

Rising to the challenge: Learning about community resilience from municipal actions in Maine

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MSWC Conference | Augusta, ME | 30 March 2023



Bowdoin

Municipal governments are navigating demographic, environmental, economic, and public health changes.



"In some sense, communities are only as strong as their local governments; their fortunes are intertwined. We know quite a bit about the social and economic conditions of communities. But there is far less information available about local governments, particularly in rural areas (Lobao and Kelly 2021, p. 83)."

Community resilience involves applying 4 adaptive capacities to withstand, respond, and recover from change (Norris et al. 2008).



**Community
competence**



**Information &
communication**



**Social
capital**



**Economic
development**

Learning about community resilience from municipal actions

- **Build on foundational community resilience research to accelerate and broaden insights**
(Norris et al. 2008, Cutter et al. 2008, Pfefferbaum et al. 2013)
- **Give attention to smaller communities and comparisons of smaller and larger municipalities instead of comparisons of large cities and counties**
(Collins et al. 2016; Feeney et al., 2020, Flora and Flora 2013, Hall 2010, Lobao and Kelly 2019)
- **Focus on relatively under-studied adaptive capacity of community competence at the municipal scale**
 - Community population size
 - Form of government
(Sherrieb et al. 2010, Epstein et al. 2022, Dias 2020, Hall 2010, Lobao and Kelly 2021)

Research questions

How, if at all, do community competencies/capacities influence municipal resilience actions?

- 1) **How, if at all, is community population size associated with municipal resilience actions?**
- 2) **How, if at all, is form of government associated with municipal resilience actions?**

2 municipal "resilience" actions during COVID-19



- 1) **Participation in the Keep Maine Healthy (KMH) Grant Program**
 - **Tracked participation and funding received by all municipal governments**
(Hall 2008, 2010, Collins and Gerber 2006, Collins et al. 2016)

- 2) **Provision of digital or e-government services**
 - **Tracked 20 digital services provided by a sample of 100 municipal governments & created a summative DSI score**
(Epstein 2022, Feeney et al., 2020, Dias 2020, Puron-Cid et al. 2022)

Keep Maine Healthy Grant Program launched in June of 2020 to support local public health and COVID-19 prevention activities

Mills Administration Unveils “Keep Maine Healthy” Plan to Protect Maine People, Visitors & Support Small Businesses During Tourism Season

June 8, 2020



Public education



Physical distancing and public health support



Business support

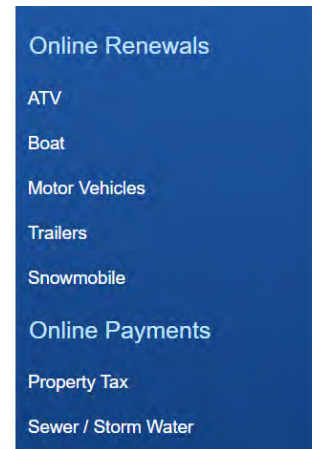
Digital services became critical for many municipalities during COVID-19.



