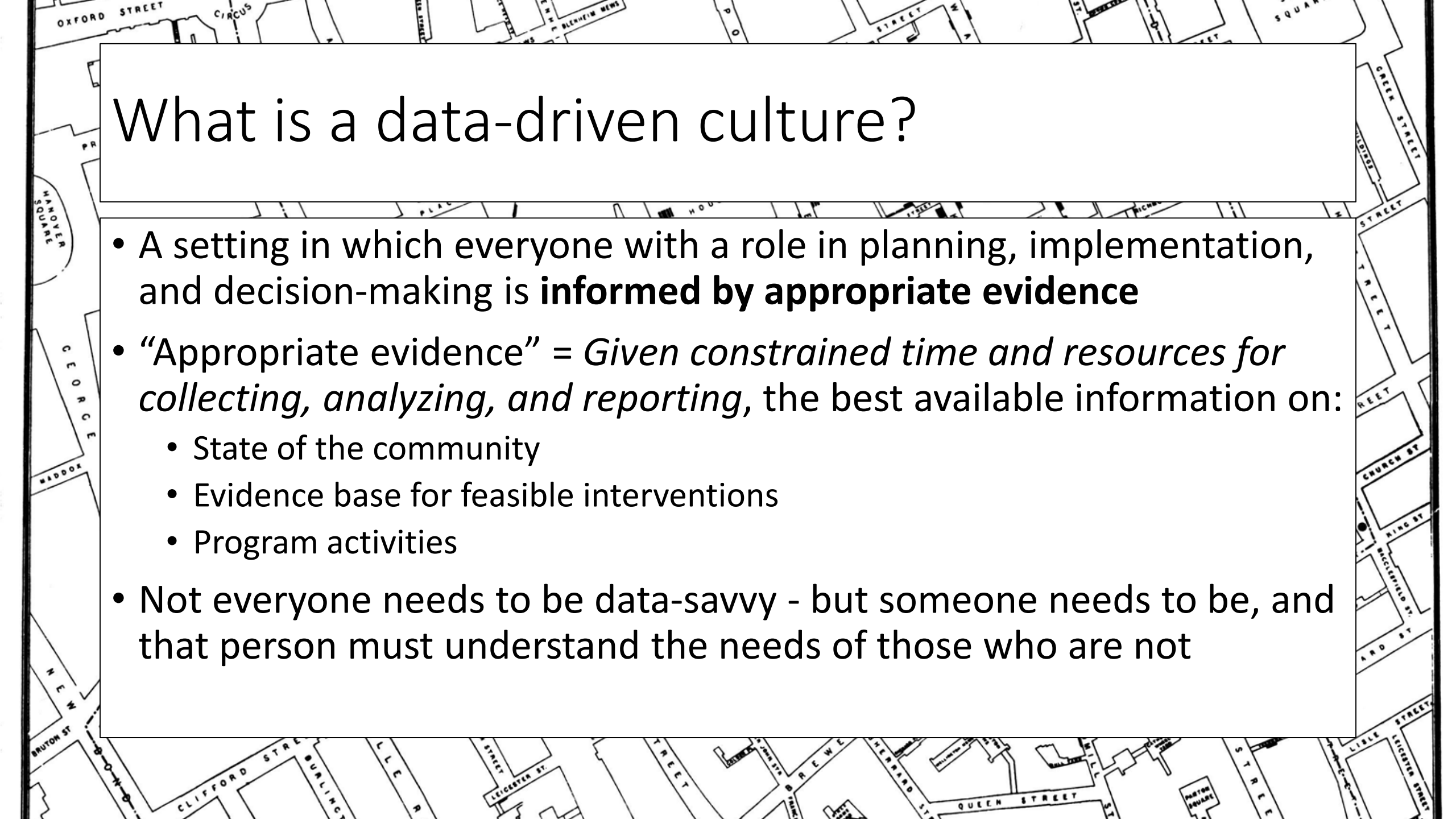




Data-Driven Culture

Kevin Contino, Data Analyst
Fort Drum Regional Health Planning Organization



What is a data-driven culture?

- A setting in which everyone with a role in planning, implementation, and decision-making is **informed by appropriate evidence**
- “Appropriate evidence” = *Given constrained time and resources for collecting, analyzing, and reporting*, the best available information on:
 - State of the community
 - Evidence base for feasible interventions
 - Program activities
- Not everyone needs to be data-savvy - but someone needs to be, and that person must understand the needs of those who are not



5 key principles for using data wisely

1. Understand your goals.
2. Use valid measures.
3. Distinguish between representation and reality.
4. Balance measurement with intuition.
5. Know your purpose and your audience.



