



# Rural Population Health Information Initiatives

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# Objectives

- Identify available data sources that could be compiled to create an understanding of the health status of a population
- Describe how a rural hospital might utilize the data to inform and implement population health activities
- Recognize the value of population health information initiatives and how Flex Programs can support them





# Benefits of making data available

- Transparency
  - Monitor government activities
  - Greater citizen participation in government affairs
- Public Service Improvement
  - Offers citizens the raw materials needed to engage with their communities to improve public services
- Innovation and Economic Value
  - Supports the design of new technologies, services, and data driven products
  - Better understand potential markets and customers
- Efficiency
  - Less costly to discover and access data



# Data Sources



# Public vs Open Data

## Public

Data that is freely available  
on the internet

- Not readily accessible
- Format of the data can be widespread and is often messy
- May have restrictions on use and require permissions
- E.g., Indeed, Facebook

VS.

## Open

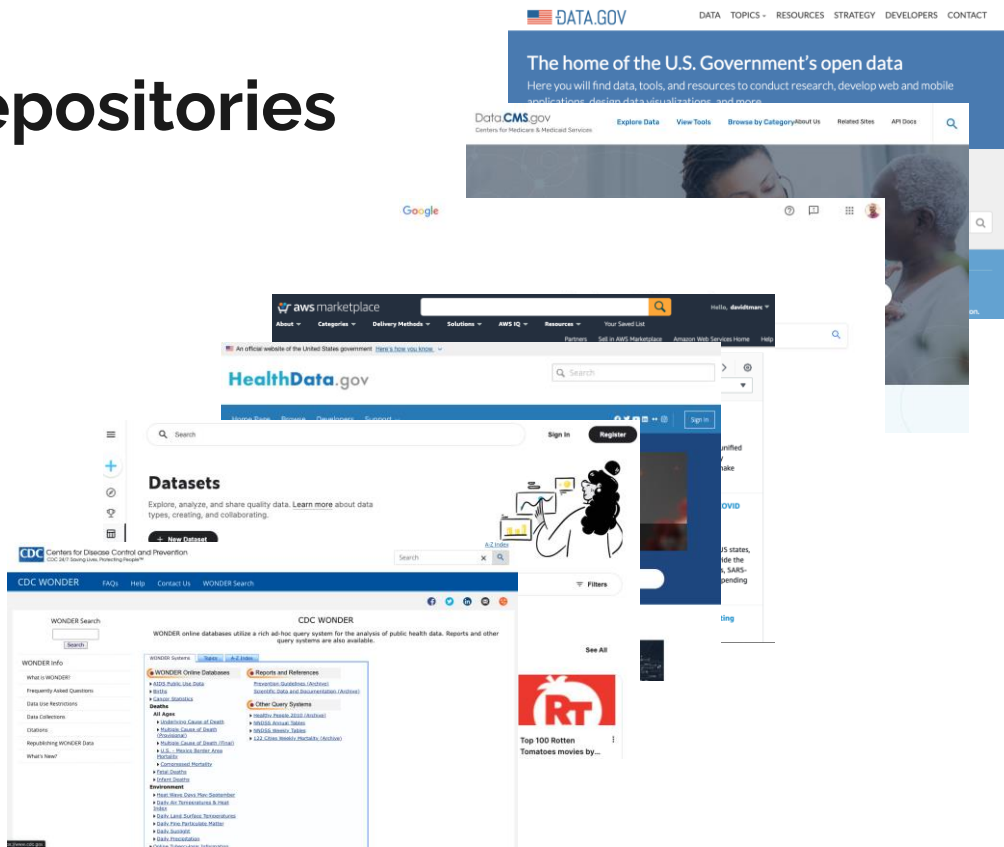
Data that is freely available and  
can be readily accessed, used,  
reused, and redistributed.

- Readily accessible
- Often managed by government agencies
- No restrictions on use
- Format tends to be more structured and usable often stored in a repository
- E.g., Data.gov, data.cms.gov

Public data can be open, but that isn't always the case.

