

SHORT REPORT

# Innovative student project proposals to leverage community pharmacy to address the social determinants of health

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## Abstract

**Background:** The objective of this paper is to describe the development and implementation of a student project to brainstorm strategies to address the social determinants of health (SDOH) through community pharmacy partnerships. **Methods:** This project reimaged the BUILD Health Challenge for second-year Pharm.D. students in a Community Pharmacy Elective course. Students worked in groups to complete a community needs assessment and then developed a customised proposal for a feasible collaboration addressing at least one upstream social risk factor. **Results:** A total of ten proposals were developed from 2021 to 2023. Novel collaborative partnerships included a local high school, regional opioid prevention services, rideshare partners, food trucks, and more. The most common social risk factor addressed through this project was transportation ( $n = 6$ ; 60%). **Conclusion:** This project was effective at inspiring innovation and entrepreneurial thinking about the social determinants of health as it pertains to community pharmacy.

## Introduction

The social determinants of health (SDOH) are becoming increasingly acknowledged in community pharmacy practice, as they can affect access to care and adherence to medications (Foster *et al.*, 2021; Kalabalik-Hoganson *et al.*, 2022; DiPietro Mager & Bright, 2023). Community pharmacies are highly accessible and embedded in the communities they serve and are uniquely positioned to address social needs (Kiles *et al.*, 2021; Foster *et al.*, 2022). However, little is known about how to effectively leverage community pharmacies to address social needs. A growing body of research includes utilising community pharmacies and pharmacy personnel to screen patients for social needs (Foster *et al.*, 2023; Kiles *et al.*, 2023). However, there is a lack of comfort and confidence among pharmacy personnel in implementing this model (Kiles *et al.*, 2023). Additionally, screening individual patients fails to take full advantage of the community pharmacy as an active agent to address broader community needs.

Innovation and collaboration with community partners will be necessary to address upstream social risk factors for a community. The 2016 ACPE standards emphasise innovation and entrepreneurship as an essential outcome in the process of personal and professional development of pharmacy graduates (Accreditation Council for Pharmacy Education, 2015). While innovations in various aspects of community pharmacy practice have been proposed, the literature specifically related to addressing the SDOH remains scarce (Mattingly *et al.*, 2019).

This project was developed for pharmacy students to think about how to improve health equity through community pharmacy services. The objective of this paper is to describe the development and implementation of a student project to brainstorm strategies to address the social determinants of health (SDOH) through community pharmacy partnerships.

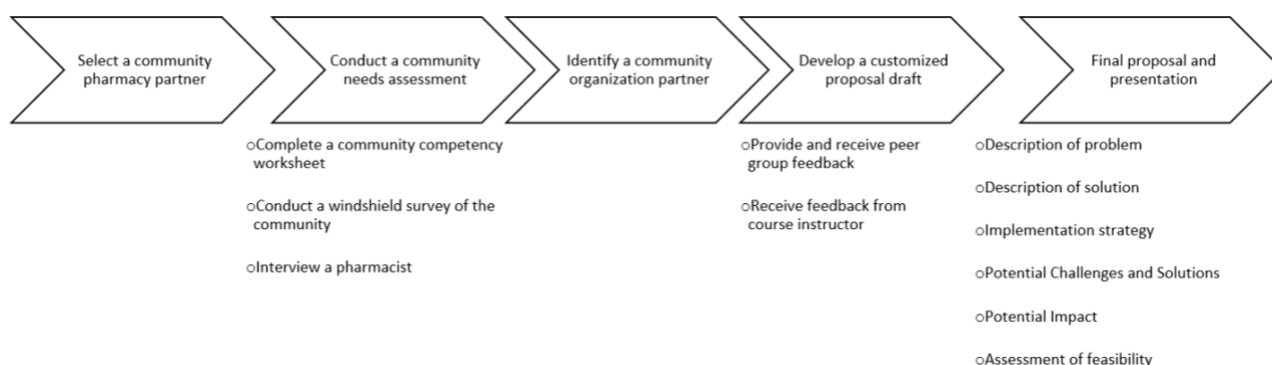
The Community Pharmacy SDOH and Community Engagement Project. This public health funding collaborative and award programme supports

partnerships implementing BUILD (Bold, Upstream, Integrated, Local, Data-Driven) plans to address health equity (The BUILD Health Challenge, 2023). The BUILD Health Challenge served as a framework for this project; however, the template was simplified and broken down into components for the purposes of this student project.

## Methods

The project was implemented in a Community Pharmacy Elective course for second-year Pharm.D. students. Students enrolled in this course are typically those

interested in pursuing careers in community pharmacy. However, this course was also advertised as a space for innovation and reimagining community pharmacy practice. Additionally, this course was delivered virtually via Zoom to students at the three College of Pharmacy campuses, two of which are in urban locations and one in a rural area in the southern United States. Students worked in self-selected groups of 4-6 students over the course of a term. The grade on this project was worth 30% of the student's final grade in the course. Detailed instructions and rubrics for each component of the project were provided to the students when the project was introduced and available for reference throughout the term. Figure 1 displays the project components over the course of a term.