Alice: Would you tell me, please, which way I ought to go from here?

Cheshire Cat: That depends a good deal on where you want to get to.

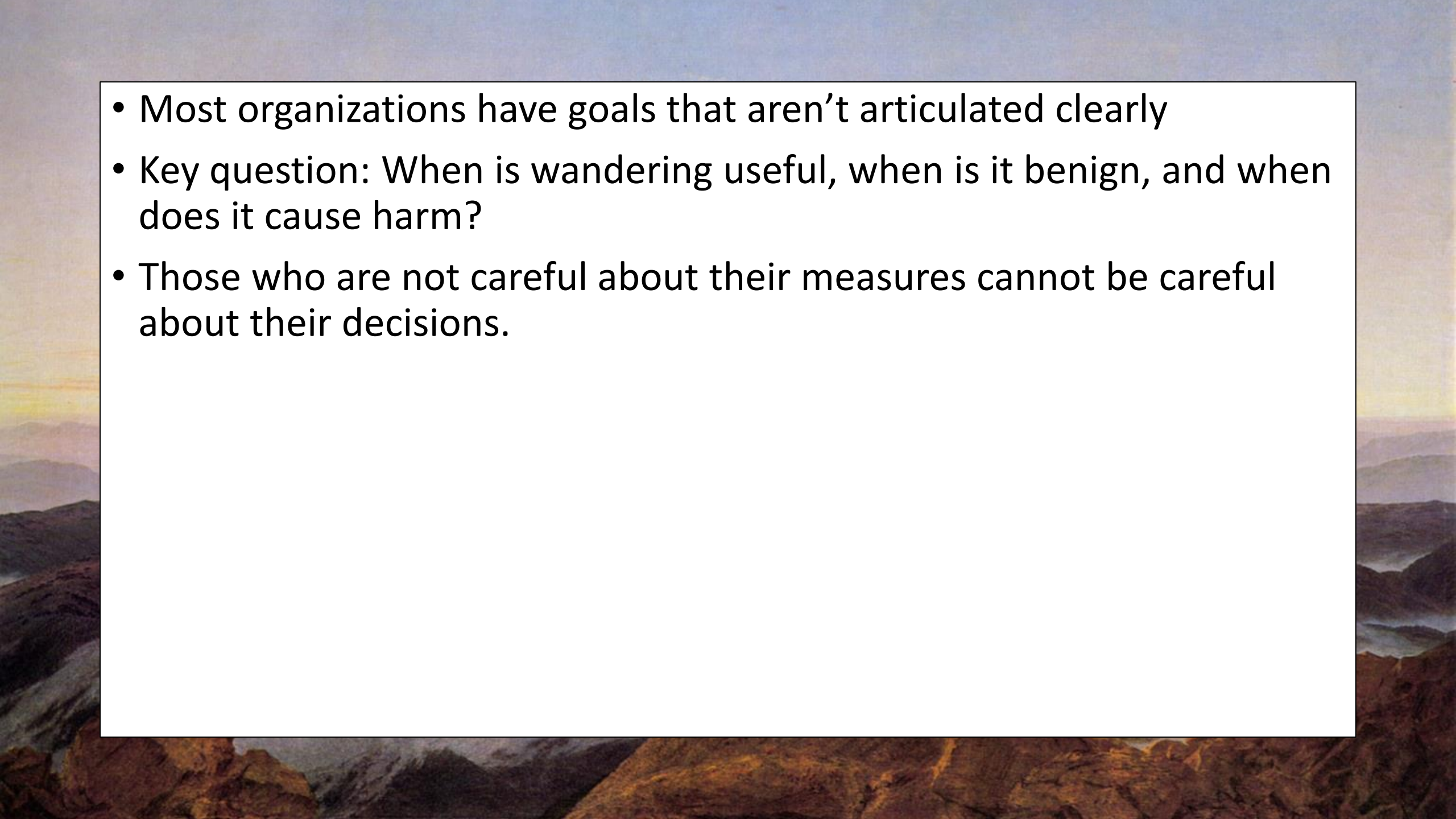
Alice: I don't much care where.

Cheshire Cat: Then it doesn't much matter which way you go.

