

Measuring the capacity of Maine municipalities to respond to COVID-19

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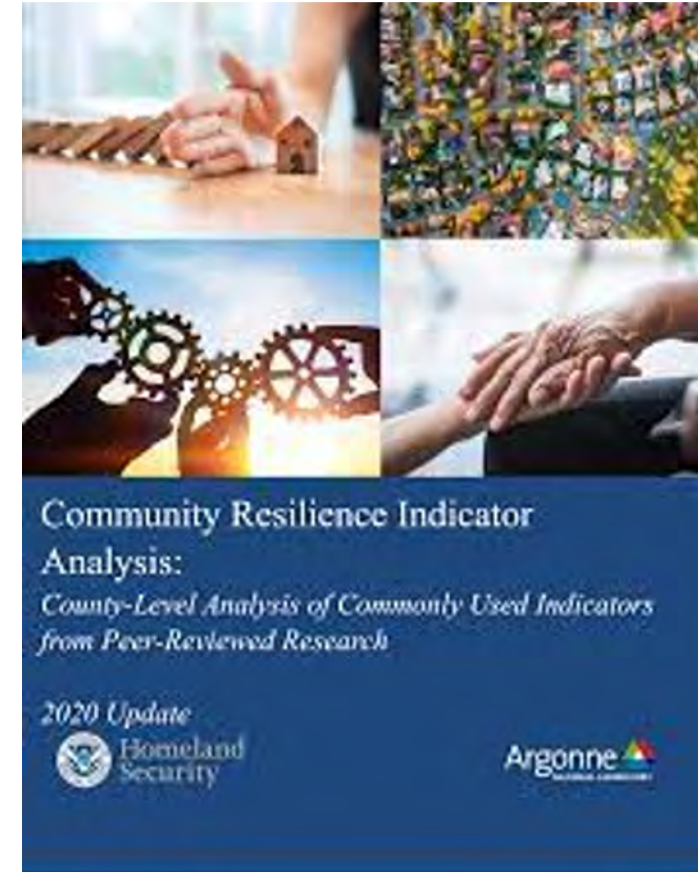
Rural communities are highly impacted by challenges like COVID-19

- Municipal-scale action can provide context-specific responses
- Rural municipalities have less formal governmental structures, limited professional capacity, tight budgets, less access to social services
- **Despite the challenges faced by rural areas, there is less known about what the range of responses looks like in small communities, and if and why some rural areas are better able to address challenges**



Community Resilience theory

- **Resilience:** Ability of a municipality to withstand, respond to and recover from adverse events (Cutter 2016; Saja et al 2018)
- Resilience is the sum of four capacities (Norris et al 2008)
 - economic development
 - social capital
 - community competence
 - information and communication
- Existing research focus on cities or counties, and on predictive indices, with **minimal analysis of real-time responses in rural areas** (Dzigbede et al 2020; Payne et al 2021)
- COVID-19 provided an opportunity to better understand rural capacities to respond to adverse events (Sakurai and Chughtai 2020)



Source: fema.gov

Research question:

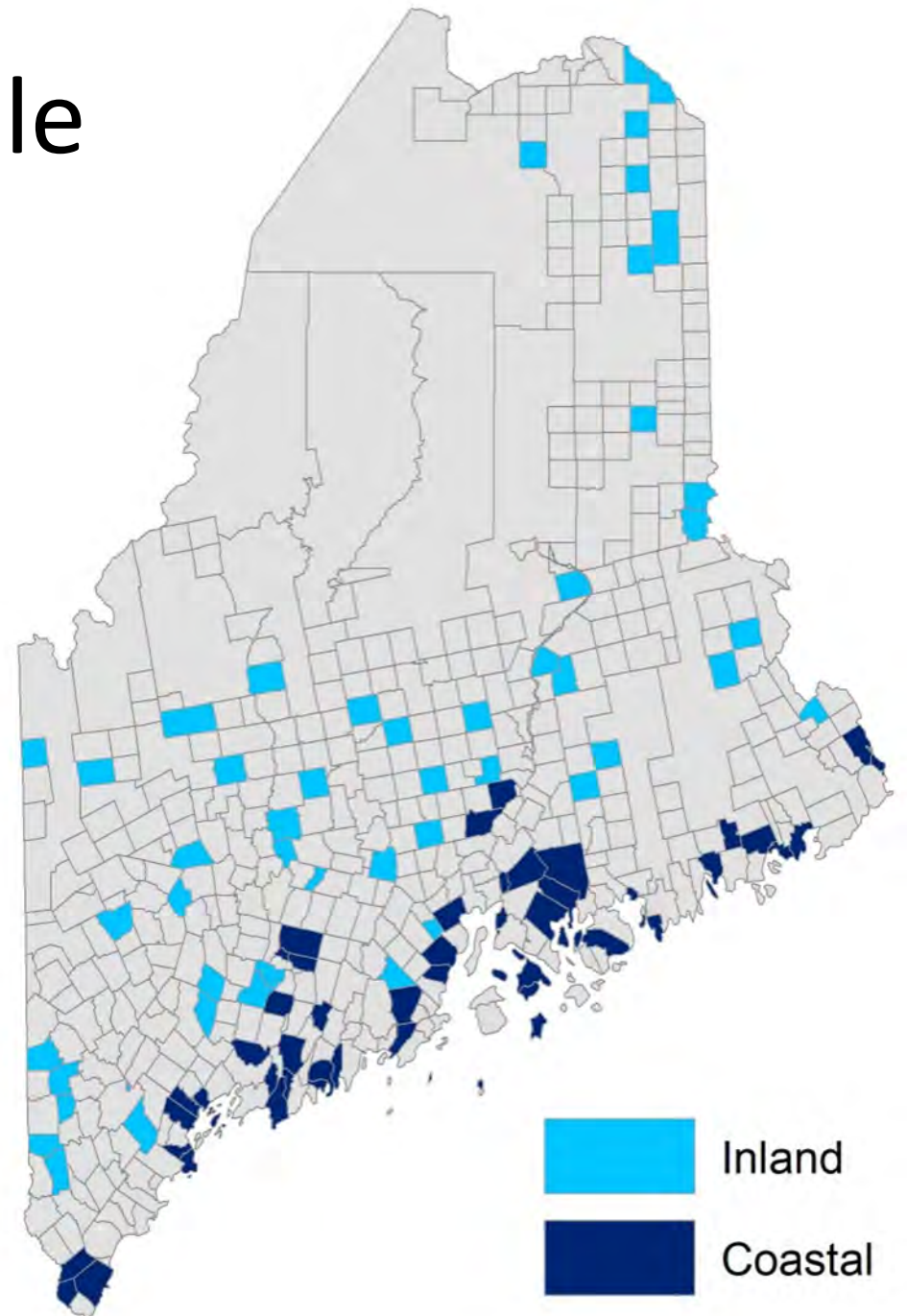
How can real-time measures help us gauge rural capacities to respond to a challenge?

Methods – Municipal Sample

We examined 100 Maine municipalities.

Random proportional sample based on region (50 coastal & 50 inland), subregion, and population size:

- small (<1,000)
- medium (1,000-8,999)
- larger ($\geq 9,000$)



Methods – Engagement with Partners



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- Four organizations that assist Maine municipalities
 - Two full-group meetings + individual conversations ***to identify research questions & actionable deliverables***
 - Final meeting this spring ***to guide final outputs to help advance capacity-building in Maine municipalities***

Mixed methods data collection & analysis

- **Online communications** – Scraped official town website, Facebook posts, newsletters (July 2020 – 50 coast only; July 2021 – 50 coast & 50 inland)
- **Social capital** – Social network analysis of links to external organizations from town websites
- **Funding** – Statistical analysis of which towns applied for and received state Keep Maine Healthy grants for addressing COVID-19
- **Interviews** – Perspectives of municipal officials (10 inland, 10 coastal) – analysis in process
- **Digital Services Inventory** – Analysis of town capacity to provide digital information, service transactions, and citizen engagement – in process