**Figure 1: Description of project components**

A more detailed description of one of the student projects is outlined below:

Students in a rural city decided to work with a busy chain pharmacy nearby. They completed the Community Needs Assessment Worksheet (Appendix A) and determined that the particular store served a population of predominately older adults (> 65 years old). When the students talked with the pharmacist, it was noted that elderly patients of this pharmacy often failed to pick up their prescriptions because they could not drive and sometimes felt guilty asking their children or neighbours to bring them to the pharmacy that did not offer prescription delivery services. Rideshare services were uncommon and expensive in the area and not feasible for patients on a fixed income. The students decided that they wanted to address the social risk of transportation access for this particular pharmacy.

When thinking of community partners who could provide transportation, they thought of a high school near the pharmacy in town. At this high school, students in their senior year who are on track to complete the requirements for graduation are allowed to take elective “off periods” during the day when they

do not have class. A student who attended that high school noted that students in their senior year are often interested in community service hours and volunteer opportunities in these “off periods” to help them stand out for college admissions applications.

The students drafted a proposal titled “Seniors for Senior [citizens]”, where the pharmacy would refer patients who could not pick up their medications to contact the high school. The high school would then assign seniors during their “off period” to transport these patients. The customised proposal required the students to describe in detail how they would implement the project, for example, requiring background checks, HIPAA training and driving tests for the student volunteers, and designing a marketing strategy for the service (Appendix B: Project proposal template).

## Results

A total of 10 proposals were developed and presented from 2021 to 2023. Table I presents a summary of the

project proposals. Overall, the students performed well on this project (average grade 175/200 = 87.5%). The most common social risk factor addressed was transportation (n = 6; 60%), followed by access to healthcare (n = 2; 20%) and health literacy (n = 2; 20%). One proposal also addressed stigma and medication costs. Six groups (60%) chose to partner with a retail chain pharmacy, and four groups (40%) selected an independent pharmacy partner. Community partners

selected included community clinics (n = 3), schools (n = 2), community outreach organisations (n = 2), health systems (n = 1), and transport organisations (n = 2). This project is an innovative way to develop community competency for students interested in practising in community pharmacies. This activity was effective at inspiring innovation and entrepreneurial thinking about addressing social risk factors through community pharmacy.

**Table 1: Summary of project proposals**

Year	Group	Community pharmacy partner	Community organisation partner (s)	Social Risk(s) addressed	Proposal summary
2021	1	Walmart Pharmacy	Methodist University Hospital	Transportation Healthcare Access	Monthly free clinic in Walmart parking lot Staffed by pharmacy and medical students/residents Free health assessments, point of care testing, lifestyle e and medication counseling
	2	Kroger Pharmacy	Knoxville Police Department Choice Health Network	Stigma Transportation	Drug Take-Back, Naloxone and Needle Exchange in Kroger parking lot Staffed by Choice Health Network, Knoxville, Police Department, and pharmacy interns
	3	Pruitt's Pharmacy	Neighborhood Health Clinic	Health Literacy	Development of OTC Medication Safety Brochure Distribution within Neighborhood Health Clinic Directing patients for counselling at Pruitt's Pharmacy
	4	Good Shepherd Pharmacy	Needy Meds, UTHSC College of Pharmacy	Medication Cost	UTHSC Pharmacy students will create and maintain a resource of medication assistance programs (linked to NeedyMeds) for easier practical use by Good Shepherd Pharmacy
	5	Champion's Pharmacy	Acupuncture and Healing Arts Medical Group	Transportation Health Literacy	Champion's Mobile Pharmacy – weekly health fair collaboration Blood Pressure screenings, dietary consultations Herbal and alternative medicine consultations
	6	Walgreen's Pharmacy	Maryville High School	Health Literacy	Maryville High School seniors to provide transportation to the pharmacy for senior citizens the community during their elective off-period
2022	7	City Drug Store Pharmacy	Uber	Transportation	City Drug Store to contract with Uber to provide rides for rural patients Downtown To the pharmacy for medication refills, vaccines and consultations Coordinate appointments with primary care provider
	8	CVS Pharmacy	Personal Prescription Services	Transportation	Development of a prescription delivery service for low-income patients
2023	9	Kroger Pharmacy	Common Table Alliance	Transportation	Weekly health information seminars in tents in field next to Kroger Staffed by pharmacy interns and Common Table Health Alliance volunteers
	10	CVS Pharmacy	Church Health	Healthcare Access	Bi-weekly health services provided in portable booths in CVS parking lot Church Health Services – eye, dental, physical therapy, behavioural health Pharmacy services – point of care testing, counselling, vaccines