Alice: ...So long as I get somewhere.

Cheshire Cat: Oh, you're sure to do that, if only you walk long enough.

— Lewis Carroll, *Alice in Wonderland*

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- Most organizations have goals that aren't articulated clearly
 - Key question: When is wandering useful, when is it benign, and when does it cause harm?
 - Those who are not careful about their measures cannot be careful about their decisions.

- Organizations need to:
 - Set goals
 - Build measures
- But they also need to:
 - Align the two
 - Organize themselves

Challenge: Measures should be downstream from goals, but there is always a risk that goals will be warped by their own measures.

“The premodern state was partially blind; it knew precious little about its subjects, their wealth, their landholdings and yields, their location, their very identity. It lacked anything like a detailed ‘map’ of its terrain and its people. It lacked measures that would allow it to ‘translate’ what it knew into a common standard necessary for a [general] view. As a result, its interventions were often crude and self-defeating.”

— **James Scott**, *Seeing Like a State* (1998)

Key Concept: Legibility

- Legibility refers to **how understandable a system is from a central viewing point**
- **“The view from above”**
- Systems are more legible when they are simplified, standardized, and recorded. Examples include:

- Permanent last names
- Standardized weights and measures
- Property law
- Census
- Currency
- Occupational licenses
- Scientific forestry



Illegible Natural vs. Legible "Scientific" Forests
(pages 16-17 of James Scott's *Seeing Like a State*)

What are measures?

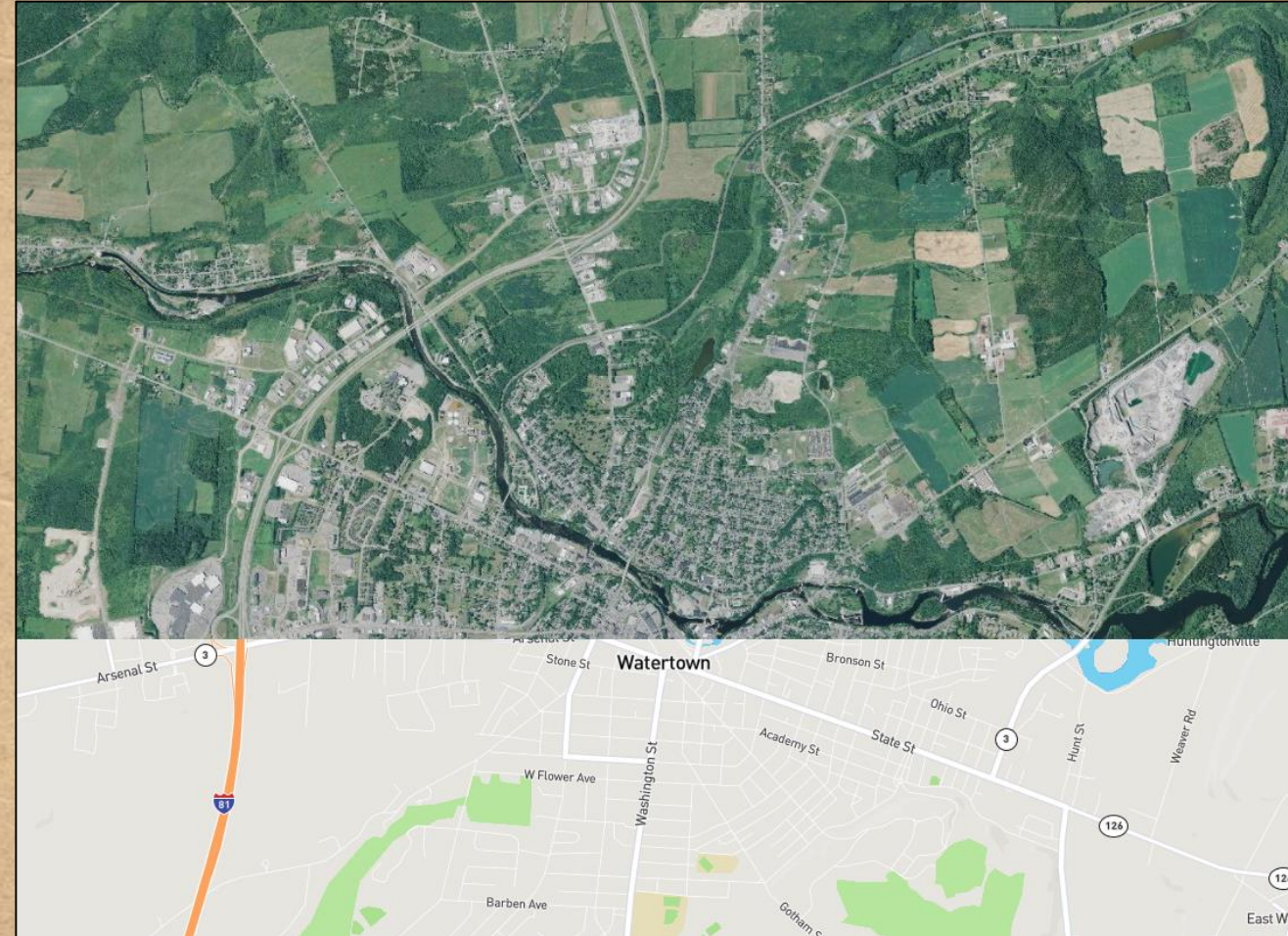
- Numbers that you focus on to make better decisions
- Contrast with “data” – **measures are numbers that you (or someone, at any rate) have decided are important**
- A measure is a measure if it tells you more than you knew before - no matter how flawed or “fuzzy” it is