Synthesis of Results

1. Maine municipalities have differential capacity to communicate (formats and content)
2. Maine municipalities have differential capacity and willingness to apply for grant funds
3. Maine municipalities draw on external resources to supplement internal municipal responses

Municipalities have differential capacity to communicate: Formats (Levesque et al. 2021)

Communication Format	Percent of sample
Use of pre-existing town website	64%
Dedicated COVID-19 webpage	44%
Facebook posts re: COVID-19	48%
Letters from elected officials	12%
Letters from professional staff	16%
Letters from school officials	20%
Newsletter re: COVID-19	10%
Use of more than one format	70%



Communication “was primarily online presence, the webpage and Facebook. We did put some signs out at the post office and we used an old fashioned letterboard, but one of the big obstacles was being able to communicate with [residents] directly.”
 -medium inland town

Municipalities have differential capacity to communicate: Content (Levesque et al. 2021)

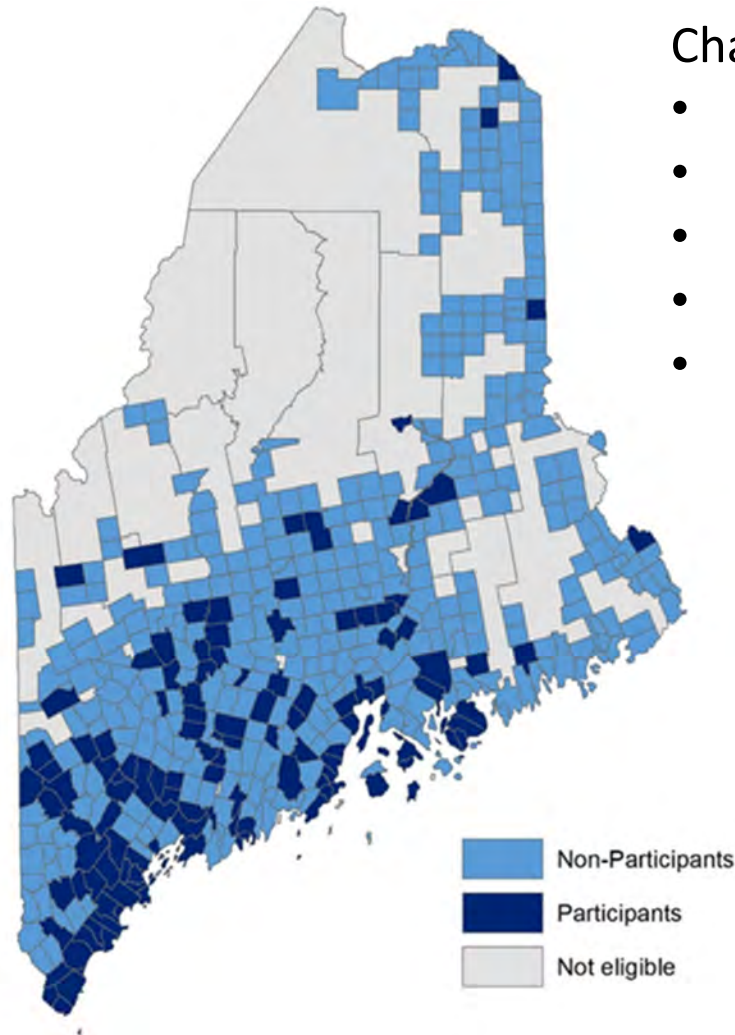
Prevalence	Topic
Most common (40-50 towns)	<ul style="list-style-type: none"> • Town operations • Health impacts
Common (30-39 towns)	<ul style="list-style-type: none"> • Links to external guidance • How residents can get town information • Basic needs (food security & housing) • School impacts • Social capital/how to stay connected
Less common (20-29 towns)	<ul style="list-style-type: none"> • Nature and outdoor recreation • Voting under COVID restrictions • Mental health guidance
Least common (10 –19 towns)	<ul style="list-style-type: none"> • Local economic issues • Collaborative efforts with other entities • Tourism guidance • Equity

“The social media pages...were all Covid for awhile... we didn't want to be seen as trying to hold back information, so it was hard to kind of balance out when was too much and when was too little.”