## Discussion

This project allowed students to apply their knowledge of the social determinants of health and leverage

community pharmacies and community partnerships to devise innovative solutions to address social risk factors for a community. The course director was impressed with the student ingenuity and the variety of ideas

suggested. Each project was tailored to a specific community and addressed identified needs. The groups most commonly lost points in their final project proposal due to a lack of details in the implementation strategy or thorough considerations concerning feasibility. This outcome is reasonable, as this exercise was largely hypothetical and did not require testing these ideas in practice. Students' feedback was mixed regarding the project. While they enjoyed the chance to think outside the box about how pharmacy could make a difference in a community, many of them felt disheartened about the likelihood that their ideas could actually happen without significant structural support. Additionally, there are few published examples of these types of interventions, likely due to feasibility concerns in practice. Students also reported that the project was challenging to prioritise concurrently with their therapeutics courses, and they often waited until the last minute to meet project deadlines. To address these concerns, after the first year of the project, two hours of class time were designated to allow students to work on their project. Requests for deadline extensions were honoured without penalty.

As so little is known about how community pharmacies can address the social determinants of health, other educators and schools of pharmacy should consider implementing this project to collect and disseminate ideas. In the future, viable proposals could also be pitched to community pharmacy partners for feedback and implementation. As the students did not have to actually implement their proposals, the subsequent steps might include future elective educational experiences designed to implement and assess the impact of some of the more feasible project ideas. This project structure could also be utilised in dual-degree Pharm.D./MPH programmes to prepare students for grant-writing and public health efforts or in Pharm.D./MBA curricula to drive innovation in community pharmacy practice. Designing and implementing projects such as this could be a vital step in training future community pharmacists to address health equity in the communities they serve.

### Conflict of interest

The author declares no conflict of interest.

### Source of funding

The author did not receive any funding.

### Ethics approval and informed consent

This project was deemed exempt for review by the University of Tennessee Health Science Center Institutional Review Board as it met requirements for non-Human Subjects Research.

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**Appendix A: Group project - Community needs assessment worksheet**

GROUP NUMBER:

GROUP MEMBERS:

- Pharmacy Name:
- Pharmacist/Manager:
- Address and Contact (email/phone):

PART 1: COMMUNITY COMPETENCY WORKSHEET - COMPLETE BEFORE CONDUCTING THE INTERVIEW

**A. Data by Zip Code**

Using <https://www.unitedstateszipcodes.org/> fill in the table below with information about your pharmacy’s community.

Zip code:	Value
<b>Neighborhood name:</b>	
Population	
Median Household Income	
Median Age (years)	
<b>Race</b>	
	% White
	% Black/African American
	% American Indian/Alaska Native
	%Asian
	%Native Hawaiian/Pacific Islander
	% Other Race
<b>Families vs Singles</b>	
	% Partner Family Households
	% Single Guardian
	% Singles
	% Singles with Roommate
<b>Employment Status</b>	
	% Worked Full-time with Earnings
	% Worked Part-time with Earnings
	% No Earnings
<b>Means of Transportation to Work</b>	
	% Car, truck or van
	% Public transportation
	% Bicycle, Walked, or other means
Most Common Travel Time to Work (min)	
<b>Educational Attainment</b>	
	% Less than High School Diploma
	% High School Graduate
	% Associate’s Degree
	% Bachelor’s Degree
	% Master’s Degree
	% Professional School Degree
	% Doctorate Degree
<b>School Enrollment</b>	
	% Enrolled in Public School
	% Enrolled in Private School
	% Not Enrolled in School

**B. History/Culture/Context**

Use information from the in-class Community Competency activity as well as any additional online resources to answer the questions below: *\*Note – feel free to ask these questions of your community partner as well!*

1. **What historical elements have shaped the infrastructure, identity and “spirit” of this community?**
2. **What beliefs and values shape the day-to-day life of and experience of the people of this community?**

**C. Geography**

1. Complete “The Perfect Neighborhood” Interactivity below BEFORE conducting your windshield survey.

[https://unnaturalcauses.org/interactivities\\_03.php](https://unnaturalcauses.org/interactivities_03.php)

2. Conduct a “**windshield survey**” of the neighborhood your community partner is located in. *\*Note, this may be conducted in person or virtually via Google Maps*

a. What do you notice about the neighborhood/community? Take particular note of:

- sidewalks/walkability
- condition of housing
- bus stops/public transportation
- nearby businesses/industry
- billboard content
- closest grocery store (name, distance, quality)
- presence or suspicion of environmental pollution

**D. Answer the questions below:**

1. What makes your community or population unique?
2. What makes your community or population underserved?
3. What social determinants of health have you identified that may need to be addressed in this population?
4. Which social determinant(s) of health do you plan to address with your project?