# Public Data - Data Repositories

- [Data.gov](#)
- [HealthData.gov](#)
- [Google Dataset Search](#)
- [CMS Data Navigator](#)
- [CDC Wonder](#)
- [AWS Data Exchange](#)
- [Kaggle](#)
- [GitHub](#)
- [Harvard Dataverse](#)
- [Others](#)



# Public Data - Stand Alone Datasets

- [IPUMS](#)
- [County Health Rankings](#)
- [Compare](#)
- [Dartmouth Atlas](#)
- [CDC PLACES](#)
- [CMS Payment Data PUF](#)



**MN Public Health Data Access Portal**  
Environmental public health data can be used to inform policies, change behavior and help communities uncover issues to develop solutions and protections for the hazards, exposures and socioeconomic factors that influence our health. Search here to find environmental issues, trends, geographic patterns and disparities in Minnesota.







## Licensed Data

- [Healthcare Cost and Utilization Project \(HCUP\)](#)
- [Outpatient Prospective Payment System \(OPPS\) Claims Data](#)
- [Health Care Cost Institute](#)
- [National Committee for Quality Assurance \(NCQA\)](#)
- [n2c2 NLP Research Data Sets](#)

# Population Health Tools

- Build rural population health awareness
- Inform stakeholders on how to utilize population level data based on relevant scenarios
- Act upon data to address rural health problems

Where are you in the journey towards population health?



[Complete the Assessment >](#)

Use our one-page flyer to share this resource with others:

[Population Health Toolkit](#) (PDF Document - 1 page)



## Get Motivated

To create a movement toward wellness, participate in population health strategies. Become a movement leader and learn how to enhance the board, leadership team and community awareness, understanding and planning for the transition towards population health.

[Get Motivated >](#)



## Get Informed

Access tools, resources and case studies on collecting data, assessing information and establishing workflow and communication processes designed to deliver excellent quality of care, at lower total costs, while improving health outcomes in the journey towards population health.

[Get Informed >](#)



## Get Going

Acquire tools and resources that inspire staff to effectively demonstrate and communicate wellness with patients, the community and partners for a culture change toward improved population health outcomes.

[Get Going >](#)



## Put Data to Use

Learn how to effectively conduct population health analytics with access to a web-based database for acquiring health data specific to your location. This tool also consists of educational modules offering step-by-step instructions of common population health analytical procedures.

[Explore the Data >](#)

## Readiness Assessment

Where are you in the journey towards population health? Complete the Critical Access Hospital Population Health Readiness Assessment to connect with tools and resources targeted towards rural health organizations' unique strengths and needs for transitioning towards population health. These tools and resources are targeted at each milestone of the journey: Get Motivated, Get Informed and Get Going.

[Complete the Assessment >](#)

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# Utilize Population Health Data

## A case study



# COPD and Uninsured Rates in Rural America

<https://www.ruralcenter.org/population-health-toolkit/data/copd-risk-factors>

- Compare COPD and uninsured rates in rural and metropolitan MN and LA
- Develop an interpretation of the data
- Establish an actionable step to address the observed problem



**Time for a demonstration**



## What did we observe?

- In Minnesota:
  - COPD rates were higher in rural counties compared to urban counties
  - There was a moderately strong positive correlation between uninsured rates and COPD rates in rural counties
  - The average COPD rate in rural counties was about 5.4% and the uninsured rate was about 7%
- In Louisiana:
  - COPD rates were higher in rural counties compared to urban counties
  - There was not a significant correlation between uninsured rates and COPD rates in rural counties, but there was in urban counties
  - The average COPD rate in rural counties was about 10.55% and the uninsured rate was about 10%



## What does this data tell us about COPD and uninsured rates?

In rural LA counties, uninsured and COPD rates were high overall.

In rural MN counties, the COPD rates were highest in the counties with a higher uninsured rate.

Rural counties with high uninsured rates are more likely to have high COPD rates.

