

Reinforcing Tribal Data Sovereignty Through Electronic Case Reporting

Turtle Mountain Public Health Department

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Administrative Support Specialist (and more)



Overview



01

**Turtle Mountain
Band of Chippewa
Indians**

02

**TMBC Public Health
Department**

03

**Electronic Case
Reporting**

04

**Wins and Obstacles
as a Tribe**

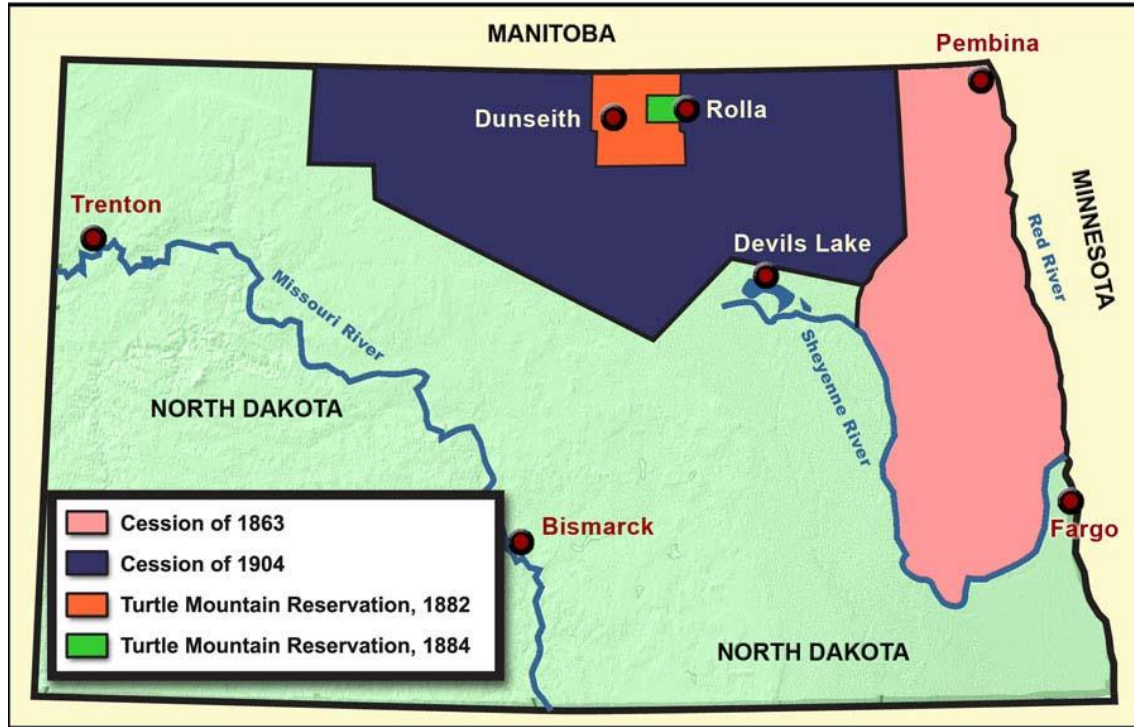


01

Turtle Mountain Band of Chippewa Indians



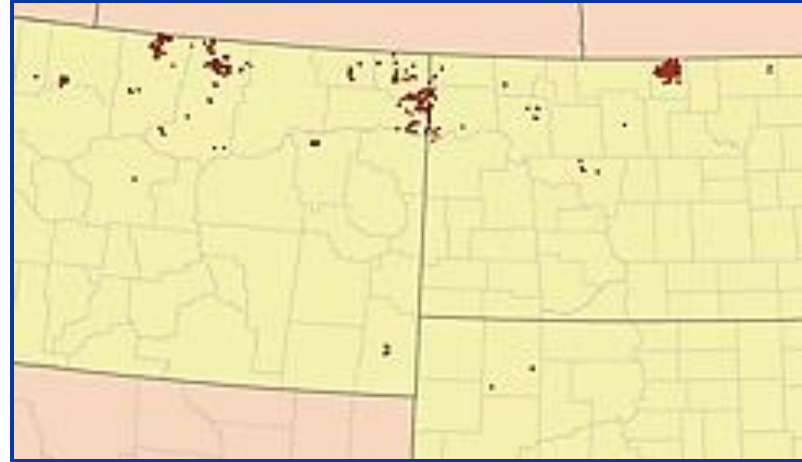
CHIPPEWA LAND CESSIONS IN NORTH DAKOTA

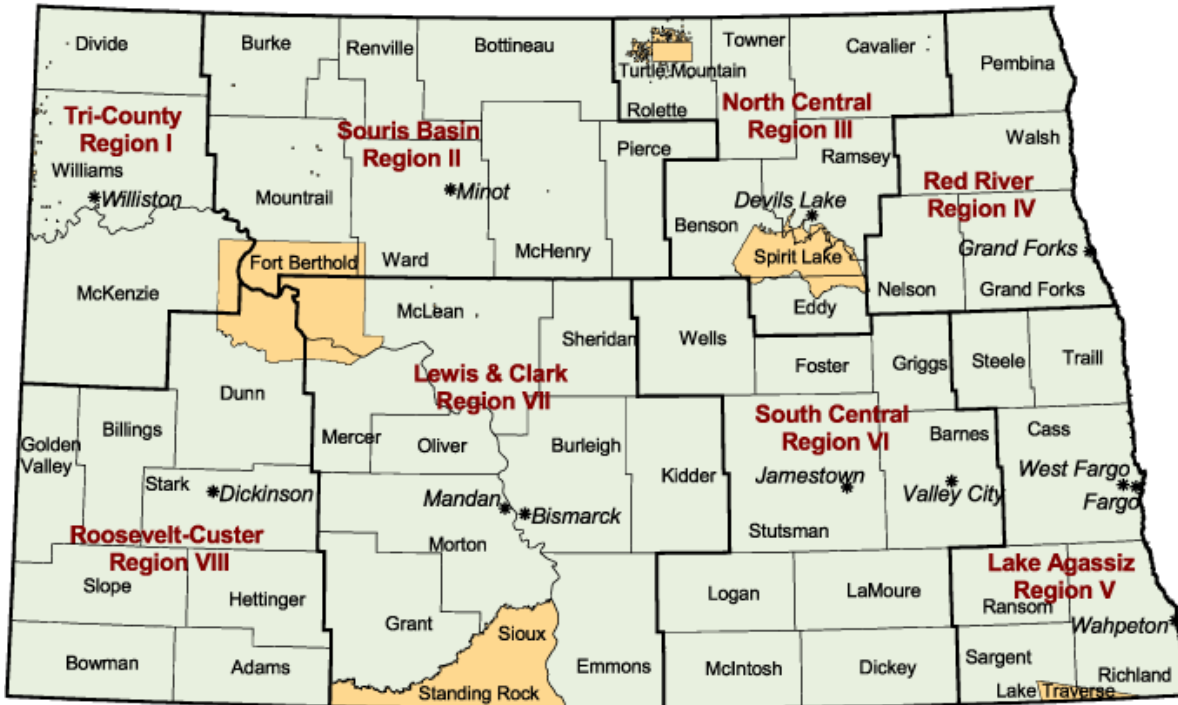


[Turtle Mountain | North Dakota Studies \(ndstudies.gov\)](http://ndstudies.gov)

Land Allotments

When the Federal Government issued allotments to tribal members, the land approved by Congress was insufficient to meet the allotments needs of the Tribe. As a result, Congress authorized members of the Band to take allotments on the Public Domain in Montana, South Dakota, and North Dakota.





