

EXPANDING TELEHEALTH SERVICES TO PREVENT COVID-19 IN RURAL NORTH CAROLINA

Final Report

Project Personnel

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Advancing medicine for life

Project Introduction

Effectiveness of medication optimization services are partially dependent on the patient's basic needs being met (e.g., food security, ability to pay for basic necessities, being able to visit the primary care office). With COVID-19, potential social determinants of health challenges are being exacerbated, particularly for patients with chronic diseases. Pharmacists need to expand the services provided to address patients' basic needs, which otherwise may impede medication optimization efforts.

Project Aims



Describe the expanded service and associated outputs (Aim 1)



Assess key stakeholders' experience with the service (Aim 2)



Evaluate short-term outcomes (Aim 3)



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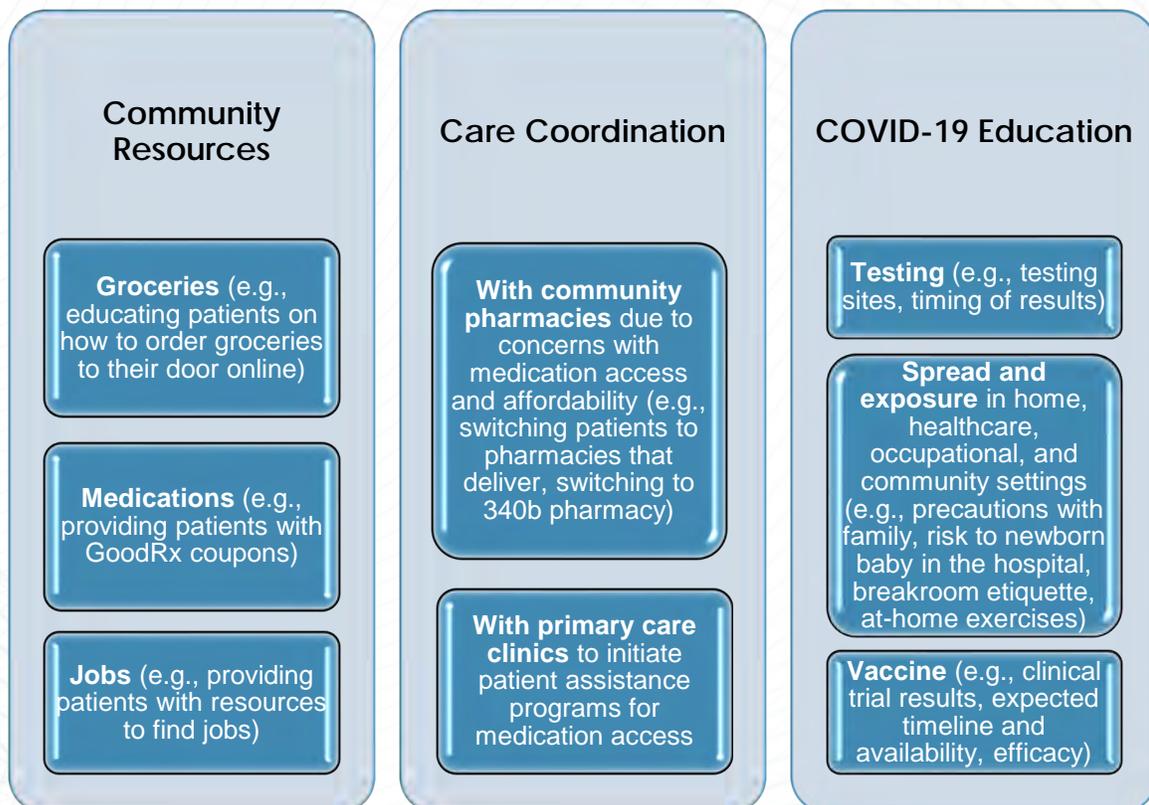
The funding awarded by through the North Carolina Policy Collaboratory COVID-19 initiative was leveraged to evaluate the feasibility and impact of expanding a comprehensive medication management (CMM) telepharmacy patient care service to include COVID-19 education and social determinants of health support. The CMM telepharmacy service was already being offered to patients with uncontrolled diabetes as part of four North Carolina primary care clinics located in rural and underserved communities. More specifically, the goals of this Collaboratory COVID-19 project were to describe the implementation of the expanded service, assess clinics and patients' experience with the service, and generate preliminary effectiveness data.

Expanded Telepharmacy Intervention

The telepharmacy service provided by a remote pharmacist as part of the four NC primary care clinics was expanded beyond CMM to include COVID-related education and support services. Briefly, CMM is a patient-centered approach individually assessing patients' medications to determine appropriateness, effectiveness, safety given concurrent therapies, and feasibility to take as intended. With the advent of COVID-19, the service was expanded to (1) assess patients for broader social concerns brought about by the pandemic that might influence their ability to manage their diabetes medications; and (2) address these concerns through pharmacist-led interventions. The pharmacist used an adapted social determinant of health (SDOH) screener to assess patients' needs. If the COVID-prompted need remained unaddressed by the time of the appointment, the pharmacist initiated an intervention based on the identified concern.

