

How to prevent and address violence against women using non-traditional data sources?



UNODC

United Nations Office on Drugs and Crime



UNODC-INEGI CENTER OF EXCELLENCE

in Statistical Information on Government,
Crime, Victimization and Justice



Use data to detect, prevent and address VAW

- How are VAW cases currently detected?
- What sources of information are used?
- Are there alternative data sources of information?
- What tools and methods are used to analyze alternative data sources?





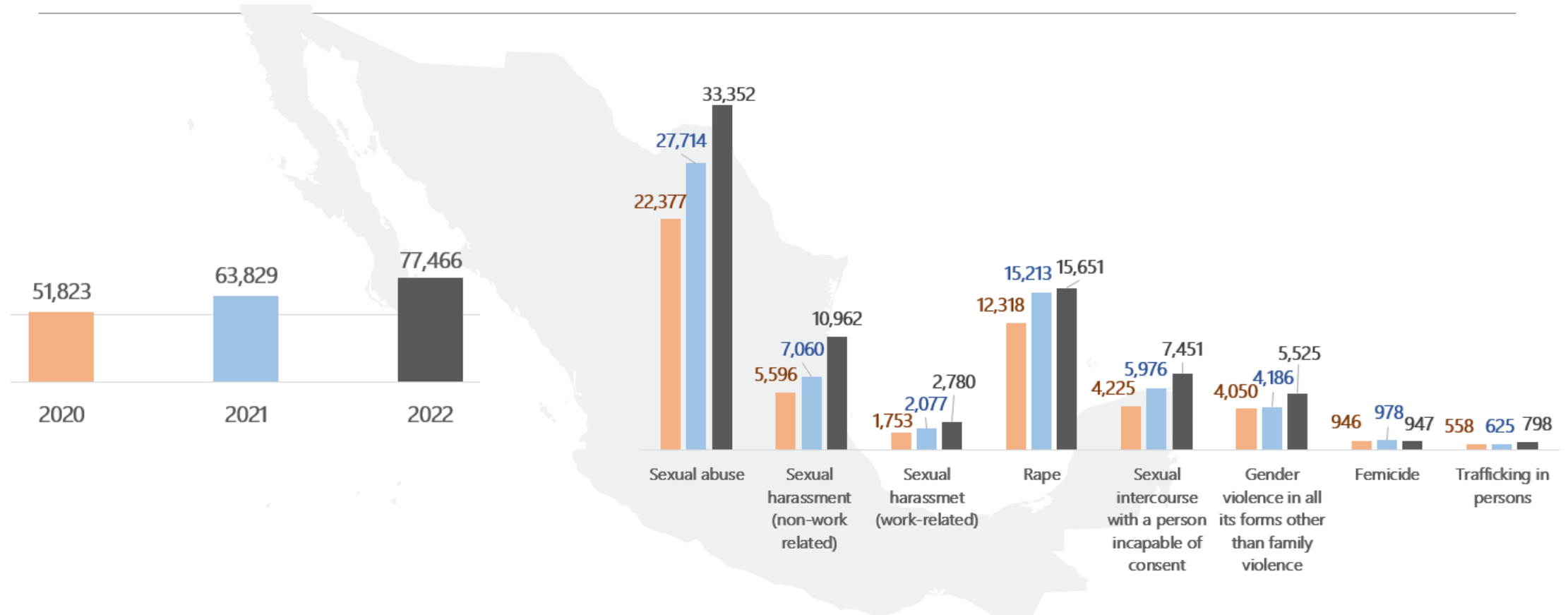
Common information sources

	Administrative records	Household Surveys
Advantages	<ul style="list-style-type: none">• Official data• Directly from institutions	<ul style="list-style-type: none">• Designed for a specific purpose• Data completeness
Disadvantages	<ul style="list-style-type: none">• Not all data is digitized• Difficulty reconciling data with other sources• Incomplete data	<ul style="list-style-type: none">• No real time data





VAW in Mexico according to administrative records



National System of Public Security (SESNSP) 2022





VAW in Mexico according to dedicated Surveys

In 2021, **51.2%** of people in Mexico were women
(more than 65.5 million)

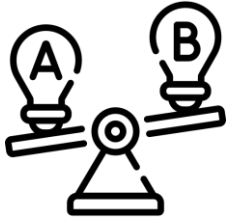
Of which **77.1%** were 15 years or more
(more than 50.5 million)



70.1% had experienced at least one
incident of violence throughout their lives

42.8% in a period of 12 months
(October 2020 to October 2021)

National Survey on the Dynamics of Household Relationships (ENDIREH)2022



Emergency lines: an opportunity to monitor and prevent VAW

- Daily reports
- Geographical information
- Details on the type of violence and its context
- Real time information for police, health and/other types of services



Reports where VAW was not identified

Call report

A USER REPORTS **THERE IS A FEMALE PERSON THAT IS ON THE FLOOR YELLING HELP HER**, APPARENTLY, SHE WAS FIGHTING WITH HER PARTNER, **APPARENTLY HAS A FOOT FRACTURE SINCE SHE INDICATES HER PARTNER RUN OVER HER** AND THEY REQUEST SUPPORT FROM A UNIT, THEY INDICATE THEY HAVE ALREADY TRANSFERRED THE FEMALE THROUGH THEIR MEANS...