North Dakota Compass (ndcompass.org)

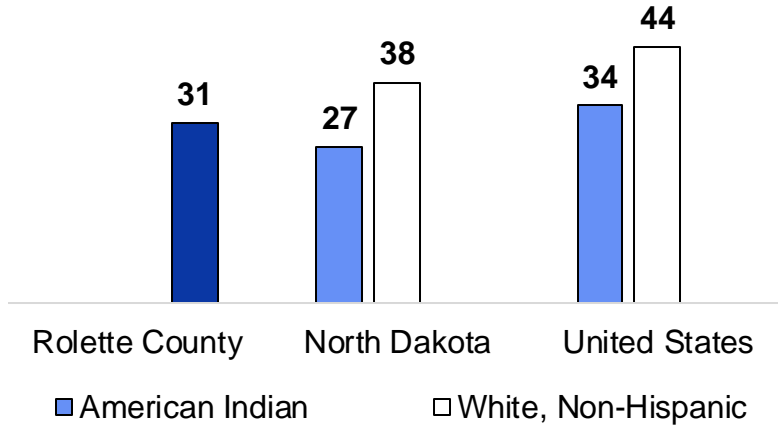
12 miles long x 6 miles wide
land base of the TMBCI
Reservation is located
within Rolette County.

About 33,000 enrolled
members

About 14,500 living on or
near the reservation

Demographics

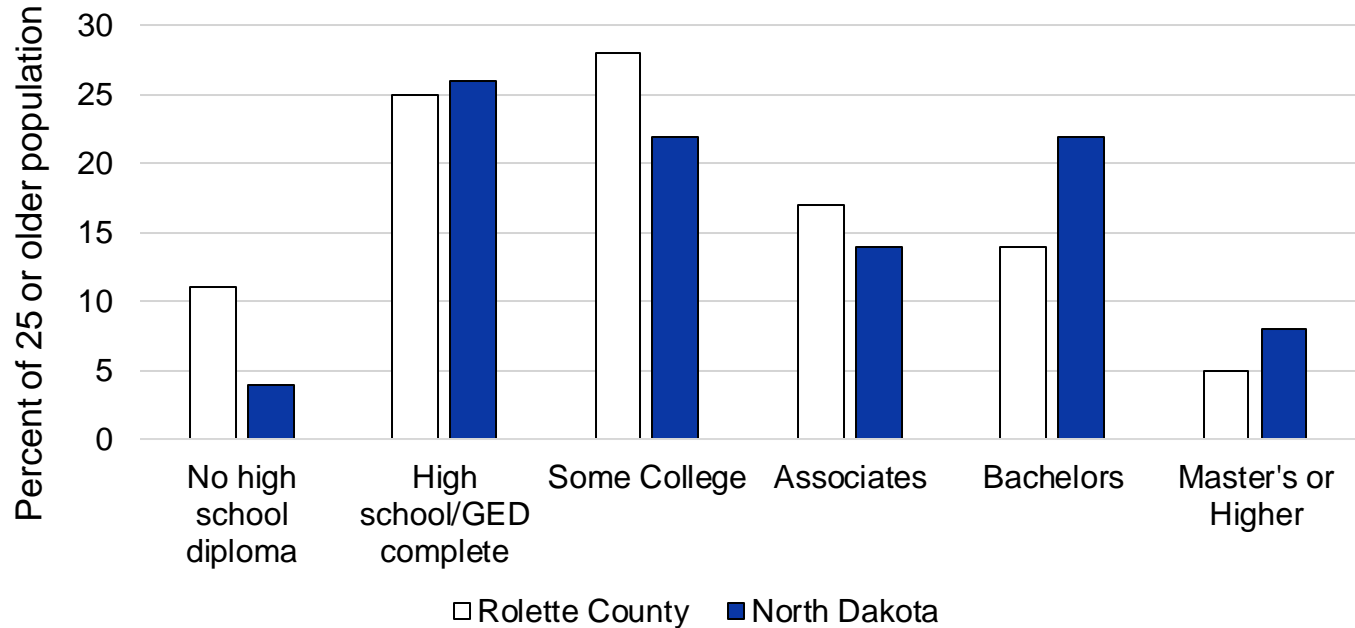
Median Age by Race
Rolette County, North Dakota, and the United States
U.S. Census, 2020



| | Rolette County, ND | North Dakota |
|--|--------------------|--------------|
| Median Household Income (2021) | \$49,434 | \$68,131 |
| Per Capita Income (2020) | \$20,424 | \$36,289 |
| Below Poverty Level (2021) | 27% | 11% |
| Total Known Children in Poverty (2021) | 34% | 14% |

Demographics

Education Level of Rolette County, ND vs. North Dakota
ACS 5-Year, 2020





02

Turtle Mountain Public Health Department



Our Journey



Fifth-G Center

An alcohol and
in the prevention, intervention, and treatment of
alcoholism and other drug abuse.



Turtle Mountain Agency

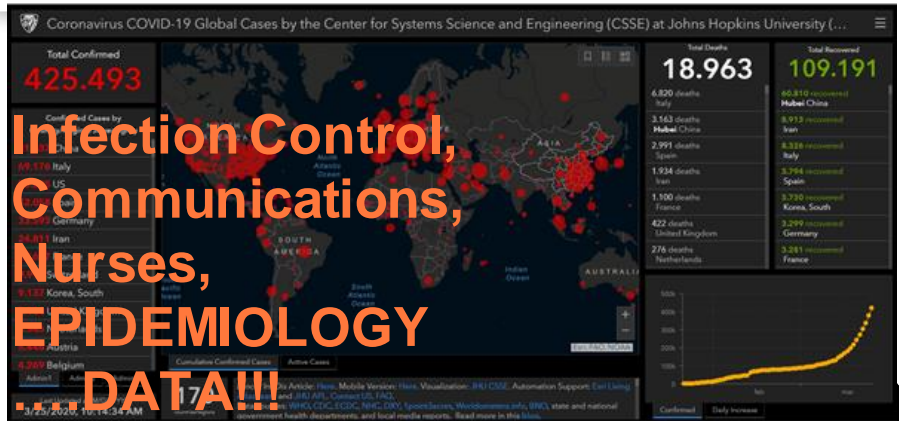
In need of in-home services? You
services provided by a Quality Service Provider.



