

Project ECHO: Impact Evaluation Results

Anna Solmeyer, PhD | Research Scientist

Aaron Berger, PhD, MPH | Research Scientist

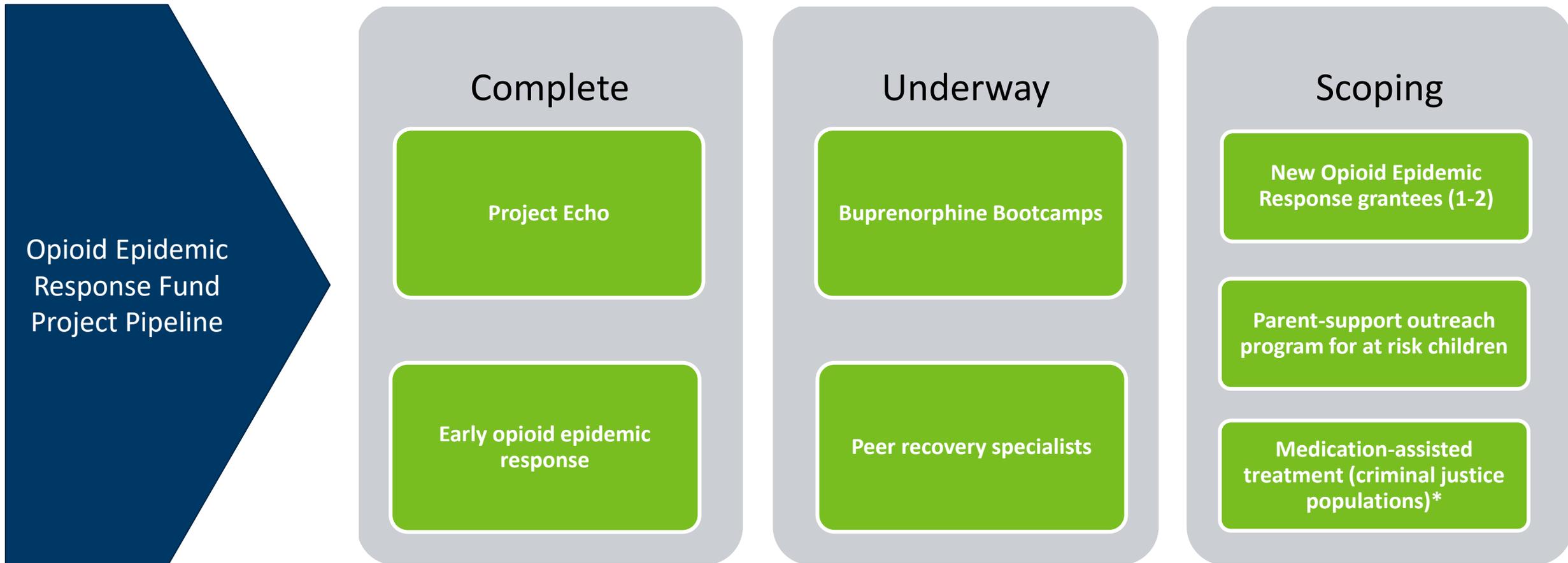
Weston Merrick, PhD | Senior Manager, Impact Evaluation Unit

Thank you!

- ECHO hubs
 - St. Gabriel's (now at MEnD Recovery Services): Dr. Heather Bell, Dr. Kurt Devine, Katie Stangl
 - Hennepin: Dr. Brian Grahan, Dr. Gavin Bart, Beth Ryan
- DHS: Ellie Garrett, Health Care Research and Quality division
- MDH: Dana Farley, Catherine Diamond
- University of New Mexico: Dr. Yiliang Zhu and Jessica Reno

Impact Evaluation: Role & project pipeline

MMB's Impact Evaluation is tasked with evaluating the causal impact (and for whom) of investments made from the Opioid Epidemic Response Fund.



- Providers who attended one or more ECHO sessions were substantially more likely to:
 - Obtain a DATA-waiver to prescribe buprenorphine
 - Write at least one buprenorphine prescription
 - Prescribe MOUD to a higher percentage of their patients with a history of OUD
- Patients who saw ECHO-trained providers were more likely to:
 - Receive buprenorphine
 - Receive any form of MOUD (buprenorphine, naltrexone, or methadone)

Where we've been...



