A Rural Taxonomy of Health-Resource and Population Characteristics

RUPRI Center for Rural Health Policy Analysis

University of Iowa

Acknowledgement

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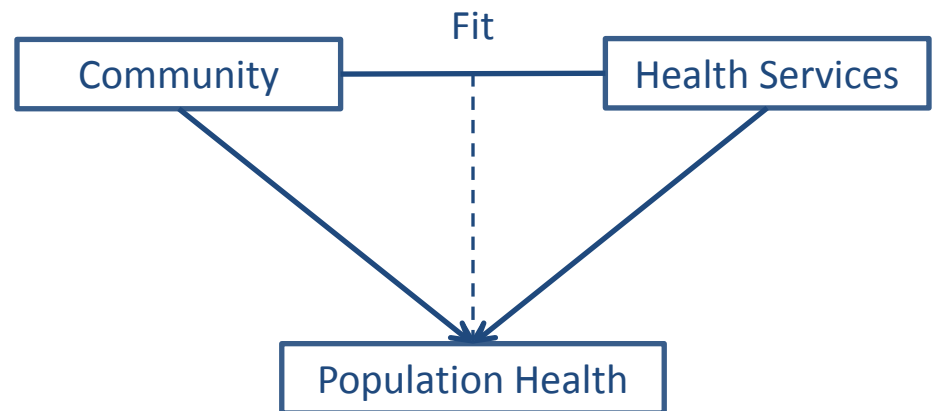 - Xi Zhu, PhD

Agenda

- What is this taxonomy?
  - The background and rationale
  - Variables considered
  - Types of rural communities

- How to use this taxonomy?
  - Where to find relevant information?
  - How to identify similar rural communities?
  - Use the taxonomy to disseminate innovations
  - Use the taxonomy to design targeted, place-based policies

Background

- Purpose
  - To develop **a classification tool** for identifying similar rural places based on relevant population and health-resource characteristics

- Rationale
  - Rural communities
    - Anticipate the impact of policy changes on their communities
    - Adopt innovations/strategies proven effective in similar communities

  - Public policy
    - Design targeted, place-based policies and interventions
    - Consider contextual factors in simulating and evaluating policy outcomes

Proposition

- Characteristics of a rural community/population and the rural health system that serves it *jointly* determine
  - The delivery, access, finance, and sustainment of health services
  - The health outcomes of the population
  - What innovations, policies, and interventions might be needed to improve health and health care

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Variables Considered

- Community/Population Characteristics

  - **Demographics**: age, race/ethnicity

  - **Economic**: unemployment, poverty

  - **Health insurance**: uninsured, publicly insured

- Health Care Characteristics

  - **Acute-care facility**: staffed hospital beds and average daily census

  - **Nursing home facility**: staffed beds

  - **Providers**: primary care providers, specialists, non-physician practitioners, and dentists

Variables Grouped into Dimensions

- Community/Population Characteristics
  - Economic Resources
  - Age Distribution

- Health Care Characteristics
  - Facility Resources
  - Provider Resources

Geographic Unit of Analysis

- Primary Care Service Area (PCSA)
  - Small geographic areas
  - Reflect health utilization patterns

- Selecting Rural PCSAs
  - PCSAs with more than 25% of their population living in areas with a base RUCA code 4 or higher (i.e., non-metropolitan areas)
  - Final sample size: 4019

Types of Rural Communities

Type	N	Facility Resources	Provider Resources	Economic Resources	Age Distribution
1	6	**Extremely High**	Average	Average	Average
2	59	**Very High**	Average	Average	Average
3	318	**High**	Average	Average	Average
4	179	Average	**Very High**	Average	Average
5	686	Average	**High**	Average	Average
6	743	Average	**Low**	**High**	Average
7	574	Average	Average	**High**	**Low**
8	364	Average	Average	Average	**High**
9	771	Average	Average	**Low**	Average
10	319	Average	Average	**Low**	**Low**

What Does a Type Mean?