To

Reduce
conse
preventable disease and death tobacco use.
Health care policies.

voanews.com





CDC Foundation

Together our impact is greater



NDSU AMERICAN INDIAN PUBLIC
HEALTH RESOURCE CENTER

Tribal Nations
TNRG
Research Group

Tribal Ownership of COVID-19 Response

27 contact tracers & 2 case managers

Established public health coalition with TMBCI stakeholders

Including school system, state partners, county partners, and IHS

Distributed care packages (oximeters, thermometers, gloves, masks)

Developed weekly infectious disease reports

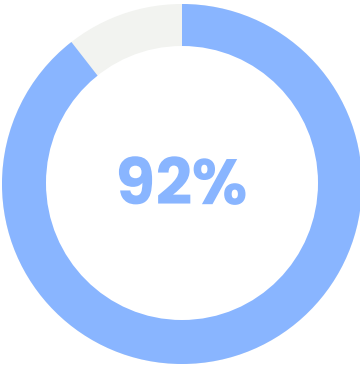
Mobile Public Health Unit for COVID-19 Testing

Increased vaccination rates to be highest in the state and above US average

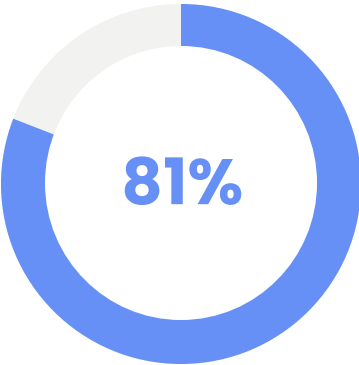
Trained contact tracers on epidemiology and outbreak investigation

Care Coordination Agreement for sustainable public health funding

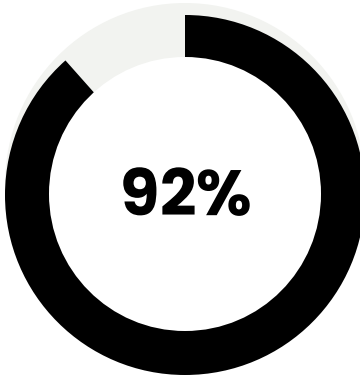
Results: COVID-19 Vaccination



United States

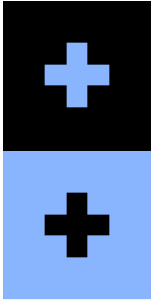


North Dakota



TMBCI

At least one dose of COVID-19 vaccine



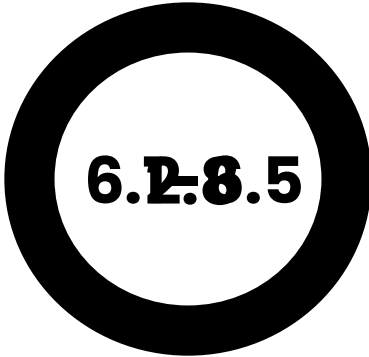
Results: COVID-19 Vaccination



United States

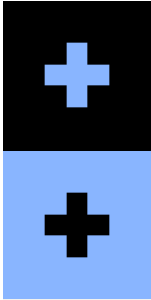


North Dakota



**TMBCI
expected**

Mortality Rate per 1,000 population



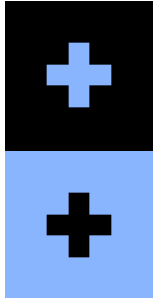
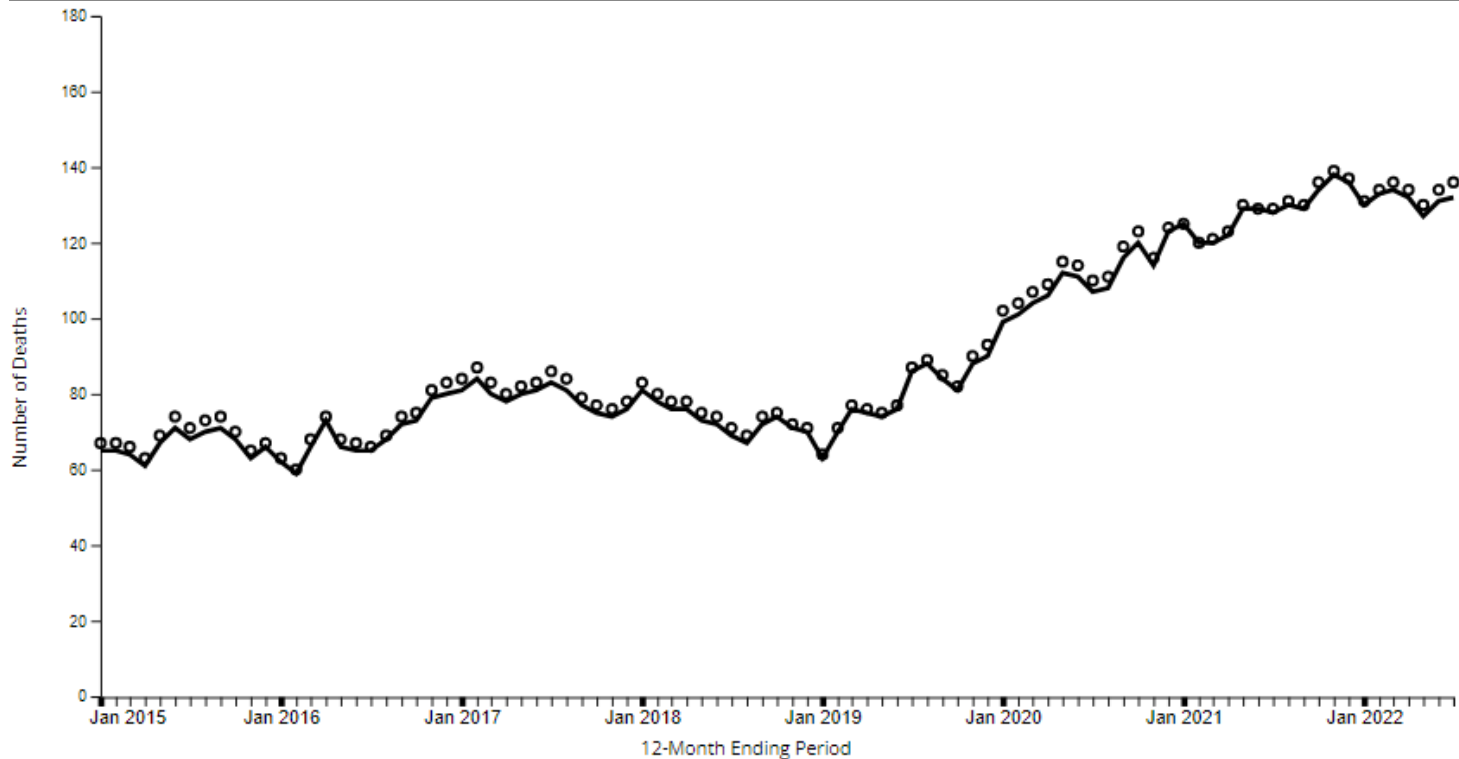
Tribes need SPECIFIC

**Other tools and people are
Tribes Know Best
at addressing Level
problems**



Opioid Epidemic

Figure 1a. 12 Month-ending Provisional Counts of Drug Overdose Deaths: North Dakota



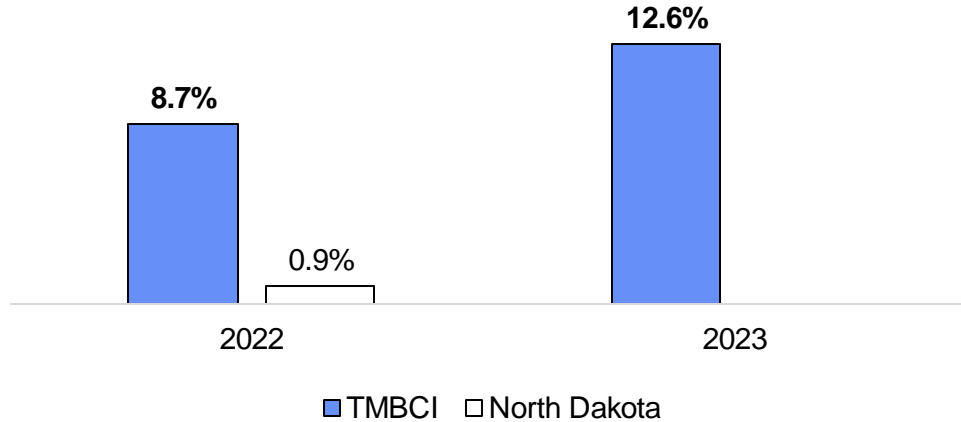
Opioid Epidemic

From 2018-2020, the age-adjusted rate for drug-induced causes was **49.2 per 100,000 persons** for the American Indian population compared to **11.4 per 100,000 persons** for the White, Non-Hispanic population in North Dakota.