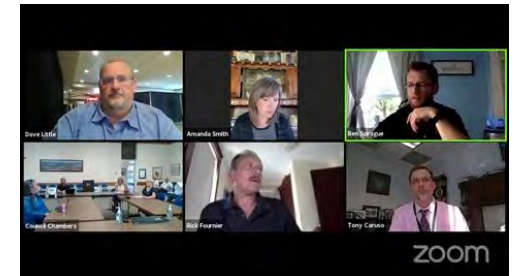
Digital communication platforms



Digital information

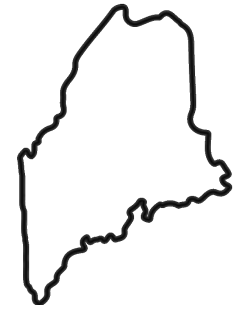


Digital transactions



E-participation

Samples and data



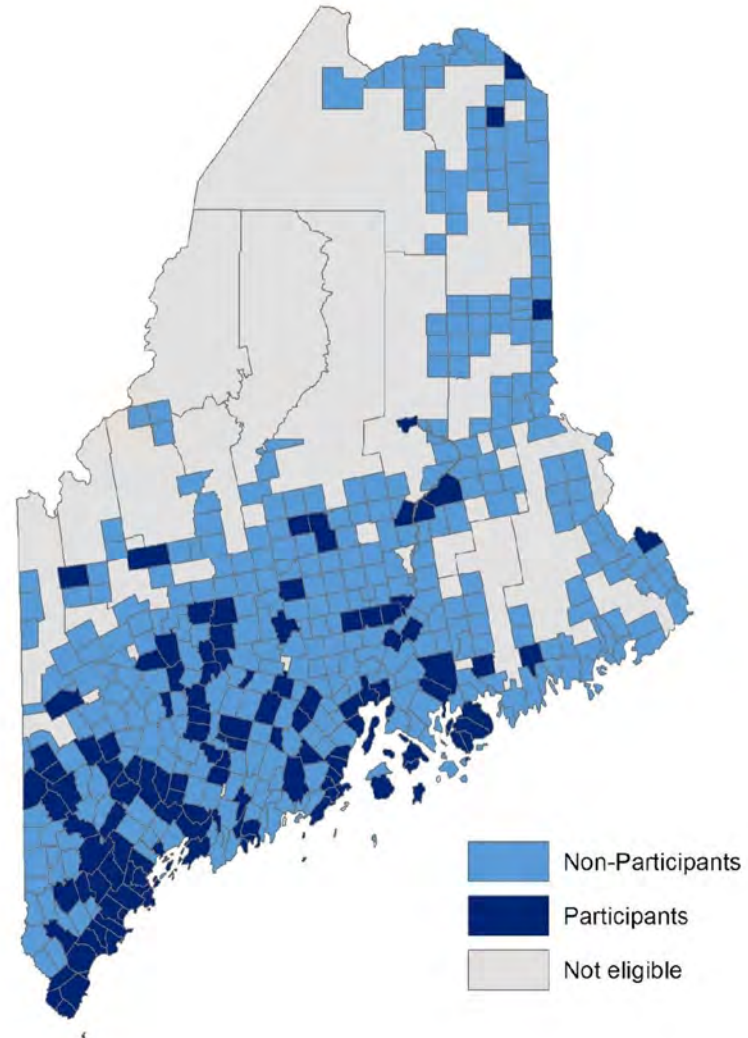
- **Municipal samples**
 - ***Keep Maine Healthy* (KMH) Grant Program Participation (n=487)**
 - **Digital Services Score (DSI Score) (n=100; random proportional based on govt and pop size categories)***
- **Data sources**
 - **Primary municipal data (Digital services inventory, communications)**
 - **Secondary municipal data (Maine Municipal Association, Maine CDC, MEGIS, USDA ERS, US Census Bureau ACS and Local Govt.)**
 - **Interviews with 20 municipal officials, subset of 100 municipalities**

Used an exploratory mixed methods approach for analysis

- **Quantitative analysis: Conducted visual and statistical analyses**
 - Mapping
 - Statistical testing
 - Statistical modeling
 - KMH Program (Binary probit model)
 - DSI Score (Count regression model)
- **Qualitative analysis: Coded transcribed interviews using an inductive approach to identify emergent themes**

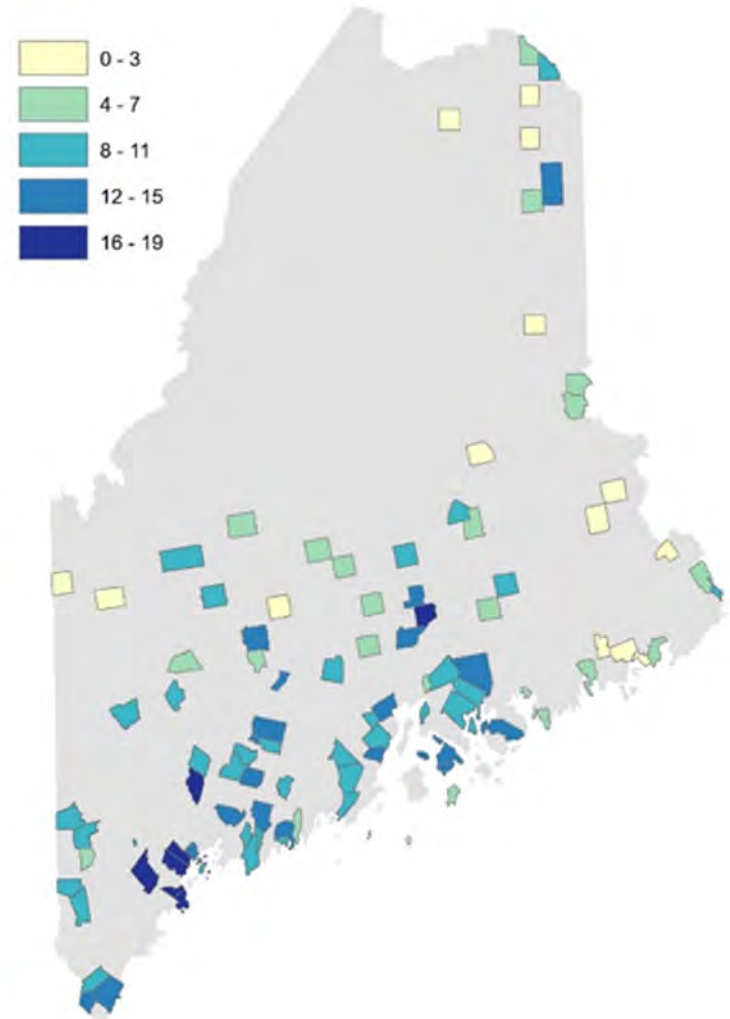
Who participated in the KMH program ?