## WHY?

# Explaining the observations

- Studies have found that rural residents with COPD were poorer, had less education, worse health, and more disability. Studies observed large access disparities by race/ethnicity and income among individuals in both urban and rural counties, with the highest rates of forgone care among minorities in rural counties. Expanded access to health care could address respiratory health inequities. ([Gaffney, et al, 2022](#))
- Studies found that providers in rural areas were satisfied with their ability to treat symptoms and exacerbations, but many were unhappy with their access to pulmonologists or pulmonary rehabilitation. ([Diaz del Valle, et al., 2021](#))

The screenshot shows a Google Scholar search for "rural uninsured rates and COPD". The search results are sorted by relevance and show three articles. The first article is "Health care disparities across the urban-rural divide: a national study of individuals with COPD" by Gaffney, L. Hawks, AC White, et al. (2022), published in The Journal of Rural Health. The second article is "National trends and disparities in health care access and coverage among adults with asthma and COPD: 1997-2018" by Gaffney, L. Hawks, D. Bor, AC White, S. Woolhandler, et al. (2021), published in Chest. The third article is "An Examination of Respiratory Health in Rural Appalachia" by Scott, J.B. (2021), available on Proquest. The fourth article is "Crop burning and the prevalence of asthma and COPD emergency department treatments in a rural Arkansas county" by Rutten, M. Orloff, J. Bates, A. Porter, et al. (2021), published in the Journal of Asthma. The fifth article is "Hospital Community Benefit in Rural Appalachia: One More Gap" by Cronin, B. Franz, BK Gran, et al. (2021), published in Rural Sociology. Each article entry includes a star icon for saving, a magnifying glass icon for citing, and a link to related articles or all versions.





## Let's go back to our data, and look at the impact of race on COPD rates

- What trends do we see related to race and COPD rates?
  - In both MN and LA, there is a lower COPD rate in counties with a higher percentage of a white population in rural areas



## What action can be taken given these observations?

- Advocate for public change and access to care and services for specific populations (e.g., people of color in rural counties)
  - Access care through FQHCs - advocate for education on respiratory health (i.e., hire nurses or respiratory therapists to conduct patient education at the clinic level)
- Create pathways for care for specific populations:
  - Remote monitoring - integrated care with remote monitoring reduced COPD-related urgent office visits, decreased smoking, increased activity level, improved body mass index-airway obstruction-dyspnea-exercise tolerance (BODE) index and oxygen titration. ([Koff, et al., 2021](#))



## Conclusion

- Data is readily available to understand and address population health in rural America
- Action can be taken to address population health issues
- Public change begins with information which is derived from data



## Data Sources (cont.)

**CMS Data Navigator:** <https://dnav.cms.gov/>

**CMS SynPUF:** [https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/SynPUFs/DE\\_Syn\\_PUF.html](https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/SynPUFs/DE_Syn_PUF.html)

**CMS Medicare Part D Lookup:** <https://data.cms.gov/tools/medicare-part-d-prescriber-look-up-tool>

**County Health Rankings:** <http://www.countyhealthrankings.org/>

**Data.gov:** <https://www.data.gov/>

**Google Dataset Search:** <https://toolbox.google.com/datasetsearch>

**HealthData.gov:** <https://healthdata.gov/>

**Hospital Compare:** <https://data.medicare.gov/data/hospital-compare>

**Harvard Dataverse:** <https://dataverse.harvard.edu/>

**HCUP:** <https://www.hcup-us.ahrq.gov/>

**IPUMS:** <https://ipums.org/>

**MN Public Health Data:** <https://data.web.health.state.mn.us/home>

**n2c2:** <https://n2c2.dbmi.harvard.edu/>

**OPPS Data:** <https://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/LimitedDataSets/HospitalOPPS>

**Population Health Toolkit:** <https://www.ruralcenter.org/population-health-toolkit>

**Synthea:** <https://synthetichealth.github.io/synthea/>

**The Islands:** <https://theislands.umn.edu/login.php>



# Citations

Del Valle, F. D., Koff, P. B., Min, S. J., Zakrajsek, J. K., Zittleman, L., Fernald, D. H., ... & Vandivier, R. W. (2021). Challenges faced by rural primary care providers when caring for COPD patients in the western United States. *Chronic Obstructive Pulmonary Diseases: Journal of the COPD Foundation*, 8(3), 336.

Gaffney, A. W., Hawks, L., White, A. C., Woolhandler, S., Himmelstein, D., Christiani, D. C., & McCormick, D. (2022). Health care disparities across the urban-rural divide: a national study of individuals with COPD. *The Journal of Rural Health*, 38(1), 207-216.

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## Questions and Contact Information

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