Type	N	Facility Resources	Provider Resources	Economic Resources	Age Distribution
1	6	**Extremely High**	Average	Average	Average

Distribution of Facility & Provider Resources
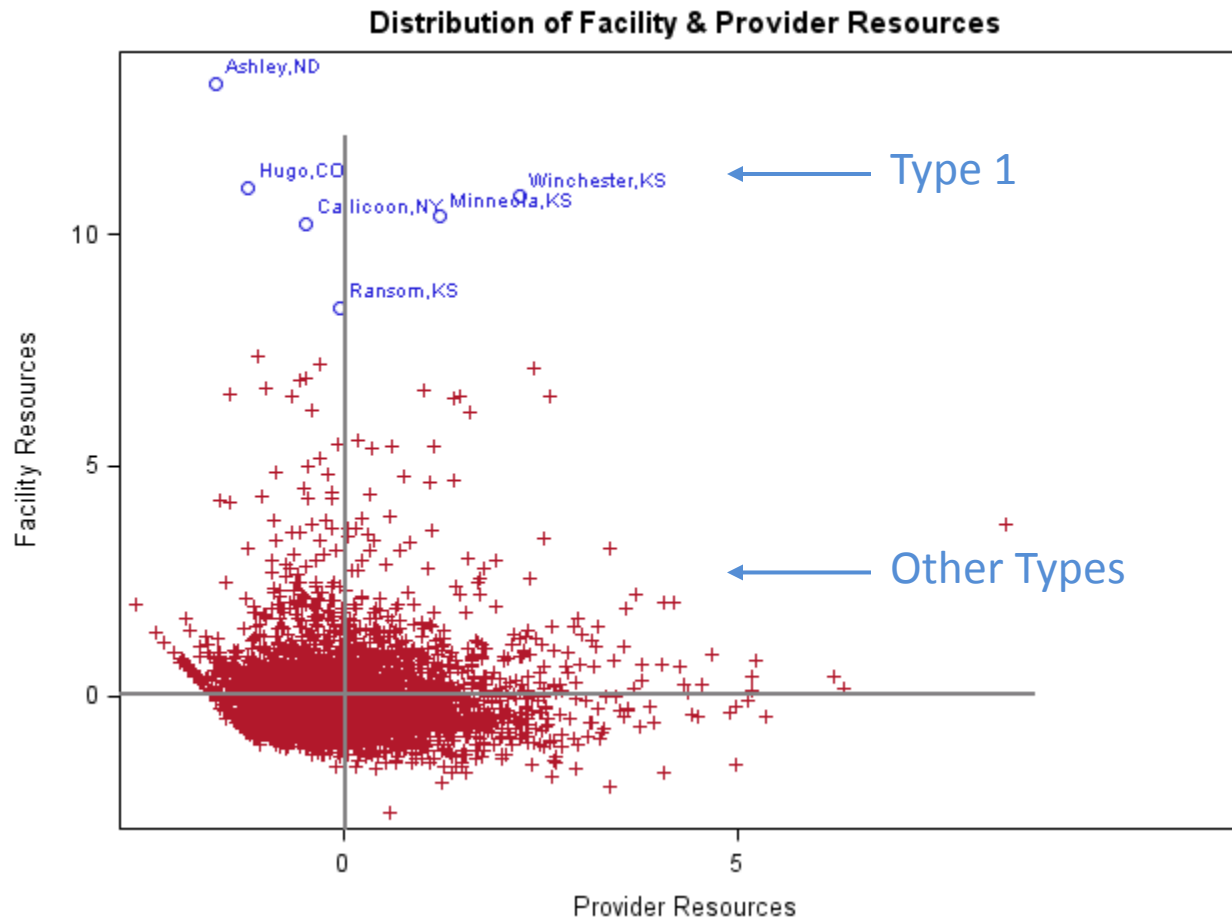
What Does a Type Mean?