134 municipalities (and 4 tribal nations) participated in the KMH program (\$13 million dollars awarded)

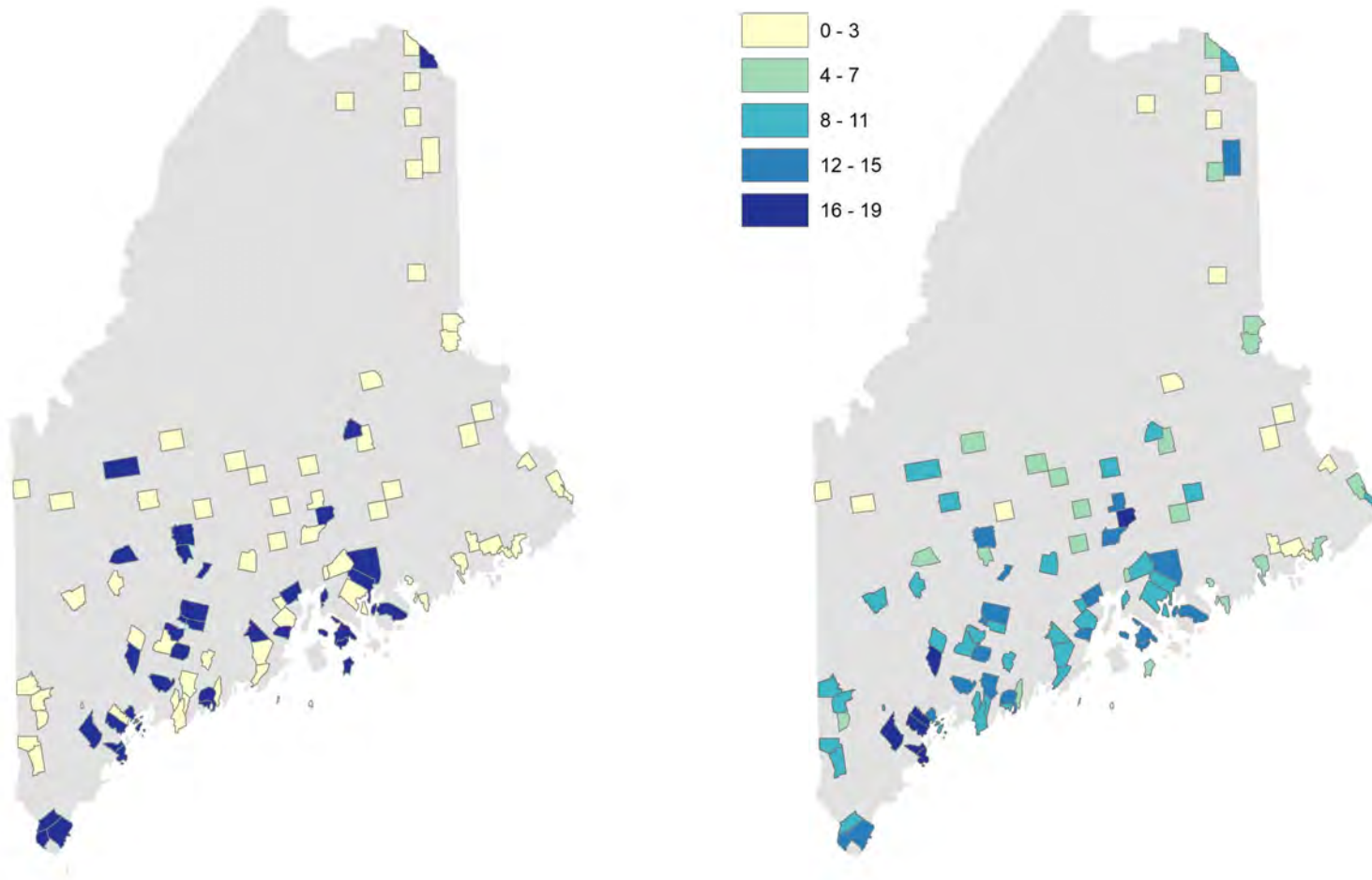


Who provided digital services ?