... In that Empire, the Art of Cartography attained such Perfection that the map of a single Province occupied the entirety of a City, and the map of the Empire, the entirety of a Province.

In time, those Unconscionable Maps no longer satisfied, and **the Cartographers Guilds struck a Map of the Empire whose size was that of the Empire, and which coincided point for point with it.**

The following Generations, who were not so fond of the Study of Cartography as their Forebears had been, saw that that vast map was Useless, and not without some Pitilessness was it, that they delivered it up to the Inclemencies of Sun and Winters. In the Deserts of the West, still today, there are Tattered Ruins of that Map, inhabited by Animals and Beggars; in all the Land there is no other Relic of the Disciplines of Geography.

— **Jorge Luis Borges**, “On Exactitude in Science”



“The map is not the territory...”

- “...but **it has a similar structure**, which accounts for its usefulness.” ¹
- Measures are representations of what ultimately matters
- “All models are wrong, but some are useful.” ²
 - In program measurement and evaluation, as in all research, we look for “**the best approximation of reality**”

¹ Polish-American scholar Alfred Korzybski

² Statistician George Box (1976)

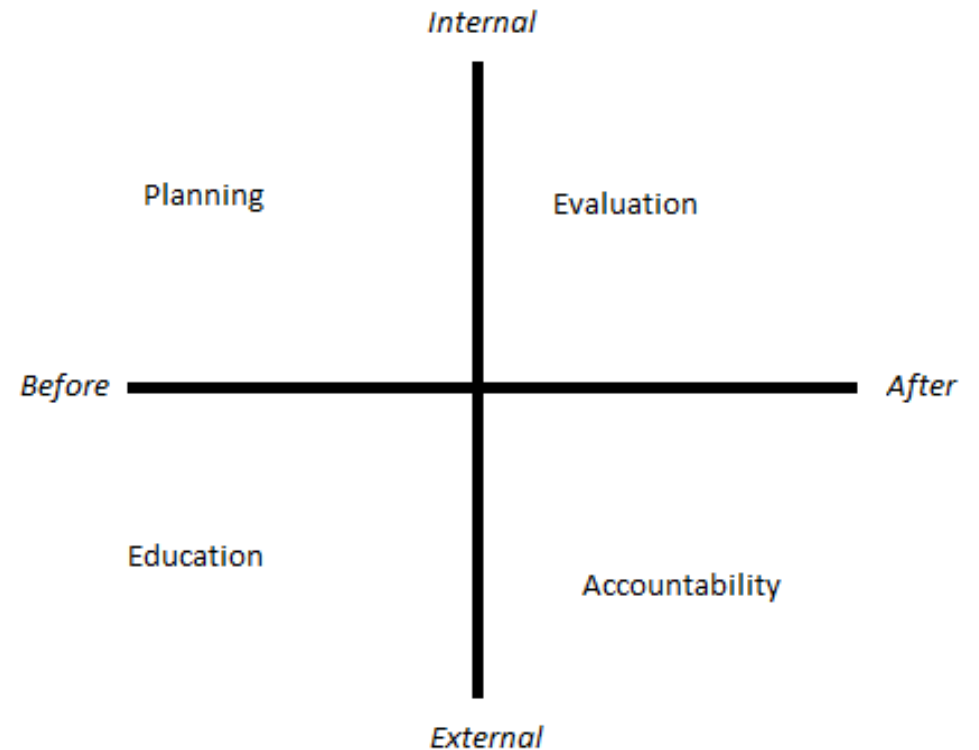
Why are measures used?