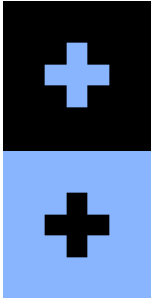


Opioid Epidemic

Percent of Children in Foster Care
TMBCI vs. North Dakota
2022-2023



Data Sources: TMBCI Child Welfare
Rolette County Human Services
North Dakota KIDSCOUNT



Chronic Hepatitis C

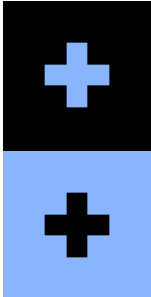
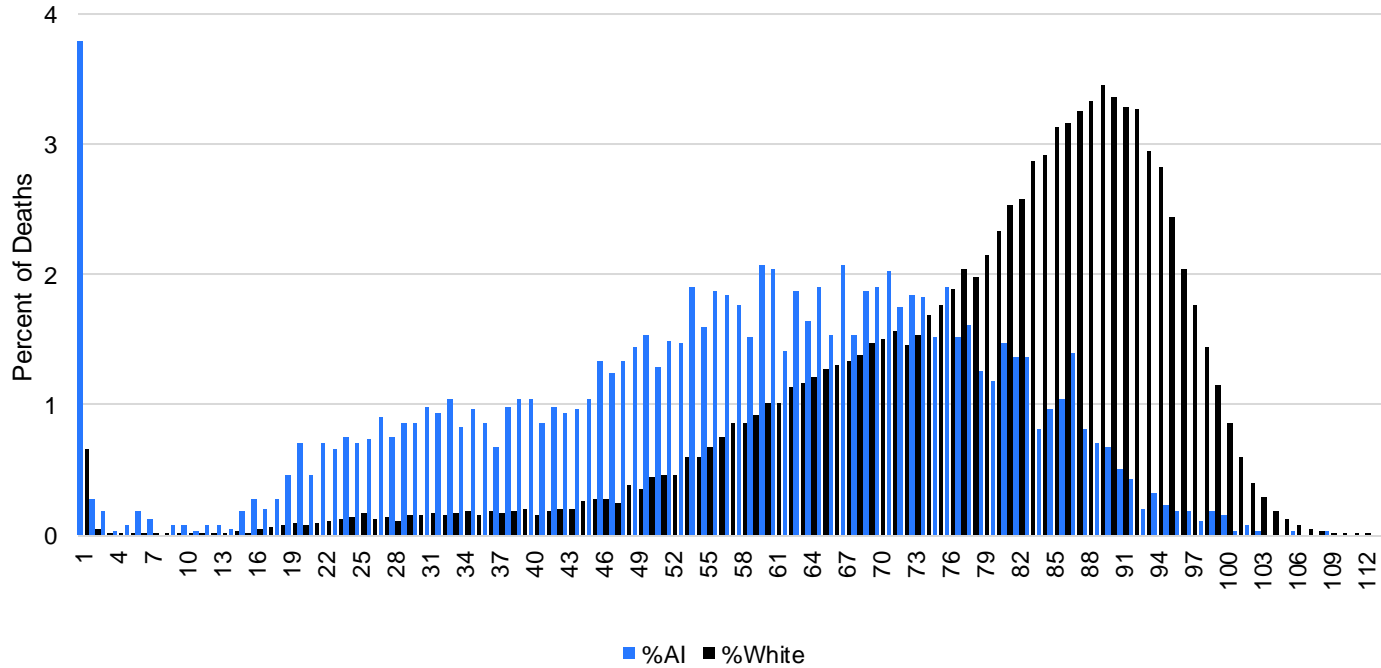
2022

| County | Case Count | Rate Per 100,000 |
|-----------|------------|------------------|
| Sioux | 24 | 567.38 |
| Hettinger | 12 | 480.19 |
| Benson | 24 | 351.29 |
| Mountrail | 16 | 151.73 |
| Rolette | 21 | 148.14 |

- **148.1** per 100,000 population in Rolette County
- North Dakota had a rate of **66.2** per 100,000 population
- US had a rate of **40.7** cases per 100,000 population
- AI/AN persons in the US had a rate of **66.8** cases per 100,000 population



North Dakota Deaths by Race 2009-2019



23-35-02.1. Tribal health units. An Indian nation that occupies a reservation the external boundaries of **which border more than four counties** may form a health district or public health department as provided in this chapter. A tribal public health unit and bordering public health units shall collaborate regarding the provision of public health services. If an individual who is not an enrolled member of an Indian tribe of the Indian reservation that forms a tribal public health unit is a party to a civil action in which the tribal public health unit is also a party, that individual may bring the action in or move the action to tribal court or district court.

STRETCH BREAK



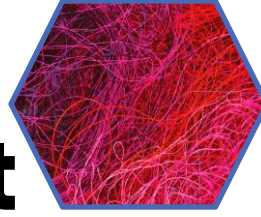
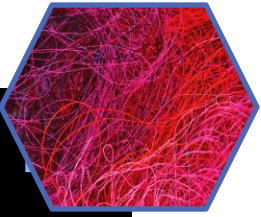


03

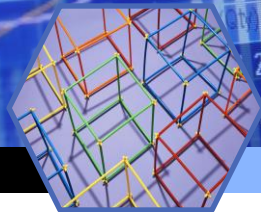
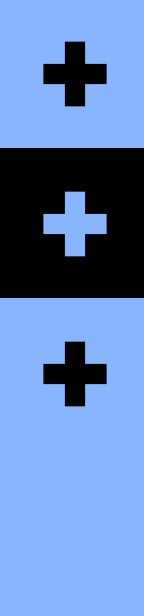
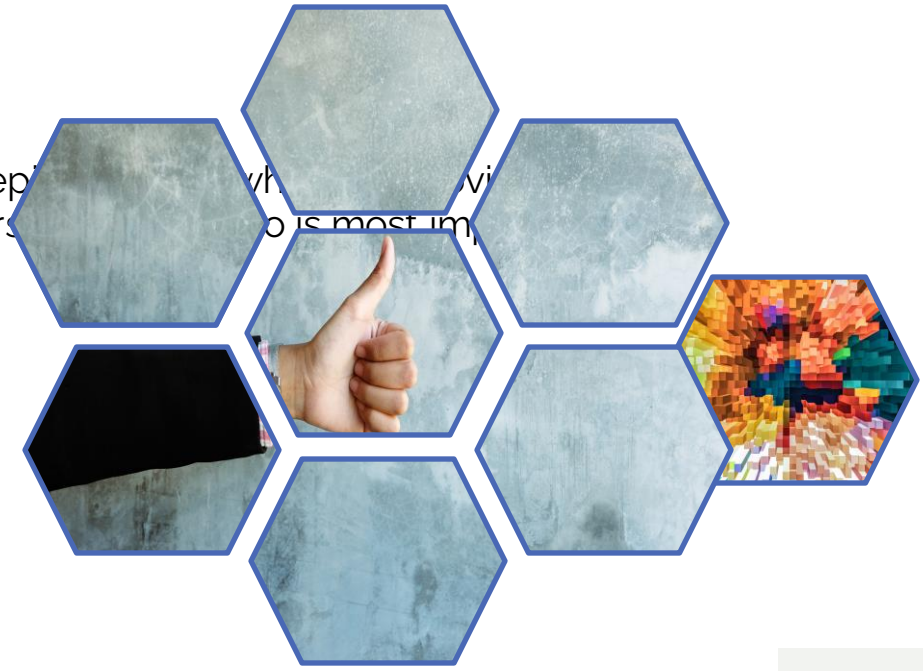
Electronic Case Reporting



