Making Numbers Count: Mapping Data

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• Leads a national movement
• State-based youth justice coalitions and organizations (53 organizational members in 43 states and D.C., and growing number of leadership alumni members)
• Laws, policies and practices that are fair, equitable and developmentally appropriate for all children, youth and families
• The role numbers play in our communications.
• Why numbers need context and visuals to convey what they mean.
• One way to provide context: using maps.
• Two examples of data maps, along with mistakes to avoid.
• General tips on creating your own data map.
Why do we use numbers at all?

- To support the logic of the policy arguments we are making.
Why We Use Numbers

Effective advocates communicate using logical stories (narratives) that show the need for reform.
Here’s a sample story we might tell to show a problem with the status quo:

A. We incarcerate youth for status offenses.
B. But when we lock these youth up, they are more likely to commit new crimes.
C. Therefore, incarcerating youth for status offenses can lead to more crime.
And here’s the logic behind our policy solution:

A. Research shows using alternatives to lock-up for youth who commit status offenses reduces the likelihood they will commit new crime. The approach makes the community safer.

B. Therefore, let’s use alternatives to lock-up, so we can have a safer community.
How else do we make our case? We’ll probably use numbers. Numbers we might use:

– Number of youth arrested for status offenses in the past year, or over the past several years.
– Recidivism rates for youth who commit status offenses and are processed in juvenile court.
– Recidivism rates if the same youth are diverted from the system.
We usually assume that the statistics we use clearly support the logical story behind our policy solution.

But are the numbers we’re using telling the stories we think they are?
Many People Don’t Get Numbers

It’s hard for us to comprehend what “1 million” means. Or even, “4,753.”

Or whether 38% is bad or good, especially when compared to, say, 33%. Is the difference between the two significant?
What Does This Number Mean?

Does this mean:

A. “We have a crisis! We’re arresting too many kids.”

or

B. “Juvenile crime is rampant!”
What Does This Number Mean?

Without contextual information, it could mean either.
To Make Numbers Count ...

We need context.

Maps are one way to help us understand numbers.
Why Mapping?

• Maps can tell a complex data story in a compact, visual way.
• They’re good for showing how data varies across a city, county, or state.
Example: Spending to Commit Youth

• The map in the next slide was created by our Alabama member in 2008.
• It compares the following for kids committed to the custody of the state Dept. of Youth Services (DYS):
  o spending by county
  o commitment rates for nonviolent offenses by county
The yellow circles show county spending – the bigger the circle, the more money spent.

Shades of gray show differences in commitment rates by county.
Close-Up View

LAMAR $38,592
FAYETTE $192,960
WINSTON $270,144
ETOWAH $1,775,232
CHEROKEE $270,144
WALKER $482,400
JEFFERSON $9,262,080
BLOUNT $559,584
ST. CLAIR $945,504
CALHOUN $1,543,680
CLEBURNE $115,776
TUSCALOOSA $3,917,088
SHELBY $1,003,392
TALLADEGA $984,096
CLAY $77,184
RANDOLPH $636,768
PICKENS $559,584
GREENE $385,920
BIBB $617,472
COOSA $405,216
TALLAPOOSA $1,350,720
CHALMERS $578,882
HALE $385,920
CHILTON $501,696

What’s the Story the Map is Telling?

• It’s supposed to raise questions: why do costs vary so much from county to county? Is it money well spent?

• The accompanying text makes the case that those monies could be better spent to “create jobs, local opportunities, and healthy futures” – and that community-based sanctions are more effective and cheaper at reducing crime.
This map does a great job of showing that commitment rates and spending vary widely by county.

But it has some drawbacks worth thinking about if you map your own data. For example ...
1. Are commitment rates in Jefferson County (where the biggest yellow circle is) “high,” “very high,” or “exceptionally high?”

You can’t tell, because the yellow circle obscures the whole county.
2. It can be hard to tell at a glance what argument the map is making.

- The headline could help. But notice that it doesn’t frame DYS spending as good or bad.
The Headline Must Tell the Story

- In this example, the headline tells you what facts the graphic includes – but doesn’t say if DYS spending rates are a problem.

- You may have to look at this a while to figure out what the map means.
The Headline Must Tell the Story

A Headline to Match the Data:
“Alabama Spends Too Much to Commit the Wrong Youth”
Or:
“Spending on Committed Youth Varies Drastically by County”
Example 2: Life Expectancy by Zip Code

- The map in the next slide was published by the Robert Wood Johnson Foundation (RJWF).
- It shows how people’s life expectancy differs by zip code ...
Instead of using zip codes, the map uses the highway system.
So what story is it telling?

People living a short drive away from each other have radically different life spans.
This map does a great job of making the data concrete and understandable. Everyone can visualize the highway, and what this means.

Note, however, that the image itself can’t stand alone.
Headlines Help Tell the Story

Without a headline, this map doesn’t mean very much. But a headline can provide the meaning.
Headline A: “How Old Are Louisiana’s Neighborhoods?”

Headline B: “Life Expectancy in New Orleans Depends on Where You Live”
Headlines Explain the Map

Headline A and B both could make sense, given the map.

Your headline is crucial to help people understand it.
Spell Out What the Data Means

• But the headline usually can’t tell the *whole* story.
• After your readers understand the story your map is telling, they will ask, “So what?”
• Make sure your map says or implies that the status quo is a problem. Then package it with a clear call to action on how to fix that problem – make the map part of a report, a press release, fact sheet, etc. Don’t expect it to stand on its own.
Tips for Creating Your Own Data Map

Photo: Dariusz Sankowski via Unsplash
Tips for Creating Your Own Data Map

1. Write down why you’re making the map – what is the point you want to make?

2. Collect the data (in Excel, for example).
   - Make sure it is consistently organized and that every record uses the same units (e.g., all youth arrest rates are shown as (for example) “X arrests per 10,000 people”.
   - In general, you’ll want to make sure there is a ZIP code, county, or address in one of the columns.
3. Decide how you want to summarize the data.
   – E.g., by zip code, county, or state. Don’t lose focus on the point you’re trying to make.

4. Think carefully about your color palette.
   – Contrasting colors will help show stark differences. But use colors that work together and are easy on the eyes. Experiment!
5. Keep labels to a minimum so the map is not overwhelming.

   – Some data points may be better left off the map. E.g., say you want to compare spending by county. Use shades of color on the map to compare county spending generally, but avoid adding a label to each one with the specific dollar amount. Save that for a separate table that accompanies the map.
6. Title your map.
   – Remember step 1. Ideally, the title will spell out the point of your map.

7. Include a date and data source.

8. Make sure you support the map with a call to action – what policy change are you asking for, and how can people help you advocate for it?
Questions?

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