2020



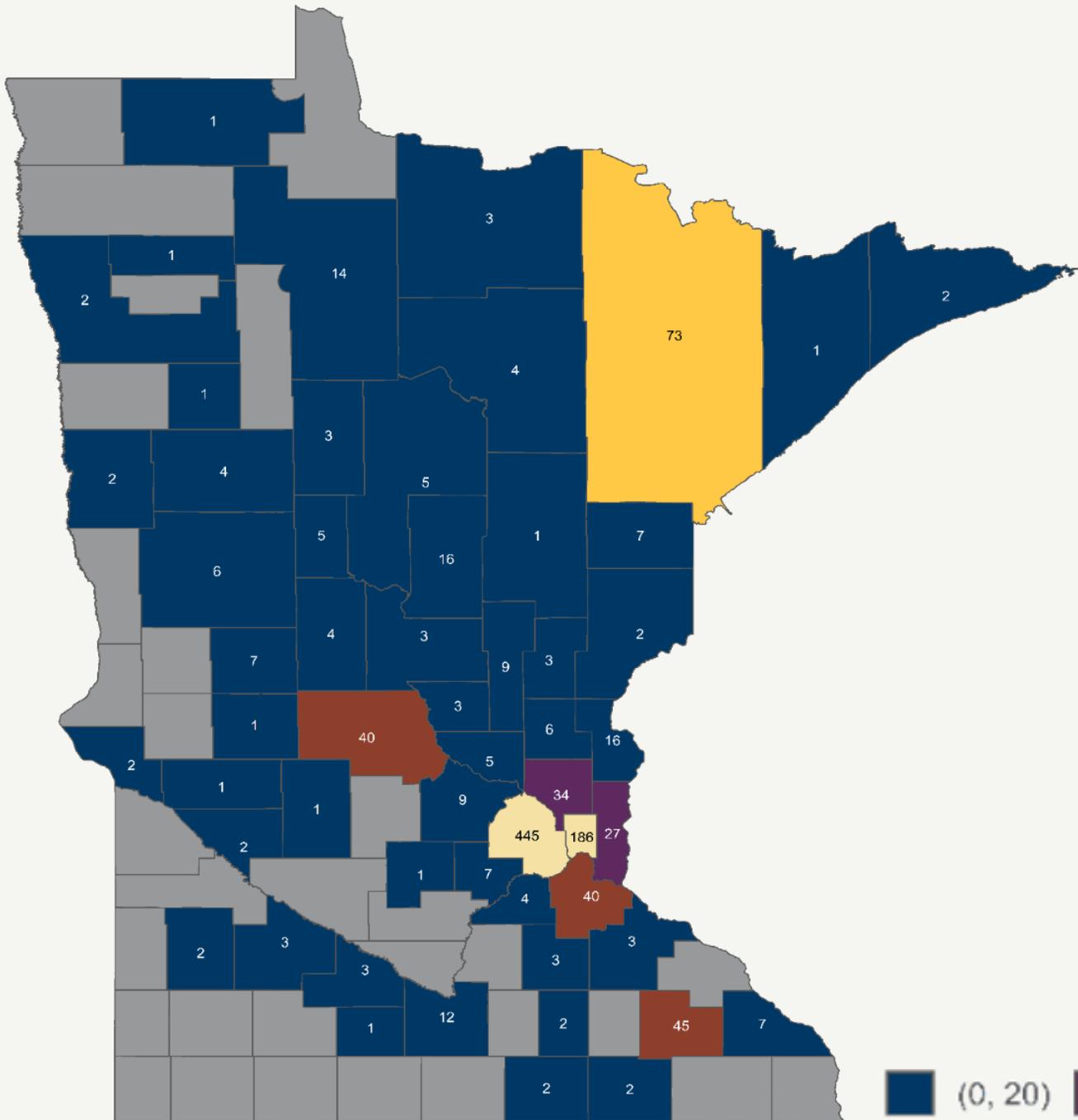
2021



Fighting the opioid epidemic

- Opioid-involved deaths and overdoses have been increasing since late 1990s
- A range of prevention, treatment, and recovery resources are needed
- Medications for Opioid Use Disorder (MOUD*) are proven effective for treating OUD, but there are barriers to access