- **Intuition** is fallible
- **Trust** can be misplaced
- **Complexity** is irreducible
- Measurement makes complicated systems understandable.
 - But what simplifies also (necessarily) obscures and distorts
 - Careless use of measures disrupts the goals which they are meant to support



What are measures used for?

- Planning
- Education
- Accountability
- Evaluation



Selecting Measures

- How reliable?
- How timely? (accounting for both data collection and analysis)
- Costs
- **Validity** – i.e. **Are you really measuring what you intend to measure?**
- Also: Will your audience understand it?

What does poor measure validity look like?

- In 2011, the non-profit DoSomething.org posted a YouTube video featuring well-known celebrities encouraging young people to donate used sports equipment
- The video was their most popular ever, with 1.5 million views
- Success? Not quite. Only eight viewers signed up to donate equipment – and none of them actually donated.
- “Vanity metrics” vs. “meaningful metrics”

- Analyzing the data is often the easy part. **The hard part is deciding what data matters.**
- Assume two important goals: **If you measure A but not B, A will get more attention, whether you intend it to or not.**

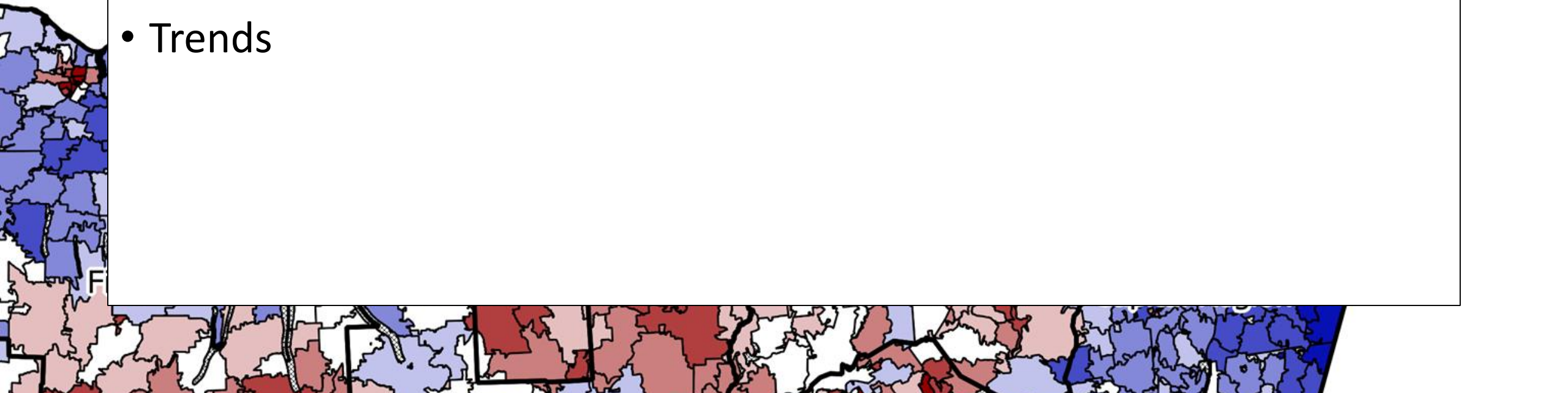
For more on the selection of good metrics, see: Metrics: You Are What You Measure! (1998) by John Hauser & Gerald Katz at <http://www.mit.edu/~hauser/Papers/Hauser-Katz%20Measure%2004-98.pdf>

Rapid Decision Making on the Fire Ground (1985)

- Q: How do highly proficient personnel make decisions under extreme pressure?
- A: Compare instance to prototypes, based on experience, and use the prescribed response for that prototype.
 - Exception: Unfamiliar or novel situations