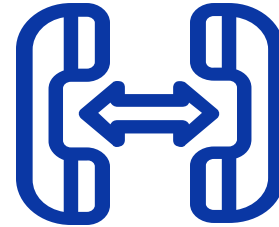
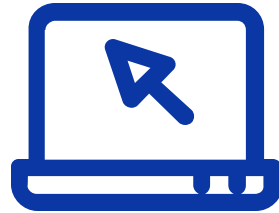
Role of the Epidemiologist



Keep
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Public Health & Case Reporting was behind



Waste of Public Health Resources



Scavenger Hunt for Infection Control... Wasting More Time

2013-10-18 22:41:00

NPN 7AM-11PM:

S/O: Pt has had a very eventful day. At ~6:45 AM he was noted to have SBP 40's by NBP, with HR 60's. Initially responsive, but rapidly decreasing responsiveness followed by respiratory arrest. Pt was ambued with 100% FiO2, then [redacted]. An A-line was placed; we have consistently been able to easily draw blood from the line, but it appears dampened and reads quite a bit lower than the NBP, so we have been using the NBP all day. He soon required pressors for SBP 70's. He was started initially on Neo, which was titrated up to a max of 120 mcg/min with little if any effect. He was then started on Levo. Over several hours, with some difficulty, the Neo was weaned to off with the Levo as high as 40 mcg/min. He was transiently on Dopa, as high as 10 mcg/kg/min, but it was soon D/C'd d/t HR into the 140's. Around 1PM his BP again began to fall, into the 50's. His extremities were cold, and HR dropped into the 60's again. He was given 250cc fluid bolus, and Dopa was again attempted, at a lower dose. This time, however, he began to have lots of ventricular ectopy, including short runs of VT. Dopa was again D/C'd, Levo increased more, and he again stabilized for a few hours. About 7:45 he suddenly went into sustained VT. A-line tracing was flat (though is has never been reliable). In the interest of saving time, a cuff pressure was not checked. He was unresponsive, and was defibrillated once with 200J. He converted initially to ST with lots of ectopy, then settled down into NSR after a few minutes. He has remained in NSR since. BP is borderline on high-dose Levo. EKG shows ST depressions, but not much changed from yesterday. CK's, Troponin added to earlier labs.

F/E: Pt is dialysis-dependant. He has had >2.5L fluid since MN, and will be dialyzed tomorrow. Lytes have been followed closely; Mg repleted after episode of VT, and he has been given 15gm Kaexolate for borderline hyperkalemia.

NEURO: Pt initially unresponsive this AM. Over the day he has been agitated with ANY intervention. Initially well-sedated on [redacted], but he was changed to Fentanyl gtt with prn Ativan to try to avoid hypotension from the [redacted]. Fentanyl has been increased a couple of times. He is OK when left alone, but easily agitated.

[redacted]: Hct 30-32, stable. Coags greatly elevated with INR 5.1 this AM. He was given 2mg Vit K SQ, but coags worse afterwards. No further intervention at present.

GI: Vomitted brown OB+ material both before and after intubation. Belly soft, obese, obviously tender. Too unstable to go to CT. Plan was for U/S, but he was hypotensive to 50's when they came, so it was deferred. Medium loose brown, foul-smelling stool this AM (sent for C-diff). On Protonix.

ID: Temp rising to max of 101.7 this evening. He has been fully cultured and is on multiple abx. Ampho dose which was up when he arrested this AM was stopped with ~half of it infused. He did not receive the rest....HO aware. WBC 30-40K, Lactate has risen to 7.9. He has a worsening metabolic acidosis, with bicarb now down to 12.

RESP: Intubated, vented. Current settings A/C .5/750/24/PEEP 5. ABG's show adequate oxygenation, compensated metabolic acidosis. LS diminished. He has minimal secretions, but he was found to have green beans in the back of his throat on intubation, and we have suctioned a few pieces out...none since this AM.

SKIN: He has 2 small decubs on buttocks, covered with Duoderm. Also has open area in left groin.

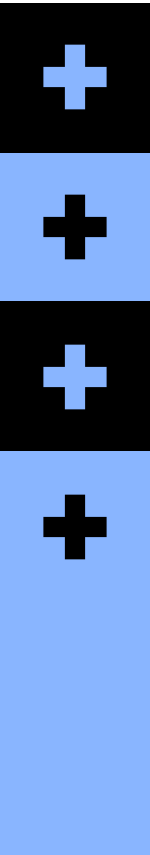
ACCESS: A-line as described above. He has a right femoral tunneled [redacted] catheter. A clotted left EJ line was removed this AM. Multiple attempts at other access have been made by many people without success.

SOCIAL: pt has a sister [redacted] who was in. He also has a very involved home care nurse named [redacted] [redacted] who was extremely upset about his condition. She was in to visit this evening, and was here for the VT episode. The pt's lawyer also came in briefly. He does not have a proxy; SW notified by case manager of his admission, serious condition, and need for proxy determination.

A: septic shock with multiple potential sources.

P: continue abx, follow cx results. Support BP and resp as needed. Follow labs closely.