- medium coastal town



Municipalities had differential capacity and willingness to apply for Keep Maine Healthy grant funds



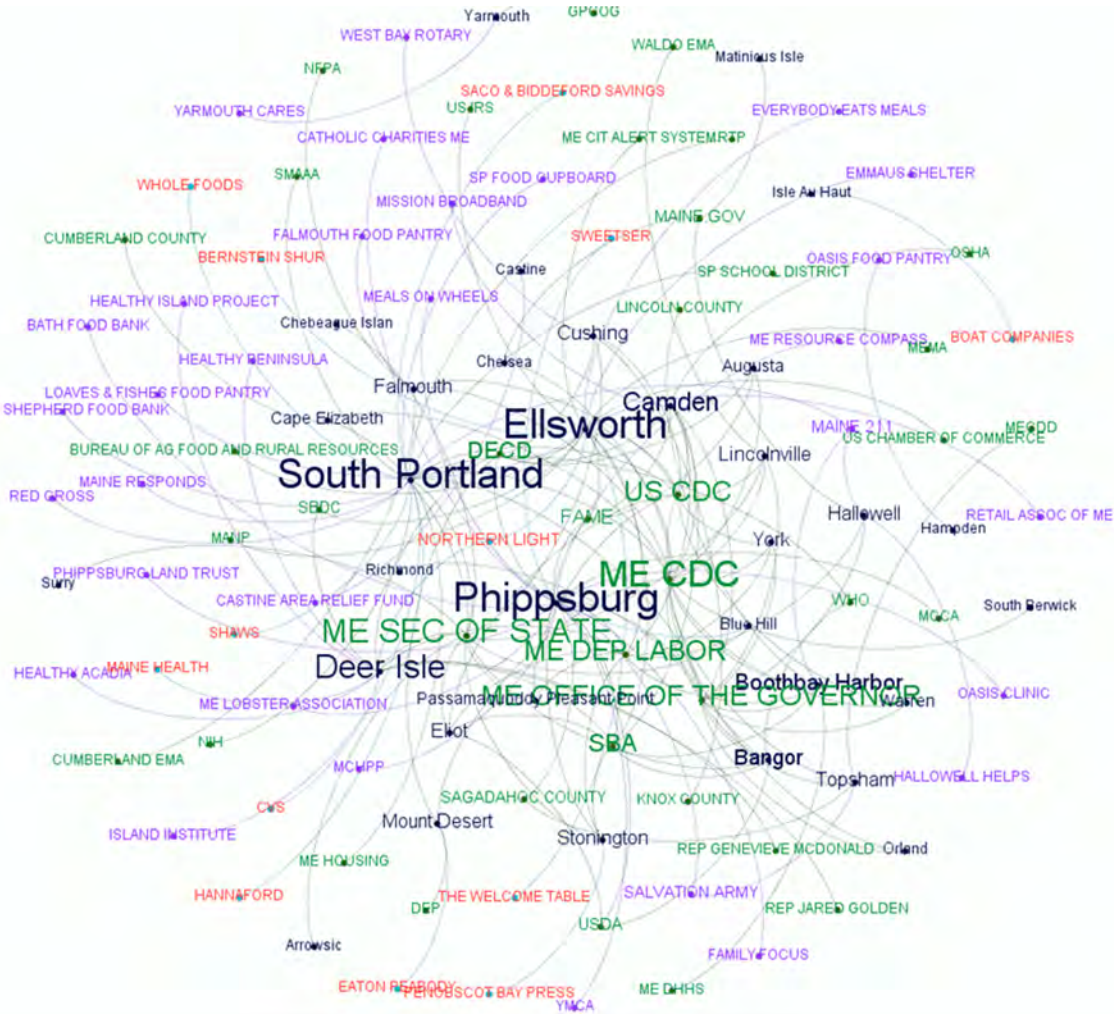
Characteristics of participating municipalities:

- Larger
- Closer to cities and the coast
- Higher average income and educational attainment
- More formal governments
- More COVID-19 cases

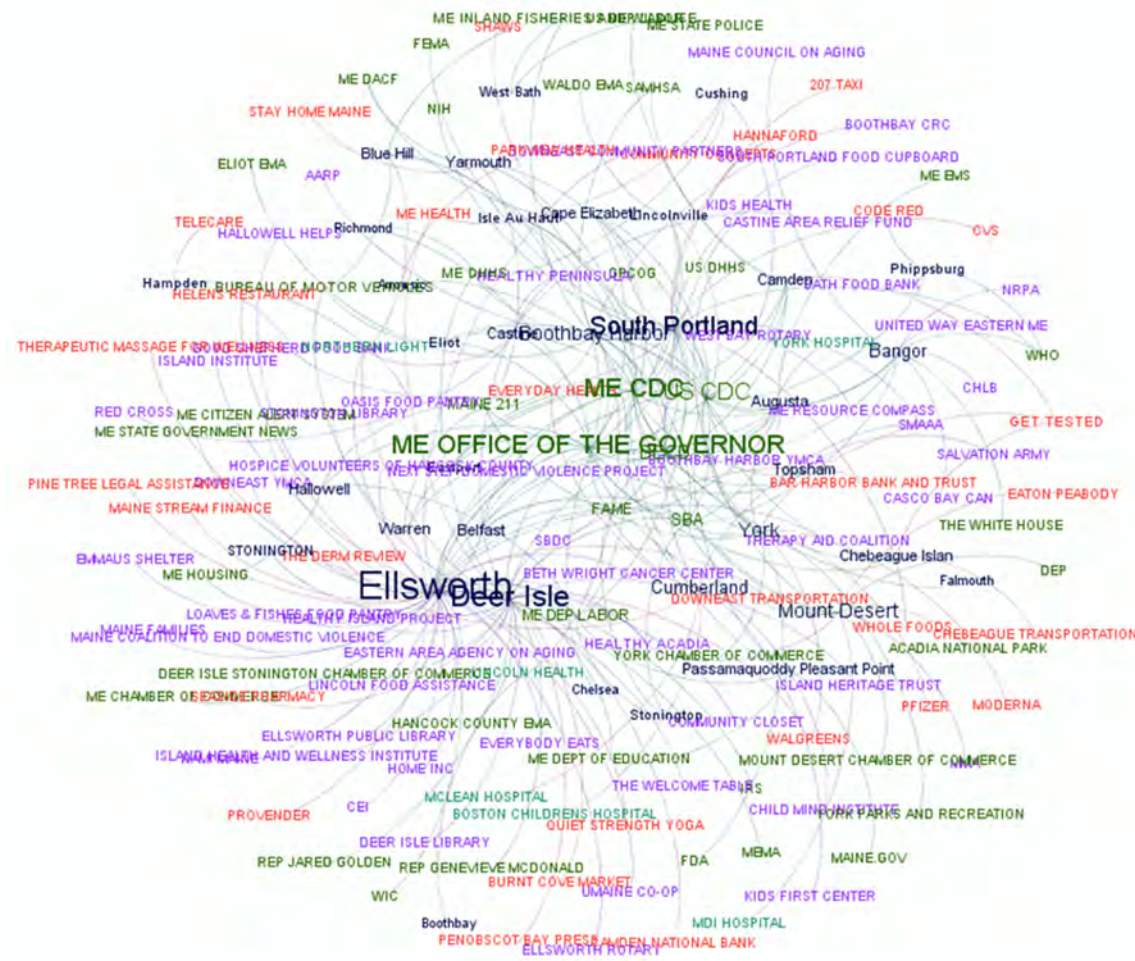
“Everything seems geared towards cities...so folks are looking at it, saying, well I don't think I'm eligible. And there wasn't any good level of communication from the state that explained that you could think creatively...I should have gone bigger because that first round was far less competitive.”