97 of 100 municipalities provided some level of digital services, with an average score of 8.65 out of 20



Comparing KMH and DSI Scores (n=100)



RQ 1) Community population size is positively associated with municipal resilience action

- Found a **positive association** between population size, KMH program participation, and DSI score
- Revealed **emergent themes**
 - Staffing size, capacity, and funding
 - Grant writing, administration, and reporting capacity
 - Digital capacity
 - Partnership capacity
 - Access to technology such as broadband

"We are lucky enough that we have a grant writer that's constantly looking for grants, but I know that's not always the case."

"We did not add anything new, we didn't have the capabilities of adding anything new, and we really struggled with anything new that would be productive and was cost effective."

RQ2) Representative forms of government are positively associated with municipal resilience action

- Found a **positive association** between more representative forms of government with KMH participation and DSI score
 - Non town-meeting only, administrator, manager, mayor
- Revealed **emergent themes**
 - Staffing levels and capacity
 - Funding processes
 - Flexibility

"I can apply for the money, our select board and myself can receive the money but we can't spend the money because it's a new budget item. We can't spend the money without going to the town for a vote."

"No longer did I need to make the case that, 'hey it'd be great to update our paper-based systems where people have to come into the office and pay their property taxes to an online system'. It's just really nice that [COVID-19] sort of made that point for me.... so many other systems that we had to move to be remote and online....all of a sudden it's kind of thrust in the spotlight and it's like no, you have to modernize. It's been great for that, and I think that's going to have many benefits for years to come."

Discussion – Beyond averages: how to increase learning from expected and unexpected municipal resilience actions?

- **Encouraged that our statistical findings align with prior research** Epstein et al. 2022, Dias 2020, Hall 2010, Lobao and Kelly 2021
- **See value in moving beyond averages**
 - **Continue mixed methods approaches to capture nuances**
 - **Report on a range of community resilience actions**
 - **Celebrate unexpected actions**

Discussion – How to measure and interpret municipal resilience actions?

- **Enthused by our findings and application of the community resilience framework** Norris et al. 2008
- **Recognize opportunities for improved measures and careful interpretation**
 - **Evaluate resilience actions over time (momentum)**
 - **Make space for intermediate steps and refined measures of resilience**
 - **Improve data on municipal government capacity**

Rising to the challenge - What did we learn?

- 1) Maine municipal governments are rising to the challenge. We can learn from expected and unexpected municipal governments demonstrating resilience actions.**
- 2) Maine municipal government capacities vary generally and this influences how they respond to change.**
- 3) Maine municipal governments face a variety of cultural and technological barriers that appear to influence how they respond to change.**

Reflections & Implications

- **Enthused by interest in our work by partner organizations that serve municipalities in Maine**
 - **Potential implications for rural community capacity strengthening programs & funding programs**
 - **Tailor programs to different audiences, including by municipal government structure and community size**
 - **Provide technical assistance throughout the lifecycle of grants and other programs**
 - **Think broadly about capacities, not just technology**
- **Celebrate leaders**

Next steps and future work

- **Getting feedback from stakeholder partners**



- **Planning future project(s)**
 - **Assessing interplay between 4 adaptive capacities**
 - **Expanding and refining our set of municipal resilience actions (e.g., ME Community Resilience Partnership, Migration)**
 - **Moving beyond municipal governments**

Acknowledgements



Maine Agriculture and
Forest Experiment
Station, University of
Maine



Special thanks to our full team of undergraduate research assistants: Ben Cotton (University of Maine), Annie Coburn (University of Southern Maine), Asrai Brainerd (University of Maine), Afton Trotter (University of Southern Maine), Tamra Benson (University of Maine), and Kasey Cunningham (Bowdoin College)



Thank you ! Questions? Suggestions Welcome.



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