Medication	Effective	Available in primary care	Barriers
Methadone	✓	X	Only 16 in Minnesota
Naltrexone	✓	✓	Non-adherence, detox required
Buprenorphine	✓	✓	Waiver required



- 4.6% (1,094) of Minnesota’s prescribers had a waiver in 2020
- 31 counties had no waived providers (grey)
- The state is funding multiple initiatives to expand capacity for and improve the quality of MOUD, including Project ECHO



- Interdisciplinary team (“hub”) connects with primary care teams (“spokes”) through weekly videoconferences for case-based learning
- Hubs provide training and mentoring for providers located in rural, underserved, or remote areas and those who have not been specially trained to treat OUD
- Attendance is voluntary and providers can attend as many sessions as they choose
- For the two hubs in this evaluation, topics include things like obtaining a waiver, best practices in prescribing buprenorphine, tapering opioid prescriptions, and pain management

DHS opioid ECHO hub funding, 2017-2021

Hub name	Primary focus	Year started	Funding source (years)	Amount	Total funding
Hennepin Healthcare	MOUD	2018	STR (2017-2019)	\$1,025,000	\$1,495,000
			SOR (2019-2020)	\$250,000	
			OER (2020-2021; direct appropriation in bill)	\$220,000	
St. Gabriel's/MEnD Recovery	MOUD	2018	STR (2017-2019)	\$293,000	\$842,000
			SOR (2019-2020)	\$249,000	
			OER (2020; direct appropriation from council)	\$100,000	
			OER (2020; direct appropriation in bill)	\$200,000	
Wayside Recovery	Peer recovery; women and mothers	2018	STR (2017-2019)	\$296,000	\$1,829,241
			SOR (2019-2020)	\$1,103,000	
			OER (2020; direct appropriation from council)	\$200,000	
			SOR (2020-2022)	\$230,241	
Midwest Tribal	MOUD; culturally-responsive SUD treatment	2020	SOR (2019-2020)	\$275,000	\$387,000
			OER (2020; direct appropriation from council)	\$112,000	
Stratis Health	MOUD	2021	SOR (2020-2022)	\$424,501	\$624,501
			OER (2021; RFP)	\$200,000	

- STR: State-Targeted Response
- SOR: State Opioid Response
- OER: Opioid Epidemic Response

Research questions and outcome measures

Research questions	Outcomes
<p>1. Does attending one or more ECHO sessions change the likelihood of providers' relevant outcomes, relative to like providers that did not attend any ECHO sessions?</p> <p>a. Exploratory question: Does the number of ECHO sessions a provider attends affect their outcomes?</p>	Waiver status (yes/no)
	Active use of waiver (1+ bup prescription)
	% of OUD patients with bup. prescriptions
	% of OUD patients with MOUD
	Opioid prescriptions (MMEs)
	High-dose opioid prescriptions (> 90 MMEs)
<p>2. Does being treated by a provider who attended at least one ECHO session change patients' likelihood of relevant outcomes, relative to patients treated by providers who did not attend any ECHO sessions?</p>	Receives buprenorphine prescription (yes/no)
	Receives MOUD (yes/no)
	Receives medical care for nonfatal opioid overdose (yes/no)

- Study period: January 1, 2018 through June 30, 2020
- Follow-up periods: 6, 12, and 18 months after study enrollment
- We used propensity score matching and inverse probability of treatment weighting to create comparison groups of providers and patients as similar as possible to the ECHO providers and patients in the baseline period
- Intent-to-treat design, looking at changes over time in the two groups (difference-in-differences analysis)
- Data sources: Medicaid claims data, DEA data on provider waivers, ECHO hub program data