Type	N	Facility Resources	Provider Resources	Economic Resources	Age Distribution
7	574	Average	Average	**High**	**Low**

Distribution of Economic Resources & Age
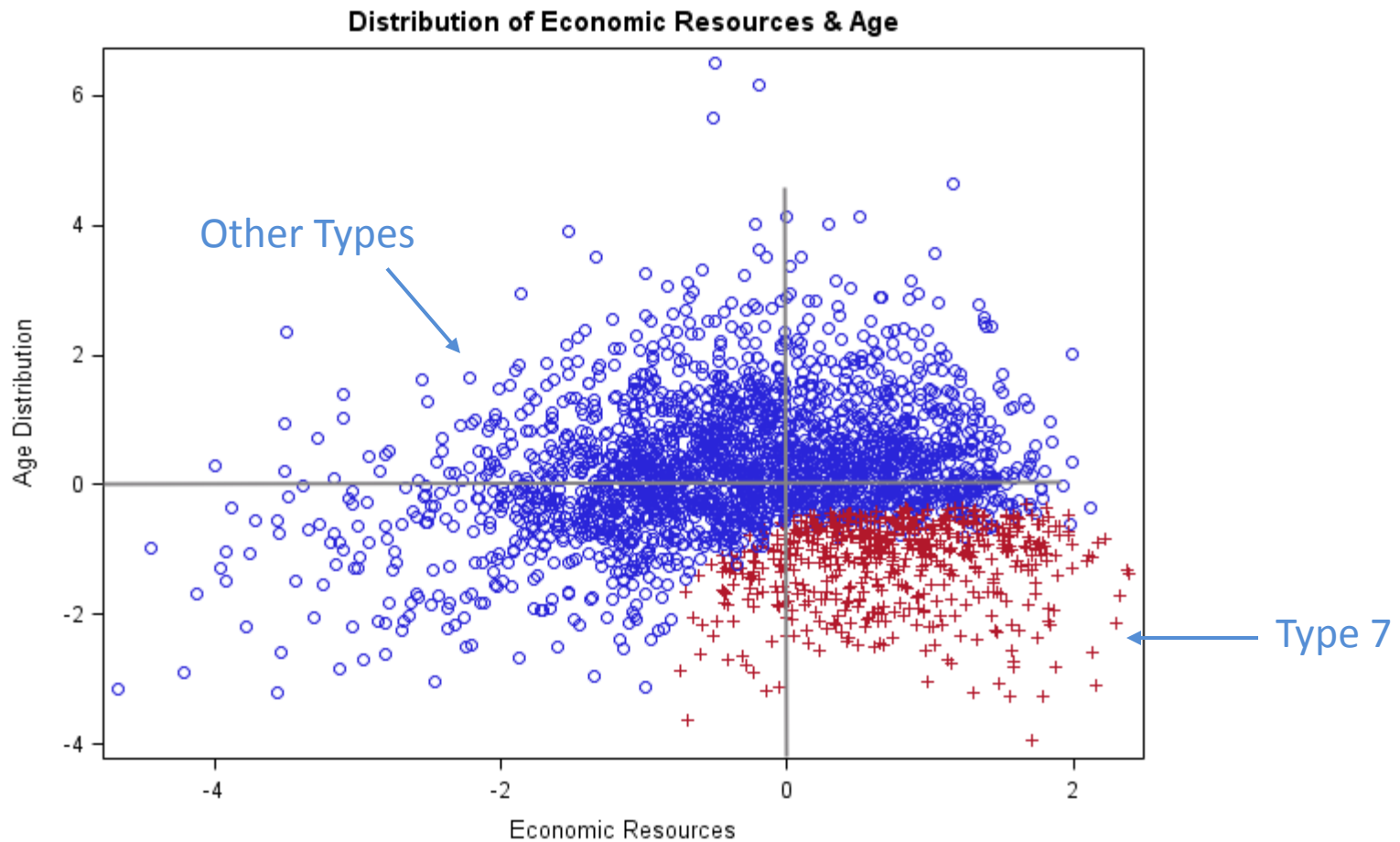
Where to Find Relevant Information?