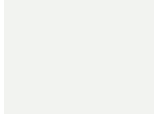
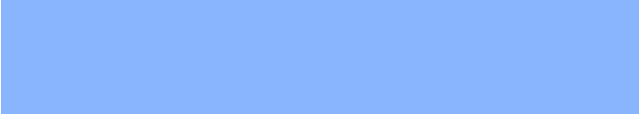
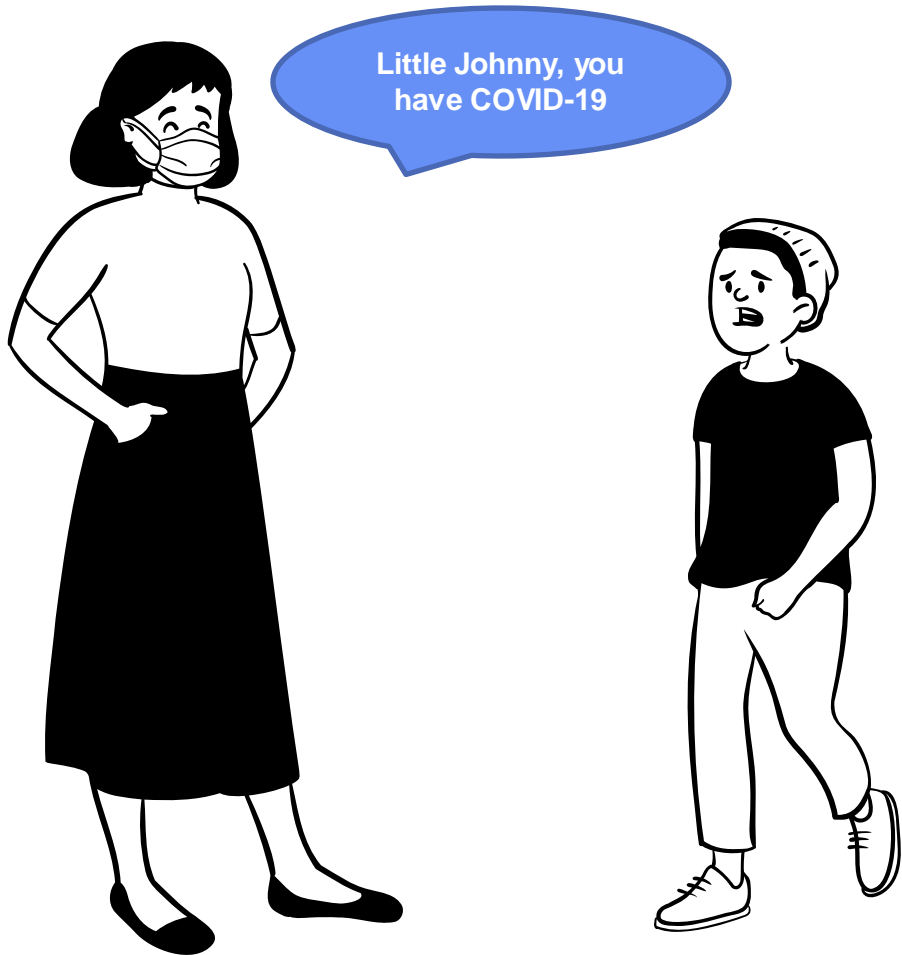
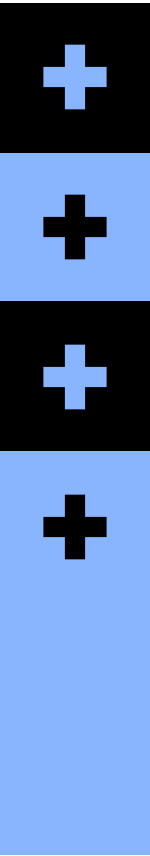
Anticipate possible need for CVVHD is does not tolerate HD. SW consult for proxy.



National Indian
Health Board

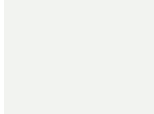
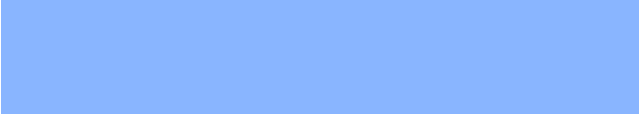
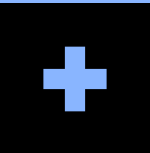
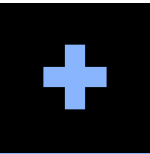


CENTERS FOR DISEASE™
CONTROL AND PREVENTION





**Electronic
Health Record**





MSH|^~\&|EPIC|EPICADT|iFW|SMSADT|199912271408|CHARRIS|ADT^A04|1817457|D|2.5|
PTD||0493575^^^2^TD_1|454721||DOE^JOHN^^^^|DOE^JOHN^^^^|19480208|M|B|254 MYSTREET
AVE^^MYTOWN^OH^44123^USA|(216)123-4567||M|NON|400003403~1129086|
NK1||ROE^MARIE^^^^|SPO|||(216)123-4567||EC||||||||||||||||||||||
PV1||0|168 ~219~C~PMA^^^^^^^^|||277^ALLEN MYLASTNAME^BONNIE^^^^||||||||
||2688684|199912271408|002376853



Electronic
Health Record



AIMS Platform
RCKMS
(Mail Sorting Room)

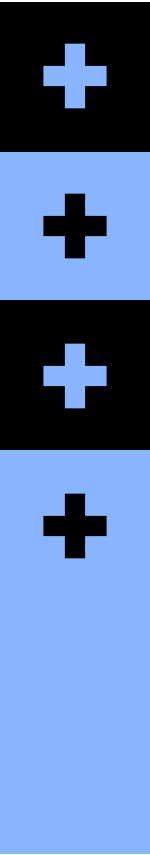
Reportable Conditions Knowledge Management System

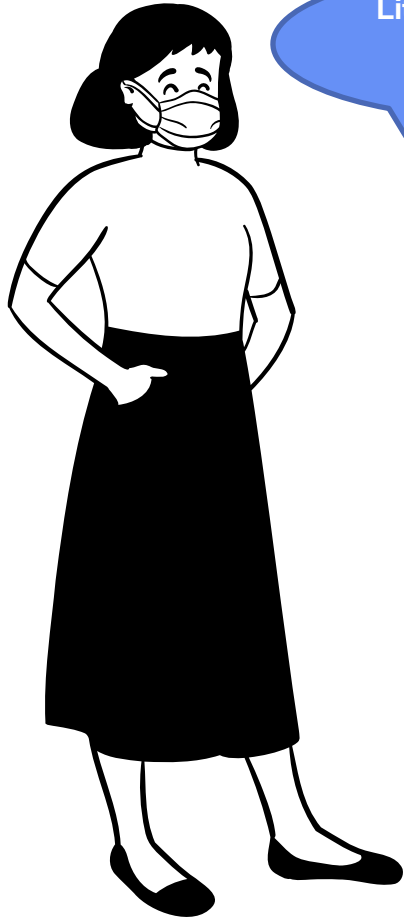
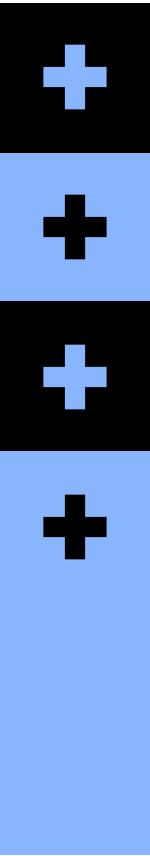


What data do you want?

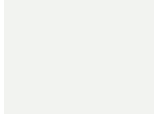
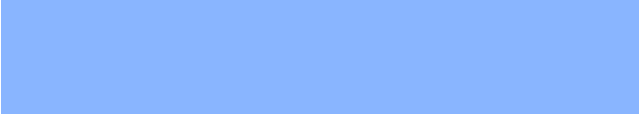
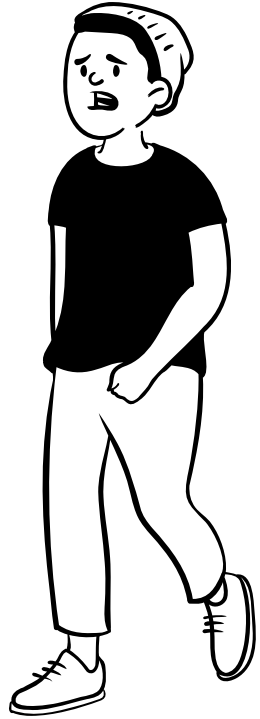


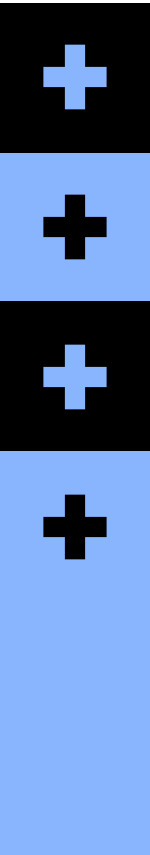
Just COVID-19 please





Little Johnny, you also have Salmonella





Electronic Health Record

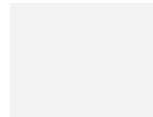


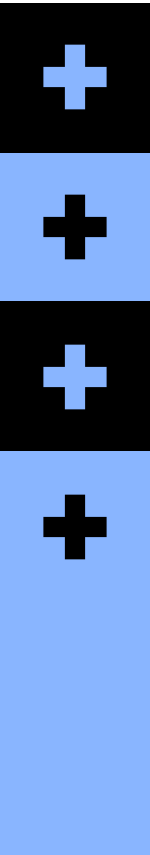
AIMS Platform

RCKMS
(Mail Sorting Room)