PART 2: INTERVIEW SUMMARY

- 1) Tell me about your pharmacy.
- 2) What non-dispensing (clinical) services do you currently offer? Are they reimbursed?
- 3) Do you believe addressing [social determinant(s) of health] would enhance your pharmacy’s patient care services? Why or why not?
- 4) What time constraints exist at your pharmacy that would prohibit your pharmacists from addressing [social determinant(s) of health]?
- 5) What staffing issues would you foresee as being a barrier?
- 6) Can you identify a technician and/or pharmacist who may be able to take the lead, or assist in implementation of this project?
- 7) Are there physicians or social service organizations in the area that you would like to partner with? Why or Why not? (If not, the group will be responsible for identifying local collaborators to partner with – see Course Director with questions)
- 8) Describe the demographics of your patient population.
- 9) In your best guess, what percentage of your business is Medicaid, Medicare, Private Payer, and Cash?
- 10) What are the top 3 drug classes/indications dispensed? (Antibiotics, Pain Medications, Antidiabetic Medications, etc.)

Is there anything else you would like to share about your pharmacy or social determinants of health which we have not already discussed?

If asked:

**1. What historical elements have shaped the infrastructure, identity and “spirit” of this community?**

**2. What beliefs and values shape the day-to-day life of and experience of the people of this community?**

**Observations:**

- 1) Draw a Diagram of the workflow of the pharmacy (including OTC section) **\*Insert diagram below\***
- 2) Note any semi-private/private patient care areas
- 3) Note local medical offices/hospitals near the pharmacy
- 4) Note any other pieces of important information that may be useful in designing your project

**Appendix B: Community Engagement Project Outline**

GROUP NUMBER:

GROUP MEMBERS:

**I. Description of Problem**

**II. Description of Solution**

**III. Implementation Strategy**

**IV. Potential Challenges and Solutions**

Strengths	Weaknesses	Opportunities	Threats

**V. Potential Impact**

**VI. Feasibility**

**VII. Additional Documents**

**I. Description of Problem [~250 words]**

- What social determinants of health have you identified that should be addressed in this population?
- What evidence or data supports this?
- What social determinant(s) of health does your project address?

**II. Description of Solution [~250 words]**

- Briefly describe your pharmacy partner.
- What community partner has your group identified as a potential collaborator?
  - What is the mission/purpose of this collaborating organization?
  - What services does this collaborator provide?
- What are the strategic goals of this project?
- Who benefits from this project?

**III. Implementation Strategy [~250 words]**

- How could your pharmacy partner with this organization to address your identified social determinant of health?
- What personnel, supplies, protocols and procedures would be involved? (i.e. what would this look like?)
- What is the timeline for this project?
- How frequently would this collaboration occur?
- How will success of the project be measured?

**IV. Potential Challenges and Solutions**

<p><b>S</b></p> <p><b>STRENGTHS</b></p>	<p><b>W</b></p> <p><b>WEAKNESSES</b></p>	<p><b>O</b></p> <p><b>OPPORTUNITIES</b></p>	<p><b>T</b></p> <p><b>THREATS</b></p>
<ul style="list-style-type: none"> <li>• Things your company does well</li> <li>• Qualities that separate you from your competitors</li> <li>• Internal resources such as skilled, knowledgeable staff</li> <li>• Tangible assets such as intellectual property, capital, proprietary technologies etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Things your company lacks</li> <li>• Things your competitors do better than you</li> <li>• Resource limitations</li> <li>• Unclear unique selling proposition</li> </ul>	<ul style="list-style-type: none"> <li>• Underserved markets for specific products</li> <li>• Few competitors in your area</li> <li>• Emerging need for your products or services</li> <li>• Press/media coverage of your company</li> </ul>	<ul style="list-style-type: none"> <li>• Emerging competitors</li> <li>• Changing regulatory environment</li> <li>• Negative press/ media coverage</li> <li>• Changing customer attitudes toward your company</li> </ul> <p>WordStream</p>

Source: <https://www.wordstream.com/blog/ws/2017/12/20/swot-analysis>

**V. Potential Impact [~100 words]**

- What measurable benefits could be seen from the implementation of this project?
- What is the scope of the potential impact of this project? Is this scalable? If so, to what level?
- How many people could potentially be impacted by this collaboration?

**VI. Feasibility [~100 words]**

- On a scale from 1-10 (1 being unlikely, 10 being extremely likely), how feasible is it that project could occur within the next year?
- What factors contribute to the feasibility of this project?
- If not in that time frame, what would be a realistic estimate?
- If not within 1 year, what barriers would need to be resolved before implementation?

**VII. Additional Documents**