- Taxonomy Website
  - http://cph.uiowa.edu/rupri/Place/taxonomy.html
  - Or, Google "Rural Health Value" → Tools & Resources → Using Data to Support Transformation

- Useful Information
  - National and state maps
  - Interactive state maps
  - National and state tables of classification
  - Searchable Excel spreadsheet of classification and relevant data
  - Policy brief and technical report

Population and Health-Resource Classification
Minnesota Rural Primary Care Service Areas (PCSAs)

Classification Table

Health Resources and Population Classifications of Primary Care Service Areas (PCSAs)
PCSAs in classification 7: High economic resources/Low age (n=574)

State	City (PCSA #)	ZIP Code Tabulation Areas (ZCTAs)
MN	Cloquet (00)	55718, 55720, 55726, 55733, 55749, 55780, 55797, 55798
MN	Dassel (00)	55321, 55325
MN	Faribault (00)	55021, 55052, 55053, 55087, 55946
MN	Glencoe (00)	55336, 55354, 55370, 55395
MN	Hutchinson (00)	55312, 55350, 55381, 55385, 56228
MN	Luverne (00)	56110, 56116, 56134, 56138, 56146, 56147, 56155, 56156, 56158, 56173, 57068
MN	Milaca (00)	56313, 56330, 56353, 56363
MN	New Prague (00)	55020, 55046, 55054, 55088, 56052, 56057, 56069, 56071
MN	Owatonna (00)	55049, 55060, 56046
MN	Pierz (00)	56364
MN	Roseau (00)	56673, 56711, 56714, 56724, 56726, 56741, 56751, 56756, 56759, 56761, 56763
MN	Waseca (00)	56028, 56093, 56096

How to Identify Similar Rural Communities?

- Identify which communities are similar to mine
  - National and state classification tables
  - Searchable Excel spreadsheet

- Understand the distribution of communities
  - National and state taxonomy maps
  - Other geo-tools (e.g., UDS Mapper: www.udsmapper.org)

- Identify communities with successful innovations
  - Rural Health Value website → Innovations & Demonstrations
  - Other resources:
    - Rural Assistance Center: www.raconline.org
    - CMS Innovation Center: http://innovation.cms.gov/
    - Evidence for Action: www.evidenceforaction.org

Use the Taxonomy to Disseminate Innovations
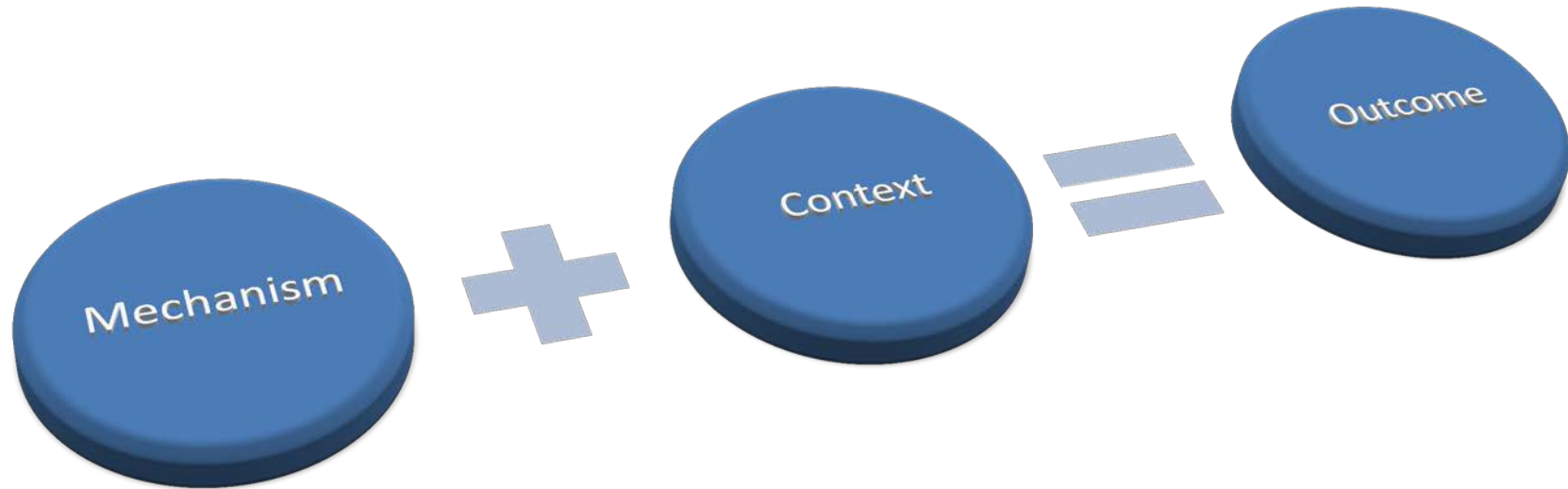
- Which innovation (programs & interventions) → Mechanism
- In which community setting → Context
- Works to produce what results → Outcome
- And why → Causal pathway

An Example for Community Leaders

- ## Which innovation?

