	MINING AND TECHNOLOGY	750.0				750.0
17	For the institute for complex systems analysis to establish and maintain a state healthcare workforce					
18	dashboard for expenditure through fiscal year 2027.					
19	(233) NORTHERN NEW MEXICO COLLEGE	100.0				100.0
20	For nonrecurring costs in athletics.					
21	(234) NORTHERN NEW MEXICO COLLEGE	3,000.0				3,000.0

What We Are Making

Project Details

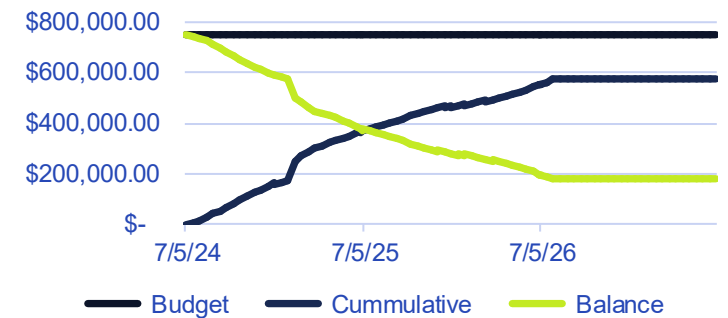
- Public facing interactive dashboard that examines healthcare workforce data within the state of New Mexico
- Population Focus on Dashboard:
 - Physicians
 - Nurses
 - EMTs
 - Behavioral Health*

*Currently being added to dashboard

Effort Focus

- Retention Rates
- FTE/PTE
- Supply/Demand
- “Find a Provider” Map

Healthcare Workforce Burn Chart

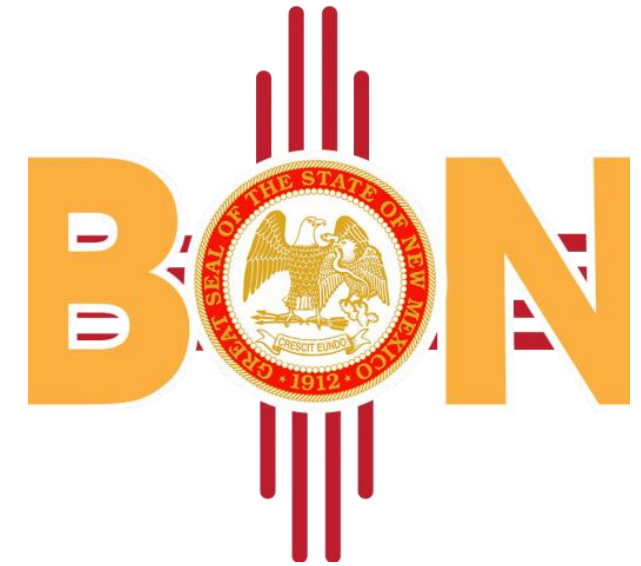


Funding on Contract

\$750k

Signed in SFY24 | \$750k good for 3 years (SFY27)

Current Stakeholders





Stakeholder Vision:

“Make New Mexico an Attractive Place to Practice Medicine.”

Project Data

CHALLENGE

Persistent data procurement challenges face this dashboard. This is due to many issues throughout the state of New Mexico.

RESPONSE

Continuously working with stakeholders to gather reliable and important workforce data for the state of New Mexico and the HWD dashboard.

(Current) Data Used

1. 3D Health Data
 - Most Comprehensive dataset
 - Paid Data
 - Only Physicians
1. NPI Registry
2. Board of Nursing
3. Department of Health Data (EMS)

Data note: The Healthcare Workforce Dashboard works consistently to improve and expand the data implemented and utilized throughout the dashboard.