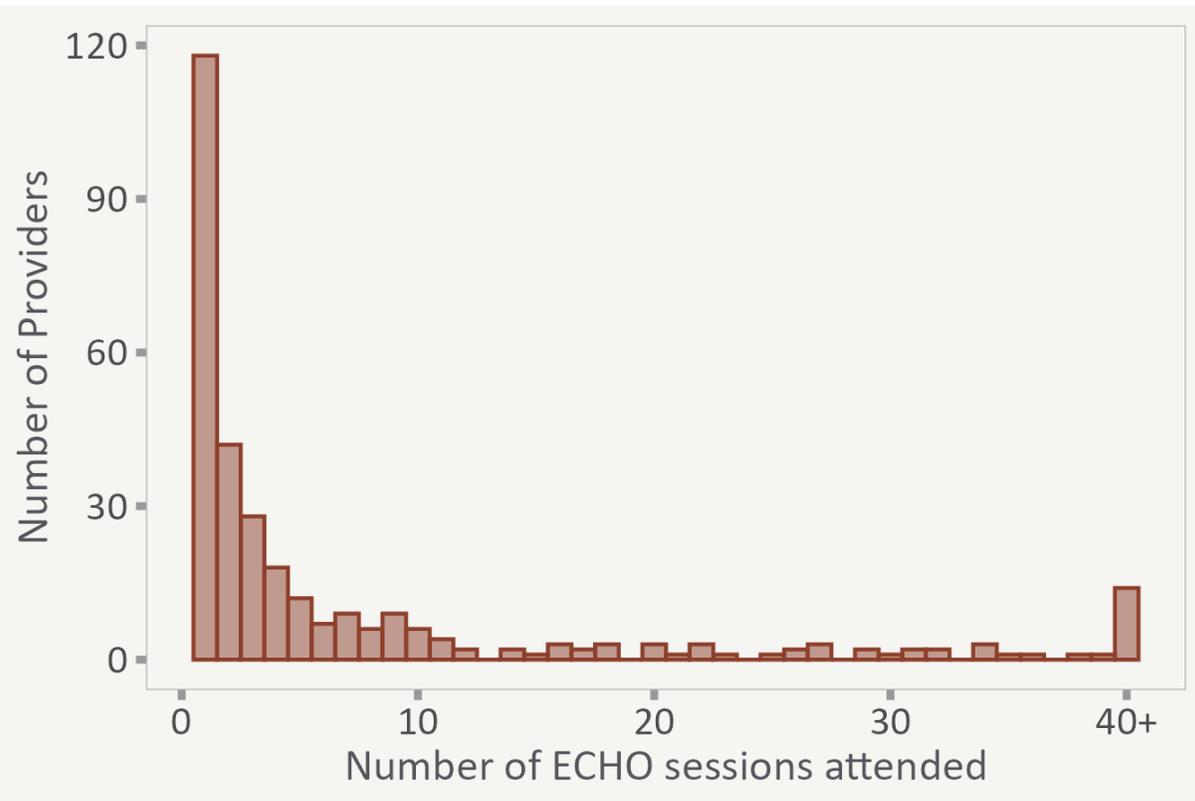
Study sample

- Providers
 - Primary care MDs, PAs, NPs, or CNSs
 - Saw 1+ Medicaid patient(s)
- Patients
 - Treated by ECHO or comparison provider during study period
 - 18 years or older
 - OUD diagnosis prior to study enrollment date