TIPPING POINT: Total Integration, Patient Navigation and Provider Training Project for Powers County, Colorado

Prowers County, Colorado

Southeast Mental Health Services is receiving an award to coordinate comprehensive, community-based care for high-risk, high-cost, and chronically ill residents of rural Prowers County, Colorado. The program will employ trained patient navigators to increase patients' access to primary and behavioral care, preventive care, and early intervention services, offering team-based education and coaching to improve both population health and self-management of disease. The results will include a reduction in emergency room visits and other high cost interventions, mitigation of the progress of chronic disease, better health habits, and better care and quality of life for these vulnerable patients. Southeast Mental Health Services will contract with Otero Junior College to develop a magnet 'Health Navigator' training program to serve current and future healthcare workers across rural Colorado. Over a three-year period, Southeast Mental Health Service's program will train an estimated 62 workers and create an estimated 8.25 FTE jobs. The new workers will include health navigators, instructors, a marketing/communications assistant, and a project manager.

Provider types: Patient Navigators
Care type: Care coordination
EHR? No
Involve primary care? Yes
Involve hospitals? No
Population: High-risk, high-cost, & chronically ill
Funding agency: CMS

Sources: i. RHV "Innovations Table": http://cph.uiowa.edu/ruralhealthvalue/innovations/InnovationQ.php
ii. CMS Innovation Center: http://innovation.cms.gov/

- Patient navigators

- Access to primary, behavioral, preventive care

- Early intervention

- Self-management of diseases

- Target high-risk, high-cost, and chronically ill rural residents
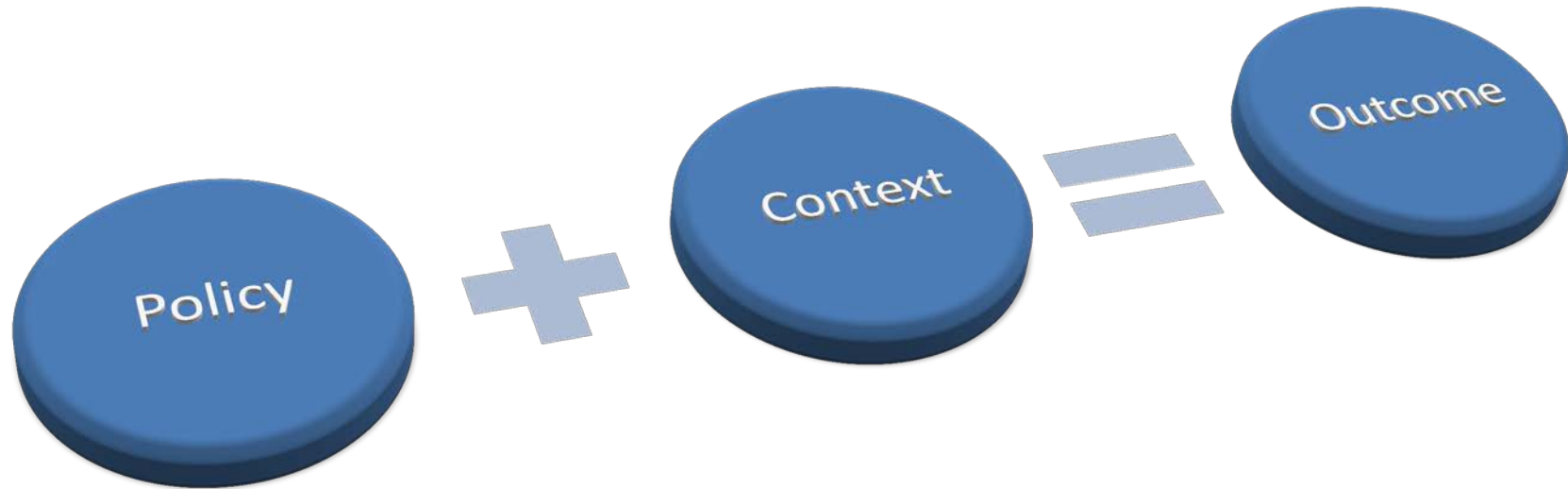
An Example for Community Leaders

- In which community setting?