Public Health Department

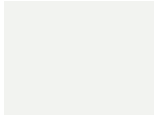


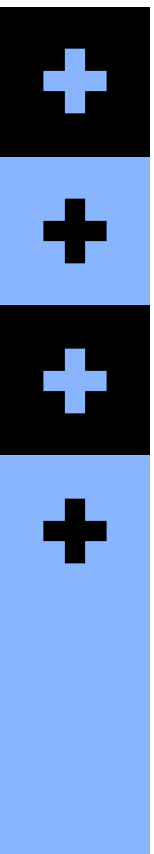


NO



Salmonella





Electronic Health Record

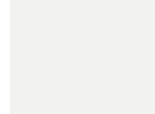


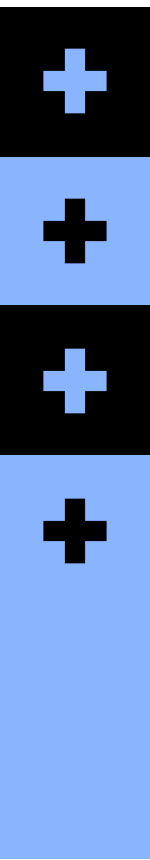
AIMS Platform

RCKMS (Mail Sorting Room)



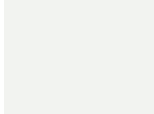
Public Health Department





Oh no, Little Johnny has COVID-19 and it says he works as a QSP with our elders

We must make sure he has what he needs to isolate!



Moving Forward: eCR

HOW DOES ELECTRONIC CASE REPORTING (eCR) WORK?



Patient is diagnosed with a reportable condition, such as COVID-19



Healthcare provider enters patient's information into the electronic health record (EHR)



Data in the EHR automatically triggers a case report that is validated and sent to the appropriate public health agency if it meets reportability criteria



The public health agency receives the case report in real time and a response about reportability is sent back to the provider



State or local health department reaches out to patient for contact tracing, services, or other public health action

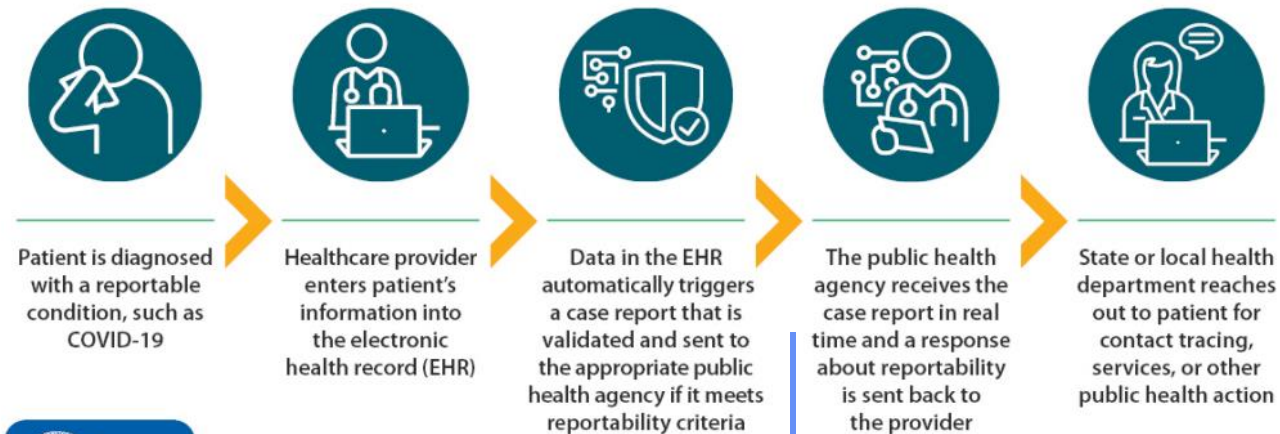
States choose which requested data they will send to tribes



cdc.gov/eCR

Moving Forward: eCR

HOW DOES ELECTRONIC CASE REPORTING (eCR) WORK?



Tribes receive case reports as well, allowing the Tribe to own their public health response and analysis

[cdc.gov/eCR](https://www.cdc.gov/eCR)

CS328445-A 12/3/2021 11 AM

MSH|^~\&|EPIC|EPICADT|iFW|SMSADT|199912271408|CHARRIS|ADT^A04|1817457|D|2.5|
 PID||0493575^^^2^AID 1|454721||DOE^JOHN^^^^|DOE^JOHN^^^^|19480203|M||B|254 MYS
 AVE^^MYTOWN^OH^44123^USA|||(216)123-4567|||M|NON|400003403~1129086|
 NK1||ROE^MARIE^^^^|SPO|||(216)123-4567||EC|||||||||||||||||||||||||||
 PV1||0|168 ~219~C~PMA^^^^^^^^^^|277^ALLEN MYLASTNAME^BONNIE^^^^||||||||
 ||2688684||||||||||||||||||||||||199912271408|002376853

| Line | RecStatus | GlobalRecordId | FKEY | CaseID | DateofInterview | FirstName | LastName | M |
|------|-----------|--------------------------------------|---------|--------|-----------------|-----------|----------|----|
| 1 | 1 | 0051f8fb-e983-4223-a853-26f6c8f34a75 | Missing | 247 | 5/11/2011 | Missing | Jackson | M |
| 2 | 1 | 00a495c9-0f1f-402c-a0a9-35c9674a1b0d | Missing | 277 | 5/13/2011 | Missing | White | F- |
| 3 | 1 | 00f66a66-f845-43d5-af74-e417bec77690 | Missing | 61 | 5/18/2011 | Missing | Johnson | F- |
| 4 | 1 | 032f809d-6b3f-4bb4-b964-14d3ba4be397 | Missing | 258 | 5/12/2011 | Missing | Williams | F- |
| 5 | 1 | 04206aeb-c13d-4777-b061-445468205269 | Missing | 127 | 5/24/2011 | Missing | Smith | F- |
| 6 | 1 | 054a8247-065f-4d97-b987-f237b04bf994 | Missing | 323 | 5/14/2011 | Missing | Brown | F- |
| 7 | 1 | 055f18b4-42eb-4dad-be93-3f9075975674 | Missing | 152 | 5/11/2011 | Missing | Davis | M |
| 8 | 1 | 069db84c-4bd7-48d9-b22e-4d082633c4ea | Missing | 66 | 5/7/2011 | Missing | Miller | M |
| 9 | 1 | 06c548b2-7432-43a8-80c5-68b44029f6ec | Missing | 70 | 5/12/2011 | Missing | Wilson | M |
| 10 | 1 | 08898b49-f28f-4995-9d6e-00270aa61579 | Missing | 233 | 5/10/2011 | Missing | Moore | M |

Joseph Patient

Patient Identifiers

PT-470127 Meaningless identifier, not to be used for any actual entities.
 Examples only.
 222-22-2222 United States Social Security Number

ABOUT

Date of Birth 07/30/1989
Sex Male
Race American Indian or Alaska Native
Ethnicity Hispanic or Latino