Demo



Public Good for the State of New Mexico

Project Overview



New Mexico Department of Safety

Disposition
Modernization Project



New Mexico Sentencing Commission

CJCC Data Dashboard
NMCD to NMDX Lift
NMSC Internal Automation

New Mexico Sentencing Commission

- Supporting the NMSC with various Technical work
 - Going on an 8-year partnership!
- Work encapsulates the following:
 - Data Automation for internal processes
 - Data dashboard Dashboard (Currently in Development)
 - Automating data sharing from detention centers to the New Mexico DataXchange (NMDX)
 - Support data sharing in the Justice Information Sharing Council (JISC)

NMSC CJCC Data Dashboard

- Create a data dashboard for the CJCC to see criminal justice related trends by county and judicial district.
- Using data available to the NMSC:
 - Implement as much of the Sequential Intercept Model (SIMs) as possible
 - Implement cutting edge Criminal data analytics from new research in the Criminal Justice field
- Project in-progress and currently in late-stage development and visualization phase,
 - Soon to start testing and gathering feedback

Initial Court / Hearing / Detention

Date Range Slider

2000-2021

SIM

Initial Court / Hearing / Detention



Number of Repeat Offenders - - 2021

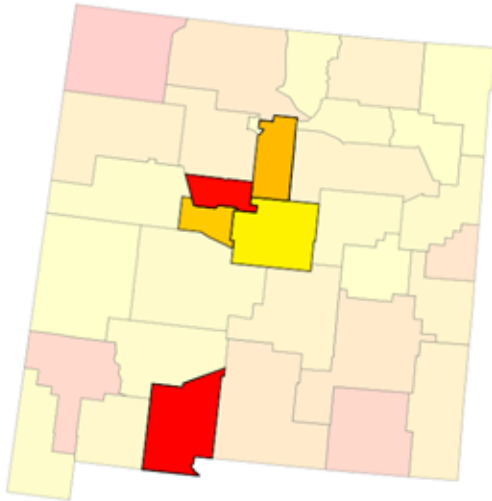
Click [here](#) for more information



Region

Bernalillo, Torrance, Valencia, Dona Ana, Santa Fe

Reset



Top Crime Category - - 2021

Click [here](#) for more information



Description

This is the most common crime category (legal description of criminal dispositions master statute) in this county for the given year.

Scale Context

This is a single top crime category from Criminal Disposition data.

Background

A crime category is the Criminal Disposition master statute descriptor that matches to a Criminal Disposition charge code in a given County.

Last Computed

Mon Apr 21 2025

Label	Value
Torrance: Speeding	120
Santa Fe: Speeding	96
Valencia: Speeding (Over by 26 - 30)	88
Dona Ana: Speeding	8544
Bernalillo: Shoplifting (Over \$250)	62

Number of Repeat Offenders - - 2021

Click [here](#) for more information



Description

This is the number of SIDs that have a least one charge date after a charge disposition date per County per year.

Scale Context

This is a count of State Identifiers (SIDs) of repeat offenders.

Background

A State Identifier (SID) number is an identifier based on biometrics (e.g., fingerprints) for an individual. An individual should have only one SID related to them. The collision rate for SIDs is relatively low; this means that SIDs are highly unique. A repeat offender is represented as a distinct SID that has at least one charge (within a given year) after a guilty disposition in a given County.

Last Computed

Mon Apr 21 2025

Label	Value
Bernalillo	3746
Torrance	203
Valencia	804
Santa Fe	1045
Dona Ana	3884