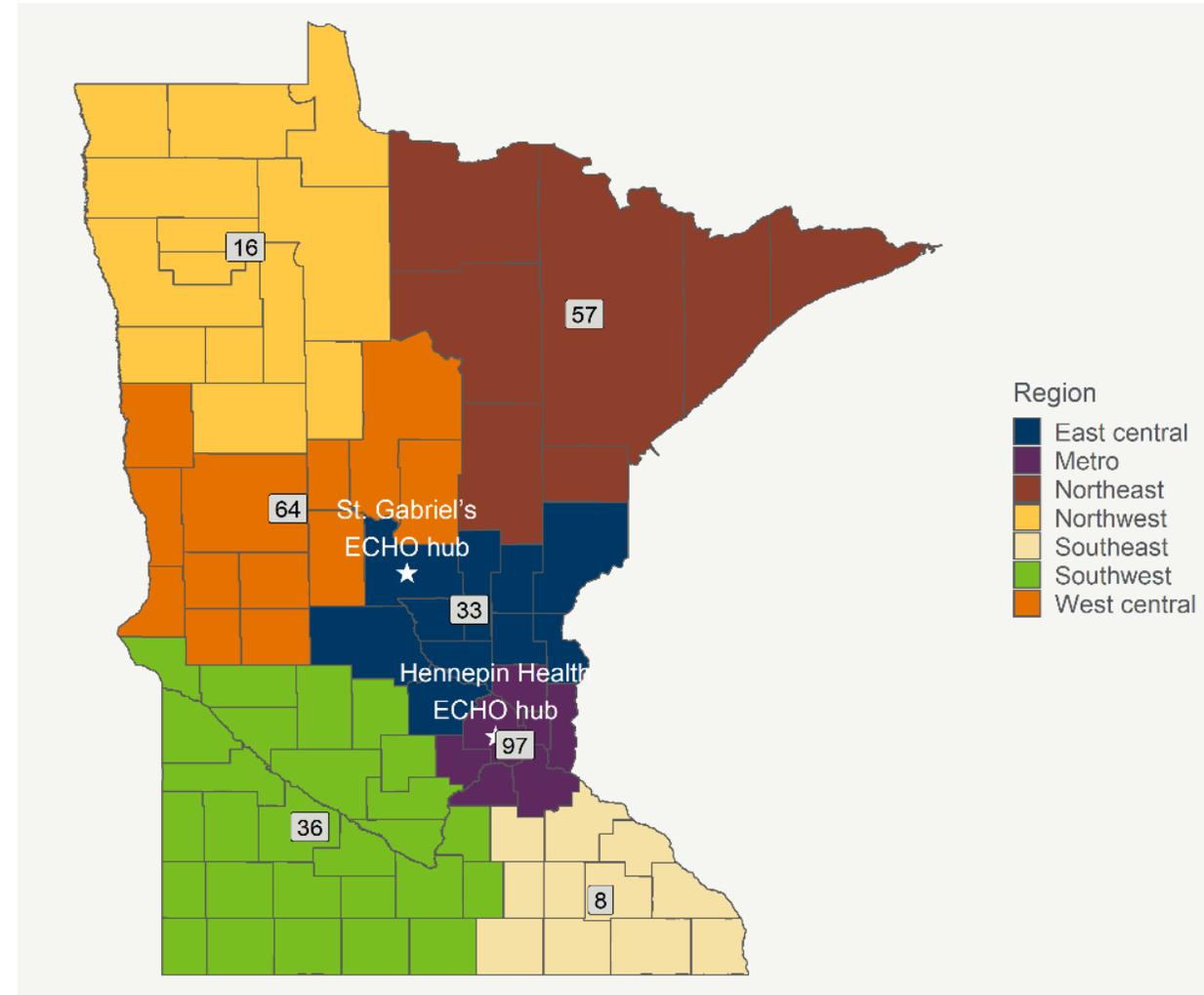
	Providers	Patients
ECHO group	314	9,327
Comparison group	628	13,399

Results: Descriptive information

Number of ECHO sessions attended by final sample
(mean = 8, SD = 15; 38% attended 1 session)