  - Prowers County, Colorado
  - Type 9 (primary type) & Type 5
  - 100% rural population
  - Low economic resources
  - Average provider resources – More
    providers in the adjacent service area
  - No hospital – Critical Access Hospital
    in the adjacent service area
  - Average facility resources – Skilled
    nursing facilities available
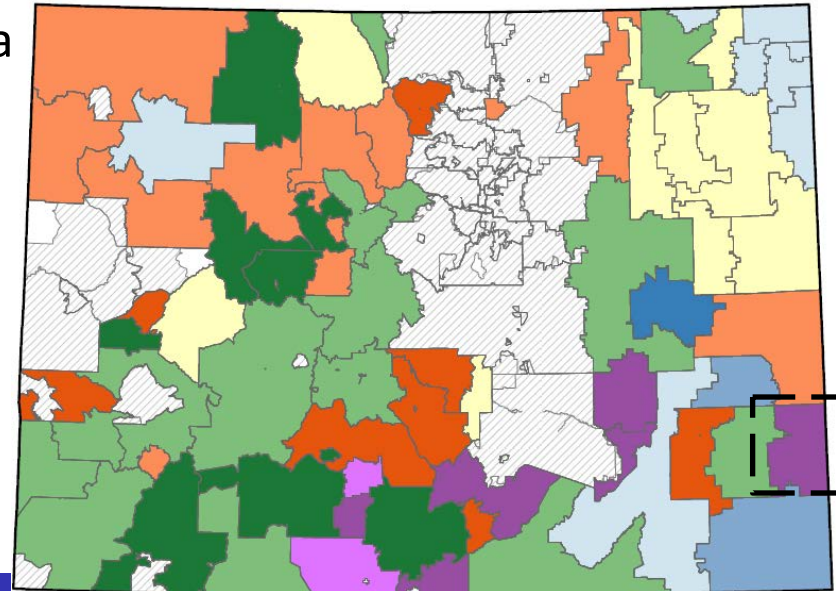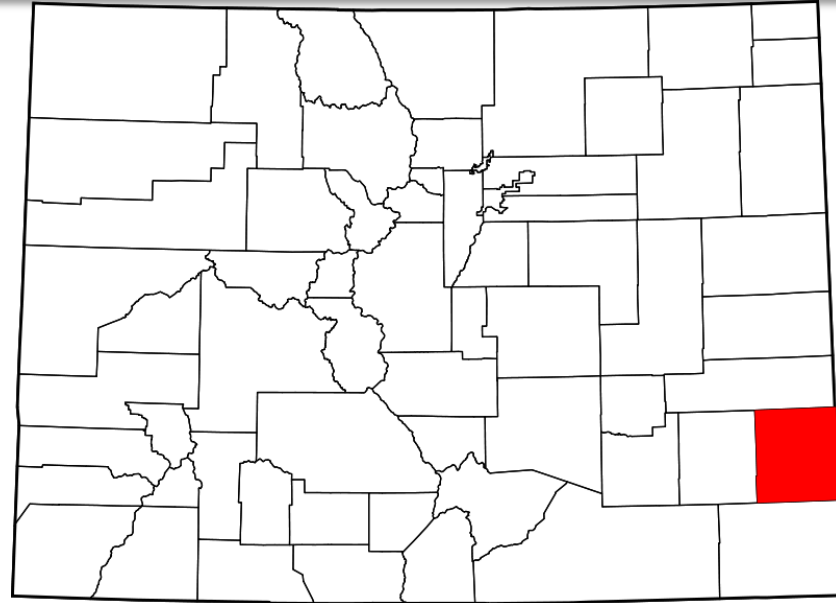
An Example for Community Leaders

- What outcomes?
    - Reduction of emergency room visits and other high-cost interventions
    - Population health