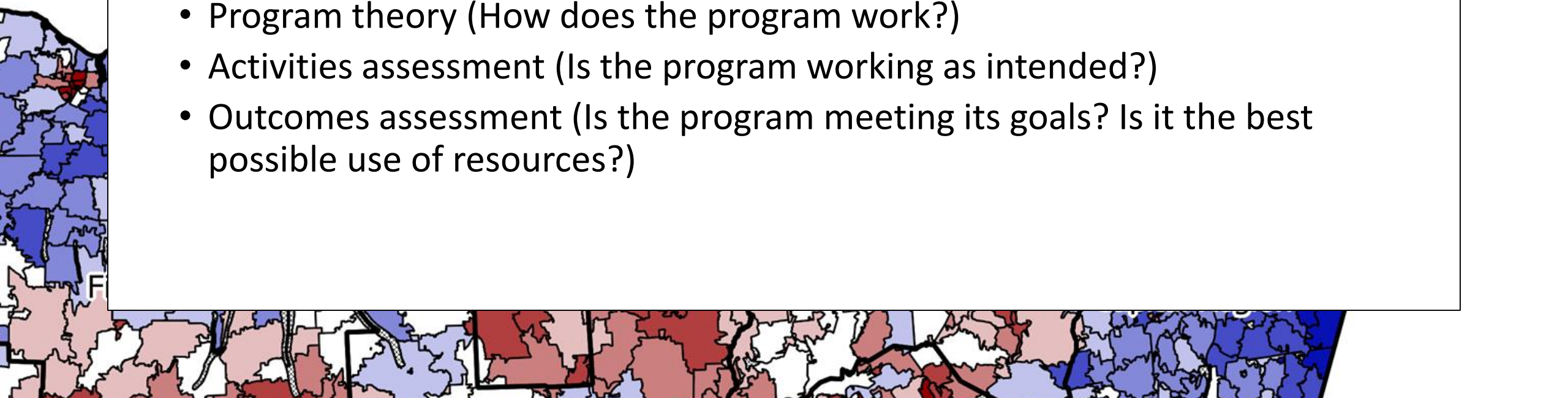


Interpreting data

- Percentages, rates, etc.
 - Group comparisons
 - Rank and relative standing
 - External benchmarks
 - Trends
- 




From measurement to evaluation

- Evaluation asks why, not just how or what
 - Tells a complete story about how a program meeting its goals
 - Four stages of evaluation
 - Needs assessment (Is a program needed?)
 - Program theory (How does the program work?)
 - Activities assessment (Is the program working as intended?)
 - Outcomes assessment (Is the program meeting its goals? Is it the best possible use of resources?)
- 



Not just numbers: Qualitative data

- Examples: Opinions, feelings, testimony, reactions
 - Forms: Transcripts, open response questionnaire answers, field notes, photographs, meeting minutes
 - Less generalizable, difficult to aggregate, more subjective in interpretation
 - BUT – holistic perspective
 - *Thoughtful* use of qualitative data is the best way to use intuition
- 



Know your external data sources

- Federal: [Healthy People 2020](#)
- Other nationwide data:
 - [Robert Wood Johnson Foundation County Health Rankings](#)
 - [Institute for Health Metrics and Evaluation](#)
- State: [NYS Prevention Agenda Dashboard](#)
- **Local: [North Country Health Compass](#)**
 - Population health indicators
 - Best practices
 - Resources
 - Community Health Assessment reports
 - Community Health Survey reports

Open Discussion



Fort Drum Regional Health Planning Organization (FDRHPO)

- Mission: *Strengthen the system for health for the integrated Fort Drum and civilian community by analyzing the region, identifying needs, and leveraging resources to fill gaps through innovation and collaboration.*
- Project areas: Population health, MEB health, HIT, health workforce, EMS, telemedicine, care coordination
 - Partner organization (North Country Initiative): DSRIP lead, Medicare ACO



Our Region

- Jefferson, Lewis, & St. Lawrence counties (251,000 residents)
- More dispersed, lower income, less degreeed population compared to state
- Health care provider shortages
- High percentage of government funded care
 - 70% of inpatient care and 62% of ED visits
- Fort Drum (integrated model)
- Top health disparities: Education, income, payer, geography



Our Health Needs

- High burden of chronic disease (compared to NYS)
 - High mortality rates
 - High preventable hospitalization rates
- Mental health challenges
 - Suicide rate 50% higher compared to state
 - Rising rate and proportion of hospital use with mental health diagnoses
 - Unique needs of military community (e.g. deployments, relocations, combat deaths, PTSD)
- High birth rate driven by military and Amish populations
 - TriCare is the primary payer for nearly one-third of newborns discharged from the region's hospitals (compare to <1% statewide)
 - Increasing proportion of unmet need for prenatal care

Thank You

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