-medium inland town

Outside resources supplement internal municipal responses

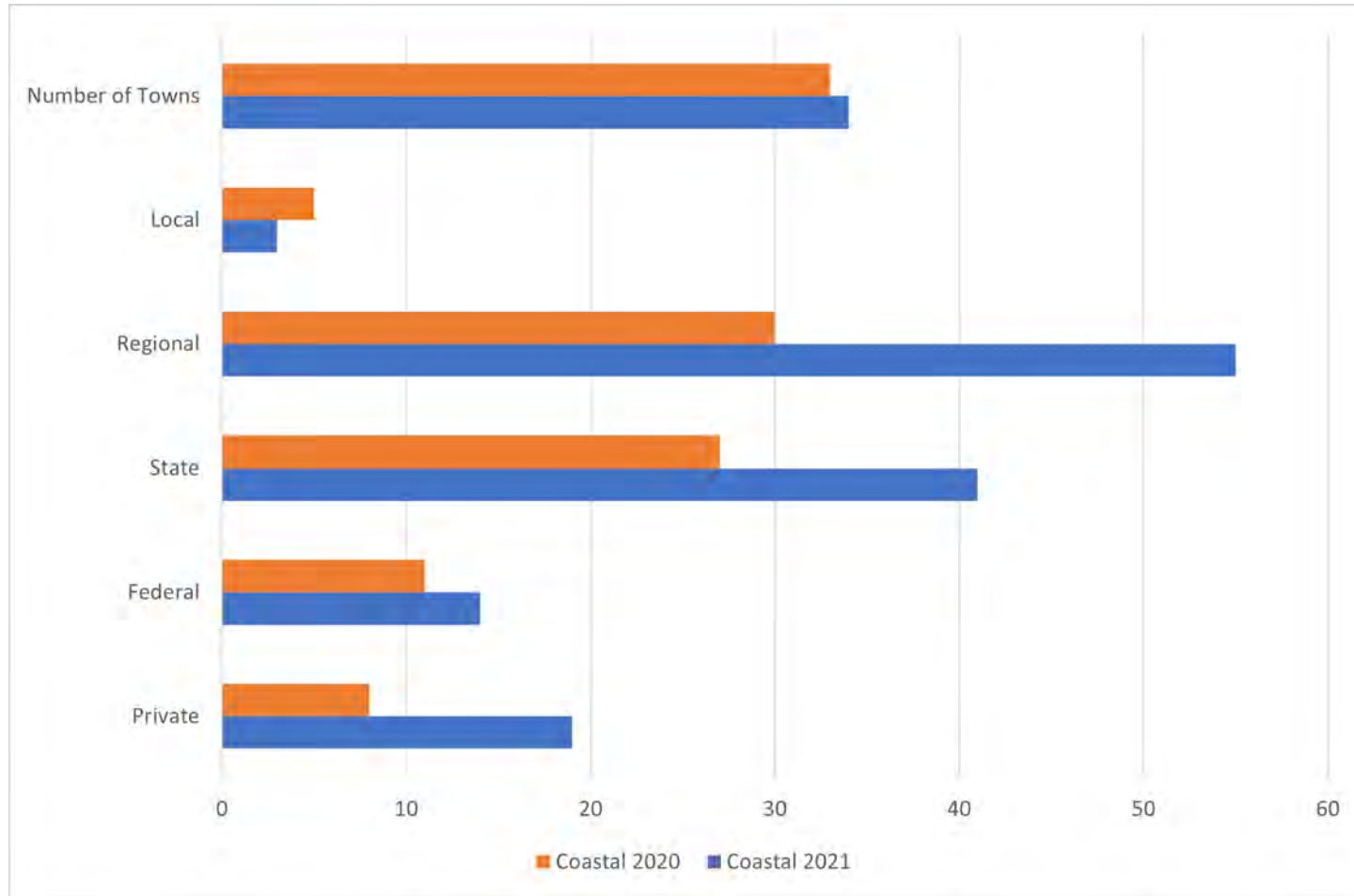


Coastal Communities **2020** (34 towns)
Average # of connections: 5



Coastal Communities **2021** (35 towns)
Average # of connections : 7

Increased connections to regional & state resources over time

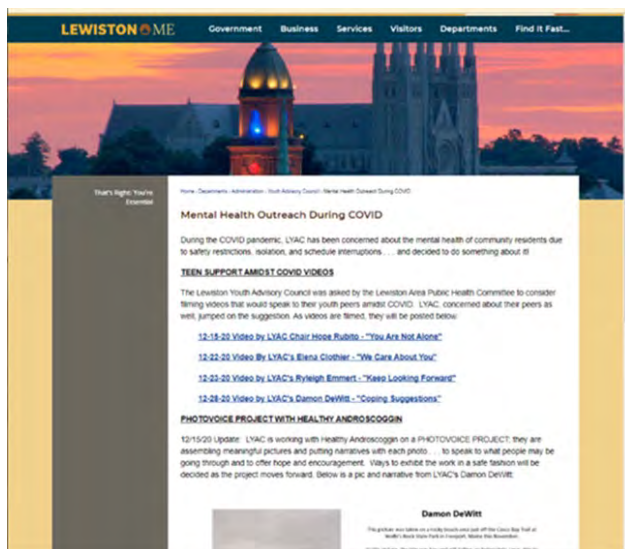


“We focused our social media attention to respond to the pandemic and solidified our