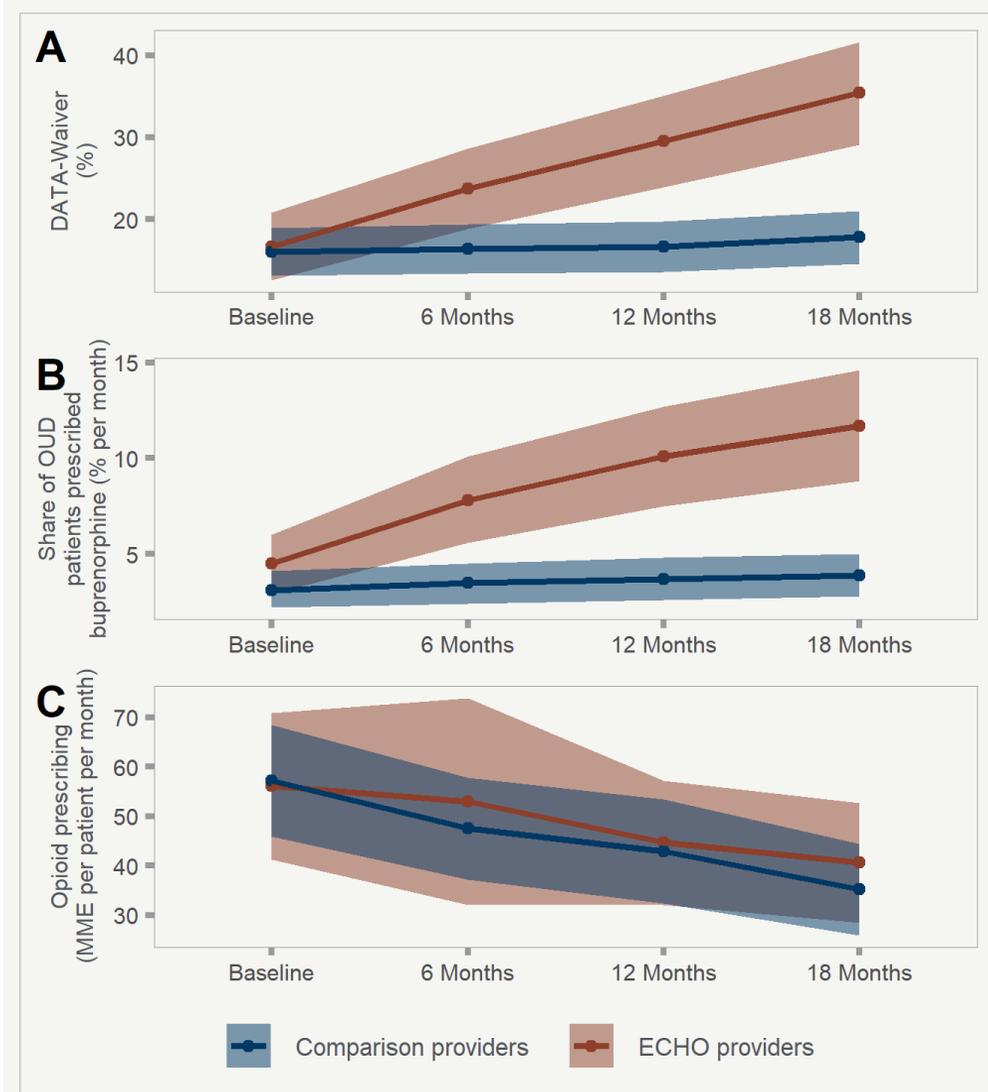


Location of ECHO providers in final sample

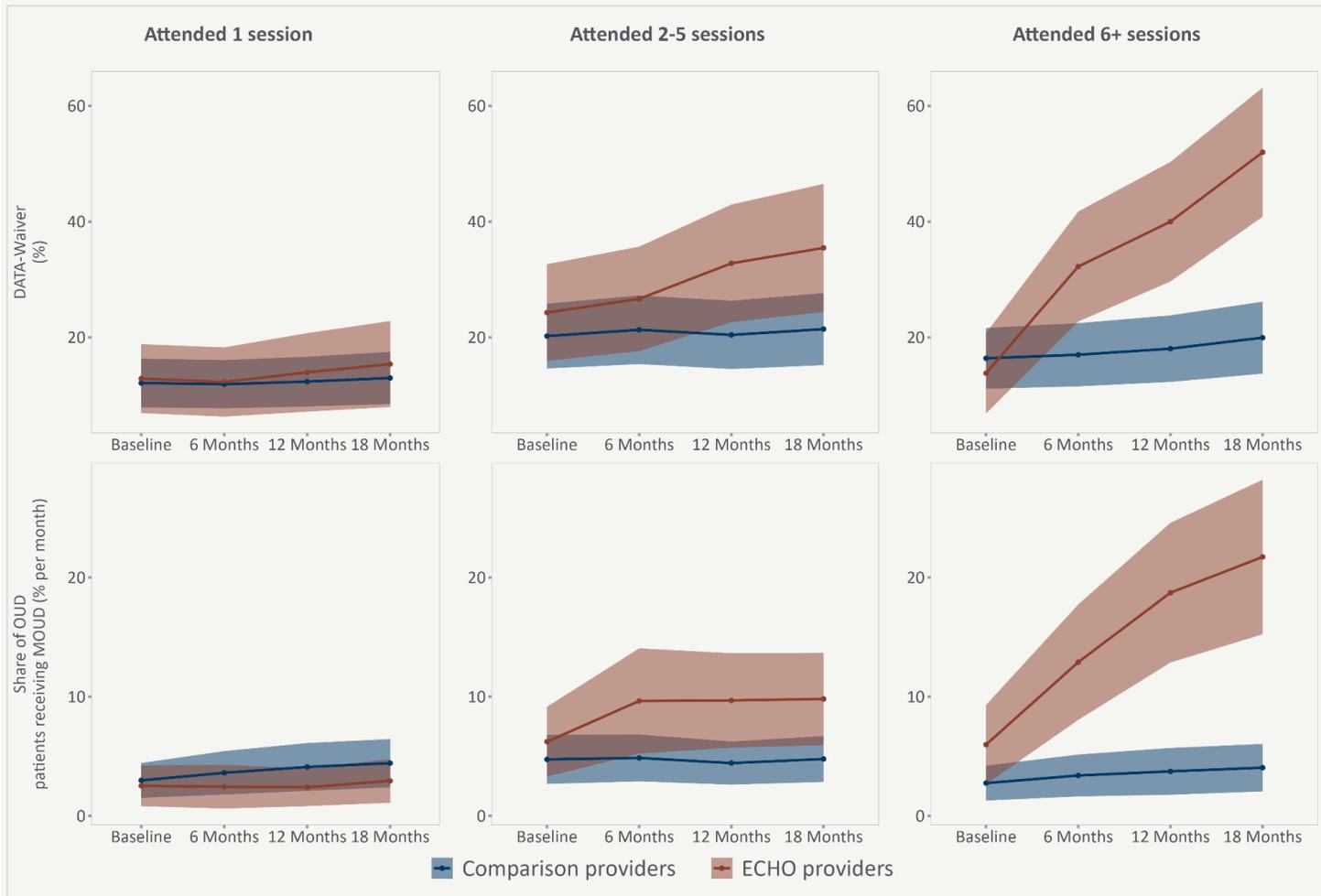


Results: Provider outcomes

- Waivers increased by nearly 17% over 18 months as a result of ECHO (Panel A)
 - Comparison providers: observed 112 waivers; if same as ECHO providers would be 217
- ECHO caused providers to prescribe bup. for 6.5 more OUD patients per 100 per month (Panel B)
 - Comparison providers: observed 248 bup prescriptions per month; if same as ECHO would be 661
- No impacts on opioid MMEs or high-dose opioid scripts (general downward trend observed in both groups; Panel C)