Classification

101 ACCIDENTS
10116 **RUN OVER**

Call report

A USER INDICATES, **A FEMALE WAS FIGHTING WITH HER PARTNER, COMMENTS THAT HE TRIED TO SUFFOCATE HER AND SHE ALMOST CAN'T BREATHE**, THE ARRIVAL OF THE POLICE IS REQUESTED IN A PLACE WHERE THERE IS NO STATE INFRASTRUCTURE CHAMBER, WAITING FOR THE ARRIVAL OF THE POLICE, THE USER'S TELEPHONE NUMBER IS SENT TO MSN AND WHATSAPP... ONLY REQUIRES HEALTH CHECK, ERUM IS INFORMED, THE USER CANCELED THE SERVICE...

Classification

103 CLINICALS
10305 **RESPIRATORY DIFFICULTY/RESPIRATORY URGENCY**



Reports where VAW was not identified

Call report

...REFERS THAT **HER HUSBAND CUT OFF HER THUMB**, REQUESTS THE SUPPORT OF A MEDICAL UNIT, NC- NEAREST CORNER UNKNOWN, IS CHANNLED VIA PHONE, -*, INCIDENT ECA19022309414 WAS DIVIDED TO ECA 19022309444 (10202) BY POLICE, REFERS THAT A UNIT IS DISPATCHED TO THE SITE, THE UNIT IS DISPATCHED, THE CALL IS RETURNED INDICATING THAT HE IS LOCKED UP, ARTICLE 290 CNPP, "IT IS REQUESTED THE INTERVENTION OF THE AUTHORITY COMPETENT TO ENTER THE HOME WITHOUT A COURT ORDER OR WARRANT, AS THERE IS AN IMMINENT RISK OF THE PERSON INSIDE CONTINUING AT RISK LIFE OR PERSONAL INTEGRITY", **SHE SAID THAT HER PARTNER WAS VERY AGGRESSIVE** sHE COULD NOT PROVIDE MORE DATA, SHE WAS VERY DISTURBED, BY VIDEO SURVEILLANCE A MEDICAL UNIT IS SENT AT THE REFERRED ADDRESS THROUGH STATE INFRASTRUCTURE CAMERA 41 19.676439, -99.087192, THE UNIT IS ARRIVED BY THE CITIZEN SECURITY THAT ADVANCED THE UNITS. THEY INDICATE THAT WHEN THEY ARRIVED AT THE PLACE NOBODY WAS ALREADY FOUND, LIKEWISE, THEY MARKED CIVIL PROTECTION INDICATING THEM THAT THEY HAD ADVANCED THE INJURED PERSON THROUGH THEIR OWN MEANS...

Classification

102 TRAUMATIC
10202 AMPUTATION



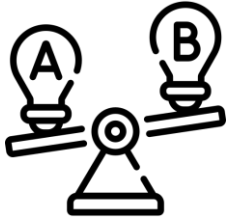


National Catalogue of Emergency Incidents

- In **2018**, a National Catalog of Emergency Incidents (CNIE) was implemented
- **CNIE objectives:**
 - Standardizing definitions
 - Identify, classify and register incidents
 - Improve statistical analysis