The types of pharmacist-led interventions were classified in one of three categories: facilitated access to community resources, additional care coordination, and/or COVID education.

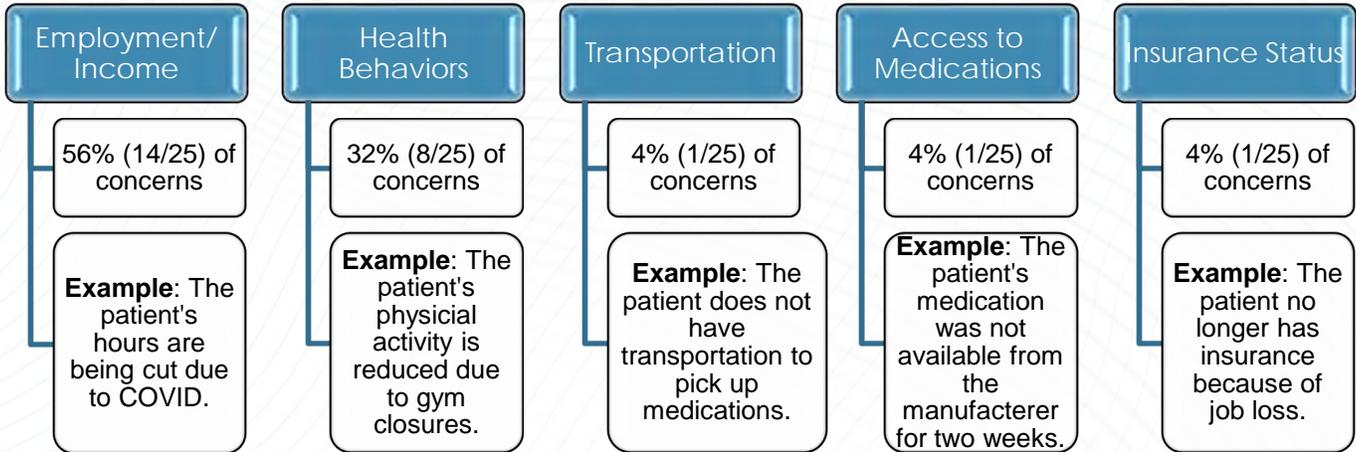
Pharmacist Interventions



Description of Service Implementation (Aim 1)

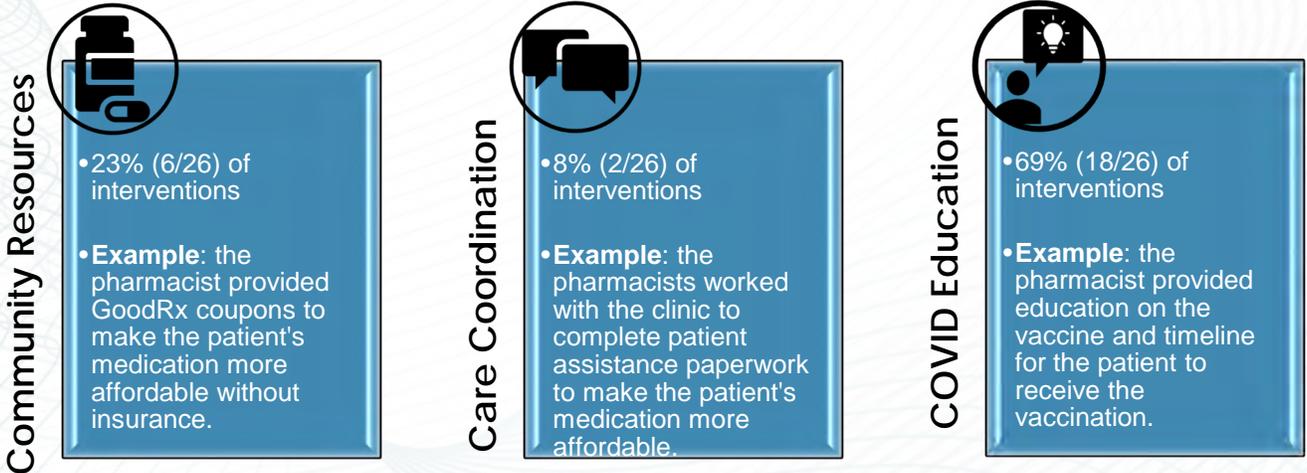
Over the course of grant funding (July 1- December 31, 2020), the pharmacist conducted 200 telehealth visits with 66 unique patients. One hundred percent of patients (N=66/66) were screened for COVID-prompted concerns. Out of the 66, 27 patients raised 37 concerns or questions. Out of these 37, 32% (12/37) involved wanting additional knowledge about COVID (e.g., vaccine timeline), and 68% (25/37) were related to patients' broader social needs that impacted their ability to manage their diabetes. The types of COVID-related SDOH challenges included employment/income, health behaviors, transportation, access to medication, and insurance status.