website. I think the partnerships that we had in place...amongst our city departments and the partnerships that they had with outside groups made it substantially easier for us.”
- large inland town

Discussion

How do real-time measures help us gauge rural capacities to respond to a challenge?

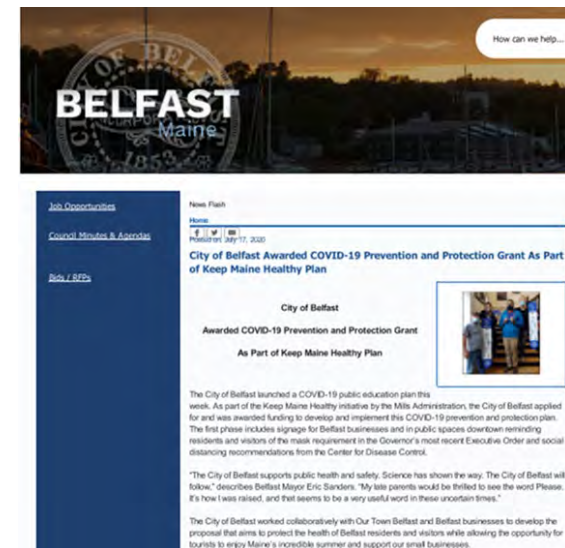
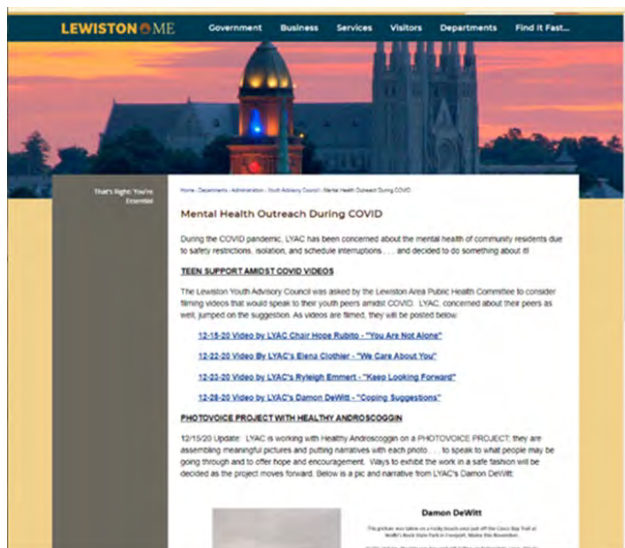
- Allow assessment of actual resilience actions (complements predictive indices)