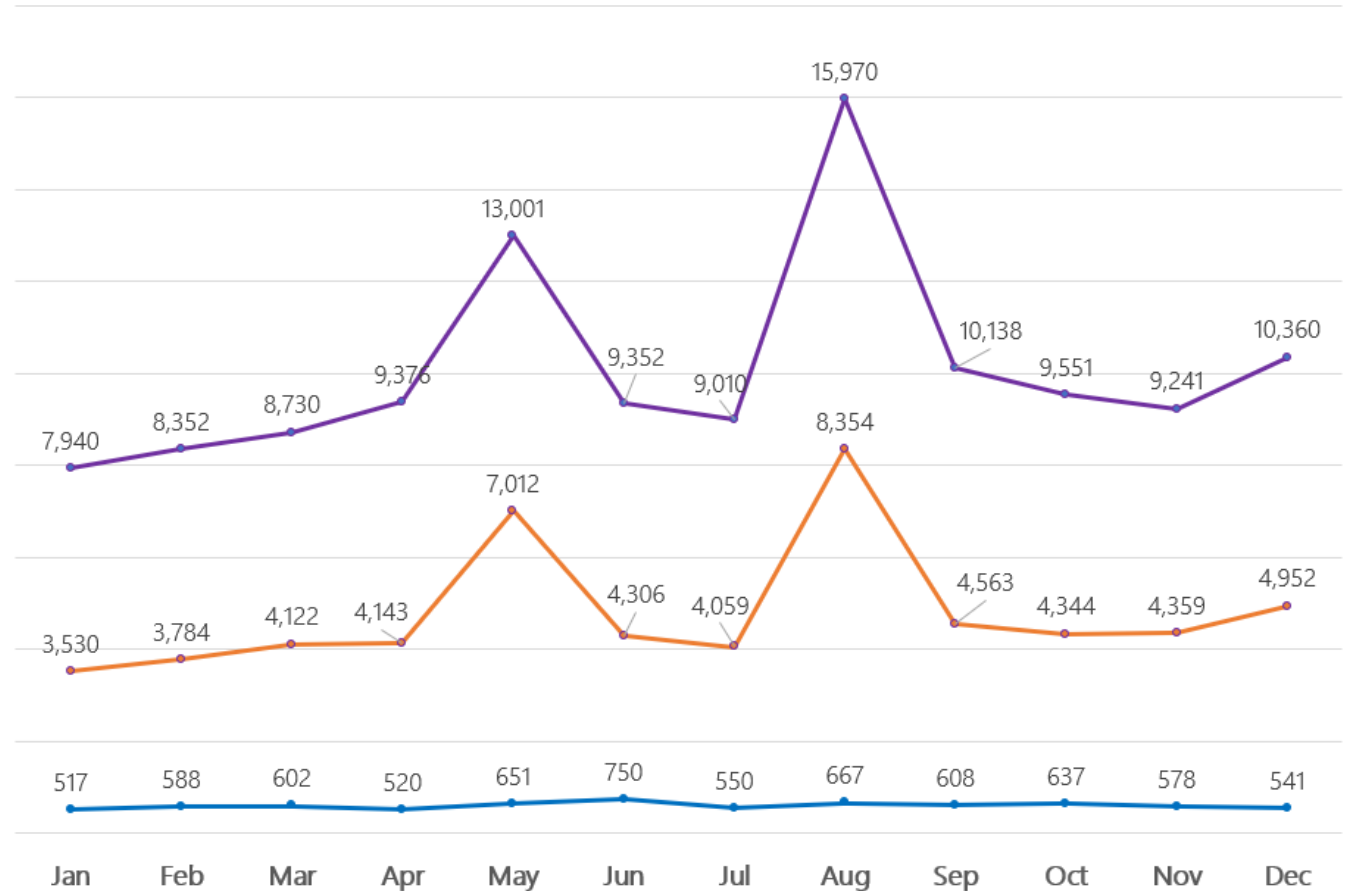
	National	In a single state
Real emergency calls in 2022	15.2 millions	964,918

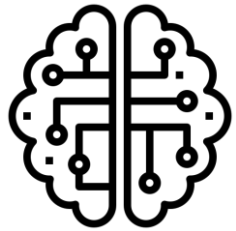




VAW 2019: Different records, different figures

Transformer model	121,021 reports	110% More than original classification in 911
911 calls related to VAW	57,528 reports	698% More
Events recorded as VAW	7,209 crimes	





Technology involved

IA

Artificial intelligence (AI) refers broadly to any human behavior that develops a machine or system.



ML

Machine learning (ML) is a subset of artificial intelligence. It focuses on teaching computers to learn from data and improve with experience.



ANN

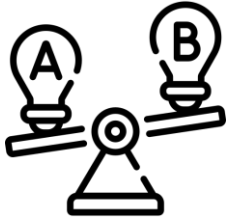
An artificial neural network (ANN) is a type of machine learning process called deep learning, which uses nodes or neurons interconnected in a layered structure that resembles the human brain. It creates an adaptive system that computers use to learn from their experience and continually improve.



Transformer

Transformer Artificial Neural Network is a novel architecture that aims to solve sequence-to-sequence tasks while handling long-range dependencies on texts easily.





How can we use Emergency lines records to monitor and prevent VAW?

- Improving emergency calls records to identify cases of violence against women
- Using Artificial Intelligence to detect riskier cases
- Prioritize attention of those cases in which violence against women may escalate

Thank you!



<https://www.cdeunodc.inegi.org.mx/index.php/en/>



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