- How and why?
    - Integrated access to primary, behavioral, preventive care
    - Self-management of diseases
    - Utilize available provider/facility resources
    - Improve efficiency by integration using the patient navigator program

- Big Question:
   - ***Will this innovative program work in our community?***

- What can we do (policies, programs, grant making etc.) → Policy
- In which community setting → Context
- To promote what results → Outcome
- And why → Causal pathway

An Example for Policy Makers

- The Scenario
  - Iowa has 186 rural PCSAs of which 92 PCSAs are Type 6
  - Type 6 → Low provider resources & high economic resources

Iowa Primary Care Service Areas (PCSAs)
Health Resources and Population Classification
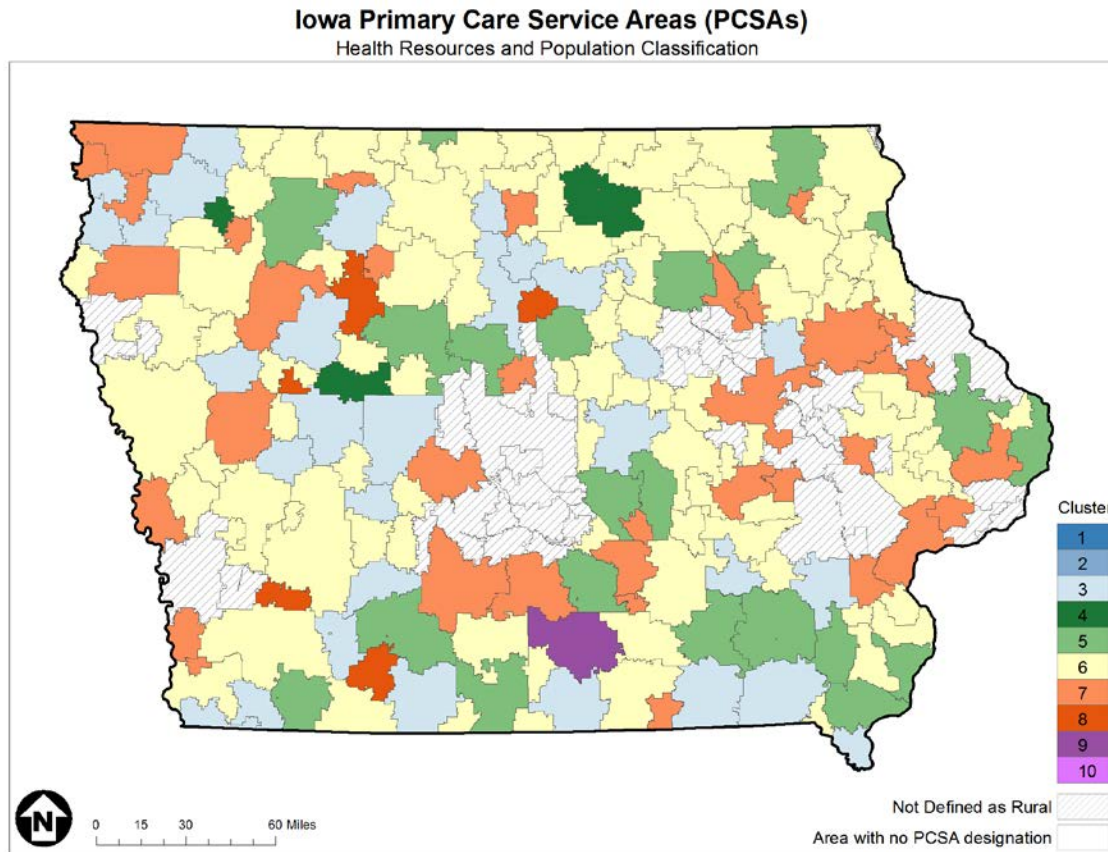
An Example for Policy Makers

- What can we do?
  - #1: Incentives to attract providers to practice in rural communities
  - #2: Programs to promote regional integration and system development to attract providers for professional reasons

- To promote what results?
  - Improve access to primary and specialty care received closer to home

- How and why?
  - #1: May or may not be targeted, place-based policy
  - #2: Targeted, place-based policy to leverage the green and blue areas already exist in Iowa

- Thank you!
- Questions?