CONTACT

Home
 2222 Home Street
 Sacramento, CA
 94203, US
 tel: (Primary Home) 555-555-2003
 email: (Primary Home) jose@email.com

EMERGENCY CONTACT

Mr Emer Contact
 ()

CONTACT

tel: (Mobile Contact) +1-334-304-2665

AUTHOR

Time: 05/5/2020, 11:05
OID:
 2.16.840.1.113883.3.72.5.20

CONTACT

Work Place
 1234 Facility Drive
 Sacramento, CA
 94203
 tel: (Work Place) 555-777-0123
 fax: (Work Place) 555-777-0987

ENCOUNTER

Identifier 9937016 OID: 2.16.840.1.113883.19
Type inpatient encounter
Date **From:** 05/13/2020 **To:** 05/13/2020
Location Hospital

RESPONSIBLE PARTY

Carmen SanDiego, MD of
 Sacramento Hospital

CONTACT

Home
 1234 Provider Street
 Sacramento, CA
 94203, US
 tel: (Work Place) 555-777-0123
 fax: (Work Place) 555-777-0987

ENCOUNTERS

| Encounter | Date(s) | Location |
|---------------------|------------|---------------------|
| inpatient encounter | 05/13/2020 | Sacramento Hospital |

*** In the table below, row entries with values under RCTC columns triggered this Electronic Initial Case Report (eICR)

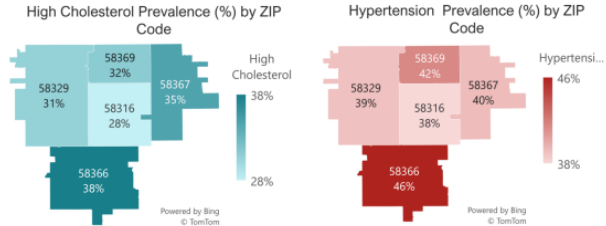
| Problem Type | Problem | Date(s) | Code | CodeSystem | RCTC OID *** | RCTC Version *** |
|--------------|--------------------------------------|------------|-------|------------|-----------------------------|------------------|
| Diagnosis | Coronavirus as the cause of diseases | 05/14/2020 | B97.2 | ICD-10 | 2.16.840.1.114222.4.11.7508 | 20200429 |

Data Visualization



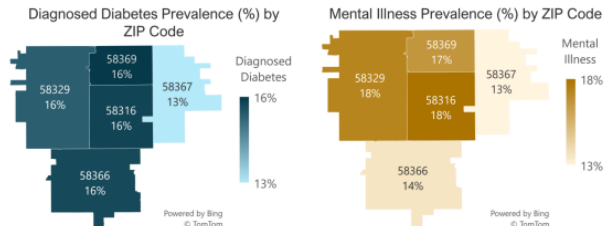
Health Outcomes

Figure 34. The prevalence (%) of High Cholesterol and Hypertension by ZIP Code.⁴²



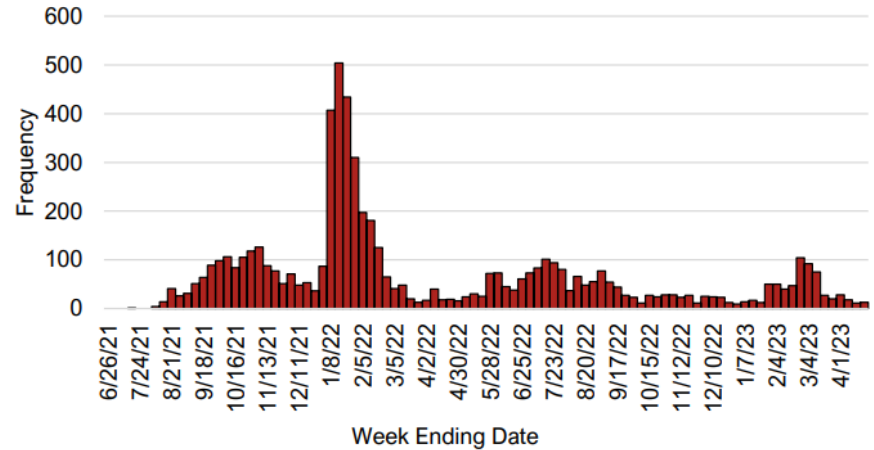
High cholesterol and hypertension prevalence is highest in the ZIP code, 58366. The 58316 ZIP code has the lowest prevalence of high cholesterol and hypertension.

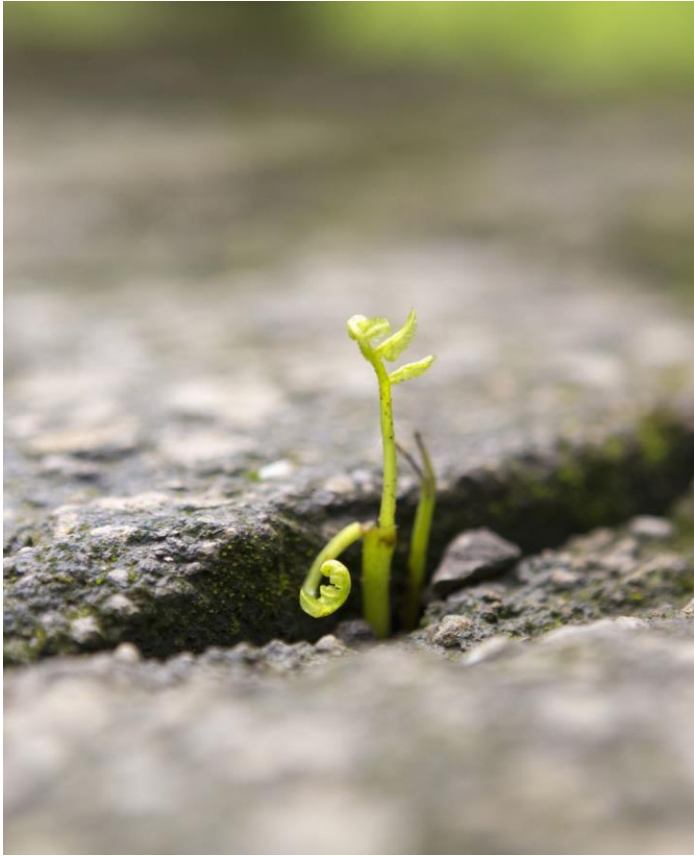
Figure 35. The prevalence (%) of Diabetes Type II and Mental Illness by ZIP Code.⁴²



Diabetes and mental illness have a more even spread throughout the 5 ZIP codes, however, the highest prevalence of mental illness is between the 58316 and 58329 ZIP code.

Frequency of COVID-19 Cases by Week
in Rolette County, ND
Week Ending June 26, 2021-April 20, 2023





04

Wins and Obstacles



IHS System



**Not Modernized
Enough to
connect to AIMS**

**Huge chunks of
data would not
be seen**

The State has onboarded most facilities

Facilities need to buy-in to send electronically

If your State already convinced systems to report, half the job is done

Policy

**Tribal
Resolution for
reportable
conditions**

**Resolution for
public health
activities once
we receive
reportable
condition data**

HIPAA Compliance Documentation and Security

**Do your due
diligence to make
staff aware of HIPAA
to protect
information when
accessing it**

**Systems,
servers should
be protected
with 2-factor
authentication**

Connection takes time and money

Cannot stop getting data from your state in the mean time

States get dedicated money for epidemiology and lab capacity (ELC)...Tribes don't



Thank you!

**Do you have any
questions?**

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