Types and Rates of SDOH Addressed by the Pharmacist



The pharmacist spent on average 19% of the initial visit time and 23% of the follow-up visit time discussing and addressing COVID concerns with patients. Out of the 37 concerns raised, 11 had already been addressed previously. The remaining 26 were addressed by the pharmacist by providing information and facilitating access community resources, coordinating additional patient care needs with the clinic or community pharmacy, and educating the patient on COVID.

Rate of Pharmacist Interventions



Stakeholders' Experience with the Service

(Aim 2)

Clinics' Experience: Based on results from a *quantitative* survey completed by the participating clinics, clinic staff and providers (N=11) expressed high levels of satisfaction (M= 5.49, on a response scale ranging from 1 to 6) and perceived benefits with the expanded service (M= 5.28, on a response scale ranging from 1 to 6). In addition, clinic stakeholders perceived the service as being successfully implemented based on significant increases in levels of service acceptability (Pre-M= 4.77, Post-M= 5.39, on a response scale ranging 1 to 6), appropriateness (Pre-M= 3.79, Post-M= 4.38, on a response scale ranging 1 to 5), and feasibility (Pre-M= 4.48, Post-M= 5.18 on a response scale ranging 1 to 6) from baseline to 3 months post-implementation.



Clinics' Experience:

Clinic staff and providers perceived the service as:

- Highly acceptable
- Highly integrated with their current practices
- Highly feasible to carry out within the context of their clinic environment

The *qualitative* information obtained through focus groups and open-ended survey questions further validated the clinics' positive experience. The service was perceived as highly beneficial to both patients and providers. By having pharmacists spending dedicated time with patients to optimize their medication regimen, it allowed for more efficient provider visits and noticeable improvements in patients' health. One notable success and lesson learned was the importance of patient identification and engagement strategies. Flexibility with the service delivery mode (e.g., phone, video), creation of outreach materials (e.g., scripts and brochures), and development of a formal outreach and scheduling procedures were identified as critical to success.



Patients' Experience:

Patients reported that the pharmacist:

- Listened to and answered their questions
- Helped them understand their medications
- Summarized their discussion and reviewed next steps
- Considered their views on their medications

Patients' Experience: Based on a brief survey, patients (N=10) reported the highest level of satisfaction with their pharmacist (M=5, with a possible response range from 1 to 5). They also reported a positive experience with the telepharmacy visits, including their interaction with the pharmacist, the quality of information they were provided, the level of support for self-care, and their level of involvement with decisions made about their medications (M=4.91, with a possible response range from 1 to 5). Patients described the pharmacist as knowledgeable, informative, friendly, and caring.

Preliminary Short-term Outcomes (Aim 3)

Patients reported significant changes in satisfaction levels with diabetes control as a result of their interaction with the pharmacist, including with:

- Amount of time taking blood sugars
- Number of meetings with the pharmacist
- Time spent exercising

Patients reported significant changes in adherence with self-care regimen after meeting with the pharmacist:

- Worrying less often about missing work
- Not as concerned about passing out
- Being more mindful about eating habits

Patient Quality of Life: Prior to meeting with the pharmacist, patients reported moderate satisfaction with diabetes control (M=3.57, on a response scale ranging from 1 to 5, with higher scores indicating higher satisfaction). After at least two visits with the pharmacist, patients' satisfaction with diabetes control significantly increased (M=4.52, $p=.004$).

Similarly, patients reported lower adherence with their self-care regimen prior to meeting with the pharmacist (M=3.47, on a response scale ranging from 1 to 5, with higher scores indicating higher adherence). After at least two visits with the pharmacist, patients reported significantly higher levels of adherence with their self-care regimen (M=4.07, $p=.003$).

Patient COVID Self-Efficacy: Prior to meeting with the pharmacist, patients reported moderate levels of confidence with COVID-related self-efficacy (M=3.38, on a response scale ranging from 1 to 5, with higher scores indicating higher self-efficacy). After speaking with the pharmacist, their level of confidence significantly increased (M=4.38, $p=.008$) with patients reporting feeling confident with their knowledge of COVID and ability to access needed resources, support, and medications.

Conclusion

In summary, key stakeholders perceived the expanded telepharmacy service as valuable and beneficial. The service also had a significant impact on patients' quality of life, including satisfaction with diabetes control and adherence with self-regimen, as well as on their confidence levels with understanding and solving COVID-related issues. These results provide preliminary insights into the expanded role that pharmacists can play to address current population health gaps that can directly impact patients' engagement with their medication regimen and overall health status.

Expense Summary

ORIGINAL BUDGET	REVISED BUDGET	PERSONNEL EXPENSES (Payroll and benefits cost for employee that are dedicated to COVID-19)	NON-PERSONNEL EXPENSES						TOTAL EXPENDITURES	BALANCE
			Contracted Labor Expenses	Other Service Expenses (e.g. utilities, telephone, data, lease related expenses)	Subcontract Expenses (e.g. construction, maintenance)	Goods Expenses (e.g. supplies, PPE)	Equipment Expenses	TOTAL NON-PERSONNEL EXPENSES		
\$65,705	\$65,705	\$65,026.08	0	\$112.50	0	0	0	\$112.50	\$65,138.58	\$566.42

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