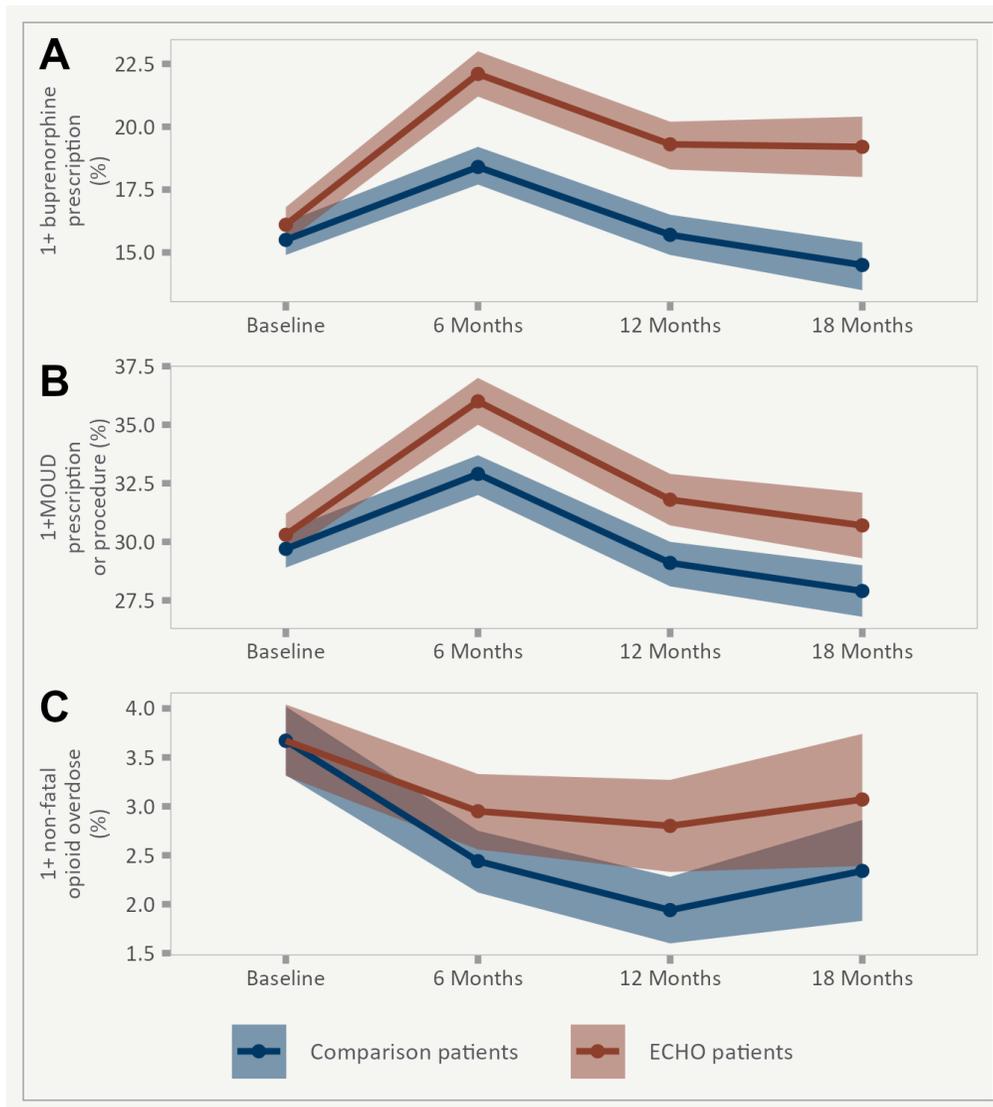


Exploratory analysis: ECHO “dosage”



- 3 groups: 1, 2-5, 6+ sessions
- For DATA-waiver and any bup., only saw differences for 6+ sessions
- For % of OUD patients receiving bup. or any MOUD, differences for 2-5 and 6+ sessions
- Not a causal analysis – study design does not allow us to say more ECHO leads to better outcomes
- Suggests that strong participation is likely an important component of ECHO’s effectiveness

Results: Patient outcomes

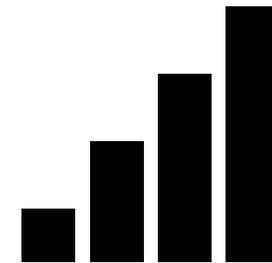
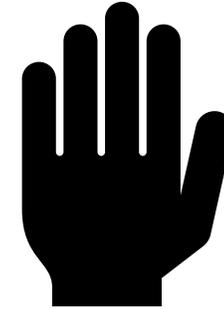
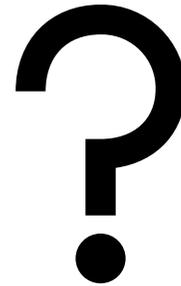
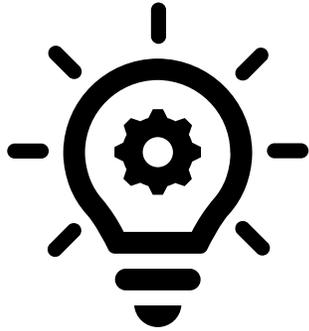


- OUD patients who saw an ECHO provider were 4.2% more likely to have a bup. prescription (Panel A)
 - Comparison patients: Observed 1,943 bup. rx at 18 months; would be 2,506 if same increase as ECHO patients
- OUD patients who saw an ECHO provider were 2.2% more likely to have any MOUD (Panel B)
- No impact on treatment for nonfatal overdoses (Panel C)

Conclusions and implications

- Project ECHO is an effective way to expand provider capacity for MOUD and can be part of a robust continuum of care to mitigate the harm of opioid addiction
 - Exploratory analyses suggest that attending more ECHO sessions (at least 6) may be important for seeing positive impacts
- We did not see differential impacts on opioid prescribing practices or patients receiving medical care for nonfatal opioid overdoses
- These findings are important for supporting potential expansions of OUD ECHO programs and securing more permanent funding
 - As noted, only 4.6% of Minnesota's prescribers have a waiver and 36% of counties have zero providers

Questions? Comments? Concerns?



Next steps

- Publish ECHO report on our website today and share link with OERAC members
- Share report with legislature and relevant committee chairs and staff
- Publish findings in a peer-reviewed journal article so other states can learn from Minnesota's experience
- Complete and publish evaluation of Buprenorphine Bootcamps (Fall 2021)
- Continue evaluation of peer recovery services (target completion February (2022))
- Assist in review of OERAC proposals to identify our next evaluations (Winter 2021-22)

Thank You!