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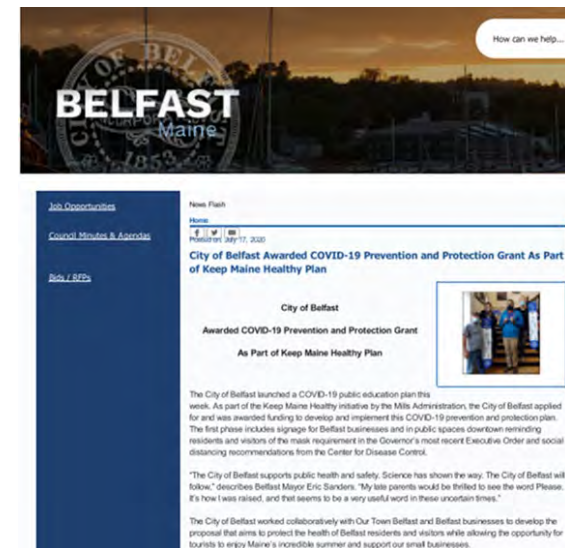
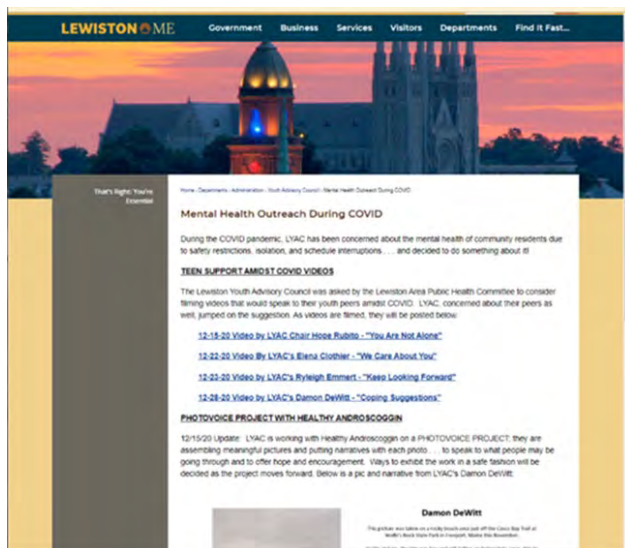
- Allow assessment of actual resilience actions (complements predictive indices)
- Assess capacity to quickly draw on a range of existing resources and organizations
- Assess capacity to adapt responses over time



Discussion

How do real-time measures help us gauge rural capacities to respond to a challenge?

- Allow assessment of actual resilience actions (complements predictive indices)
- Assess capacity to quickly draw on a range of existing resources and organizations
- Assess capacity to adapt responses over time
- Allow nuanced understanding of variation among rural communities



Implications

1. Measure & support all four resilience capacities (Norris et al 2008; Payne et al 2021)
 - Economic development – e.g., Enhance municipal staff capacity
 - Social capital – e.g., Support leveraging existing resources
 - Community competence –e.g., Support public forums and collaborations in digital spaces
 - Information & communication – e.g., Support infrastructure and expertise for a range of digital services
2. Provide a range of capacity-building supports rather than one-size-fits-all solutions
 - Tailor resilience building to the unique strengths and limitations of a community

References

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Thank you! Questions?

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Levesque, Vanessa R., Eileen S. Johnson, and Kathleen Bell. "Municipal Capacity to Respond to COVID-19: Implications for Improving Community Resilience in Maine." *Maine Policy Review* 30.2 (2021): 62 -71, <https://digitalcommons.library.umaine.edu/mpr/vol30/iss2/8>

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