Number of Repeat Offenders

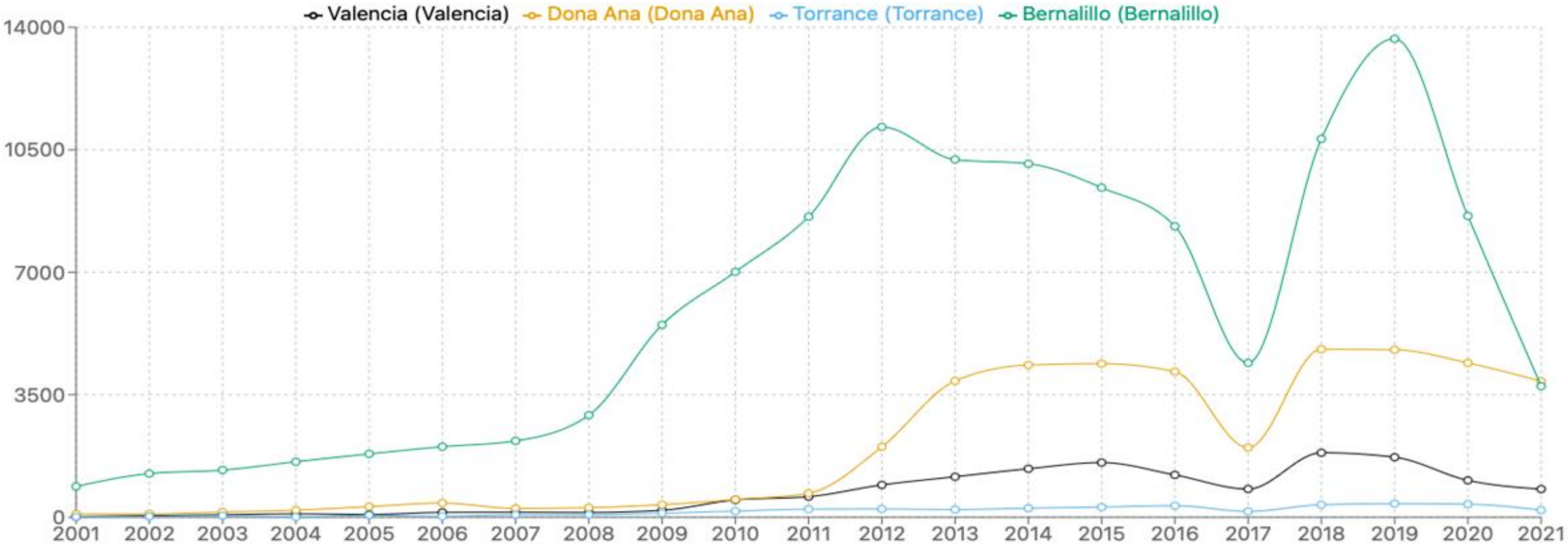
Click [here](#) for more information



Number of Repeat Offenders

Click [here](#) for more information

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NMCD Data to NMDX lift

- Assist NMSC with automating the upload of NMCD data from all correctional facilities onto the NMDX.
- Upload all data (historical and go-forward) to NMDX daily
- Decreasing overhead on NMSC staff and NMCD partners with automated sharing while providing court judge calendars

NMSC Internal Automation

- Assist NMSC with automating the upload of NMCD data from all correctional facilities onto the NMDX.
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Department of Public Safety

- Multi-year partnership working on Disposition Project
 - Multi data source, over 20 + years of data, complex matchers
- Cross Justice partner project:
 - AOC data in NMDX
 - AODA data into NMDX soon



Disposition Modernization

- Assisting DPS with populating the disposition results of their arrest records data (historical and going forward).
- Using data from AOC through NMDX
 - Recently, AODA has suggested their data would better support this.
- Most court records don't have unique identifiers, increasing the complexity of the matching process
- Work in progress, currently our match rate is above target but needs human review

Initial Match Page

[View Meta Information](#)

Disposition Matching

Common Data

Source	First Name	Middle Name	Last Name	Date of Birth	Social Security Number	Date of Arrest
CJIS	ROBIN	D	BANK	01/02/1934	123-45-6789	09/10/2011
Court	Robin	D	Bank	01/02/1934	123-45-6789	09/10/2011

Source	Ethnicity	Sex	Hair Color	Eye Color	CJIS ID	State Tracking Number
CJIS	WHITE/ANGLO	Female	BROWN	BROWN	00000000	00000000
Court	WHITE/ANGLO	Female	Brown	Brown	00000000	00000000

Match Page

Arrest

Arresting Officer

Arrest Location

Albuquerque, NM

ORI

Agency

OCA

ALBUQUERQUE POLICE DEPARTMENT:NM0010100

00000000

00000000

Court

Party Name

Case Type

Court Name

Judge Name

00000000

Robbery

Bernalillo County Metropolitan Court

Gonzales, Yvette K.

Court Case #

Related Case #

Concurrent Case #

T-4-TR-2024-000000

T-4-TR-2024-111111

T-4-TR-2024-000001

Confinement Location

Fee

Term Information

Sentence Information

Jail

65.0

Incarceration Term: 0 / 0 / 0 Total Term: 0 / 0 / 0

Deferred Sentence

Conclusion

- Strong, multi-year, partnership supporting the NMSC and DPS across a variety of projects
 - Developed technical expertise across various Criminal Justice systems in the state that rolls back into partnership
- Interests align with pushing the state forward for better data driven decisions across the Criminal Justice system and for modernizing systems in NM