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Collaborative CBPR Partnerships and Healthcare Workforce Task Shifting: An Equity Strategy to Enhance Control of COVID-19 Outbreaks in Homeless Shelters

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ABSTRACT

COVID-19 has been particularly devastating for those experiencing homelessness. (PEH) While suffering disproportionate death and disease, they are unable to self-isolate due to living in congregate shelters. To reduce COVID-19 risk for PEH, the City of Albuquerque Department of Family and Community Services convened a multi-sector partnership, "Corona Crushers" was mobilized in Albuquerque, New Mexico as a public health protection and equity initiative. In the context of shared leadership and partnership built on dialogue and trust, the multi-sector collaboration used existing data on COVID-19 to rapidly adapt evidence-based interventions to improve COVID-19 patient outcomes. This included expedited COVID-19 testing, quality improvement of the adherence of PEH to quarantine and isolation, and a 75% decline in outbreaks at the state's largest homeless shelter in Albuquerque, New Mexico. These pandemic interventions, however, placed a significant burden on already under-resourced shelter and healthcare systems. In this paper, we describe the partnership's ability to decrease COVID-19 outbreaks by task-shifting interventions traditionally conducted by health professionals — such as COVID-19 testing, screening — to healthcare workers with lesser training. These include community health workers, medical students, and shelter staff. Task-shifting not only enhanced the quality of our equity intervention, but has the potential to expand the healthcare workforce in order to address future inequities.

KEYWORDS: SARS-CoV-2, COVID-19, homeless shelter, congregate shelter, BinaxNOW, antigen testing, quality improvement, public health, community-based participatory research

BACKGROUND:

Challenges for COVID-19 Outbreak Control in Homeless Shelters

People Experiencing Homelessness (PEH) are at disproportionate risk for SAR-CoV-2 (COVID-1919). PEH face significantly higher rates of long-term health conditions and substance use disorders (30) than the general population, and are at greater risk of infection due to malnutrition, overcrowding, and the lack of public hygiene facilities (1, 2). One study found that even with a low incidence of COVID-19 in the general population, PEH had a statistically higher rate of COVID-19 (3). Other studies show increased rates of illness, hospitalization, and mechanical ventilation use (4).

Rapid spread of COVID-19 due to overcrowding in these congregate settings (12) sheds light on a critical human resource and organizational challenge in settings with limited resources. In addition to securing supplies such as Personal Protective Equipment (PPE), shelters also require additional staffing to implement interventions such as symptom screening, testing, isolating of COVID-19 cases, quarantining of contacts, and supporting social distancing, mask wearing, increased disinfecting of surfaces, and handwashing (7). Shortage of trained and accessible healthcare professionals during the COVID-19 pandemic has been well-documented. This represents an additional health equity threat to the care of vulnerable populations PEH (15). As public healthcare and social service systems struggle to respond to COVID-19 outbreaks, task-shifting strategies which move healthcare tasks to less specialized healthcare and non-medical workers can make a critical difference in interventions to prevent outbreaks and care for vulnerable populations.

Community Based Participatory Approach to Task Shifting

Task-shifting requires training, organizational structures, and support (15). A promising approach to addressing health inequities is the use of community-based participatory research (CBPR). A recent reframing defined CBPR as any multi-stakeholder strategy that uses *data* to create knowledge and take collective action to improve health equity, and expand operational applicability to community and organizational development (21, 22). CBPR approaches also contribute to health and health equity (23), such as increased community support and empowerment (24), sustained partnerships (25), healthier behaviors (24), policy changes and transformed conditions (26). The power of CBPR lies in the systematic approach to facilitate equitable collaboration of partners in order to develop programs based on community priorities and strengths (25).

This paper illustrates the use of the CBPR conceptual model as a framework for facilitating task-shifting required to respond to a COVID-19 surge in homeless shelters in Albuquerque, New Mexico from October to December of 2020. First, we describe the multi-sector collaborative partnership, Corona Crushers, led by the City of Albuquerque. This includes their use of the CBPR Conceptual framework as a guide for aligning the partnership to implement interventions to achieve the equity outcome of decreasing COVID-19 for PEH. In the Methods Section, we then describe a large COVID-19 outbreak at the shelter, which resulted in two strategies with outcomes that subsequently decreased the spread of COVID-19. However, they required significant task-shifting:

1) Use of rapid antigen testing to identify cases and contacts for quarantine and isolation for outbreak control in the shelter as a rapid response strategy
2) Use of rapid quality improvement surveys to improve conditions for quarantine and isolation.

We conclude with learned lessons on task-shifting in the context of the CBPR Model as an equity tool for the implementation of COVID-19 practices and response.

A Multi-Sector Partnership for Addressing COVID-19 For PEH

Before there was even a COVID-19 positive case in the homeless shelters, an existing partnership between the City of Albuquerque, State and Regional Department of Health (DOH), the Medical Reserve Corps (MRC), nonprofits working with PEH, local hospitals and clinics, and the University of New Mexico later (UNM) mobilized under the name of "Corona Crushers". This was to reduce COVID-19 risks for PEH as a health equity initiative in March 2020. Having previously worked together using a Community Based Participatory Research (CBPR) Model as a planning and evaluation tool, the partnership was able to rapidly reassess their original goal of decreasing 911 calls and improving access to care. The goal was updated to an issue of health equity; to prevent the spread of COVID-19 for PEH.

As a planning and evaluation tool, CBPR Model consists of four domains that can be used to guide a response for health equity issues (Figure 1).

1) **Contexts** include social, cultural, economic, political, local, state and national conditions that can shape the nature of the partnership and influence how programs are carried out.
2) **Partnership Processes** are practices and individual characteristics (skills & attitudes partners bring to the partnership), relationships (how partners make decisions, and interact with each other to achieve goals), and structural features (who are the stakeholders and what are their agreements, values, and guidelines for partnering) that determine the success of a partnership.
3) **Intervention and Research Designs** are shaped by the nature of partnership and extent of equal contribution of knowledge from different parties, including community members, clinicians, health professionals, government officers, and academic scholars.
4) **Outcomes** include a range of intermediate system and capacity changes such as new policy environments, sustainability of project and partnership, shared power relations, and increased capacities. These also include long-term outcomes of community and social transformation, and health equity (Wallerstein, et. al; Engage for Equity for more information on the use of the CBPR Model).

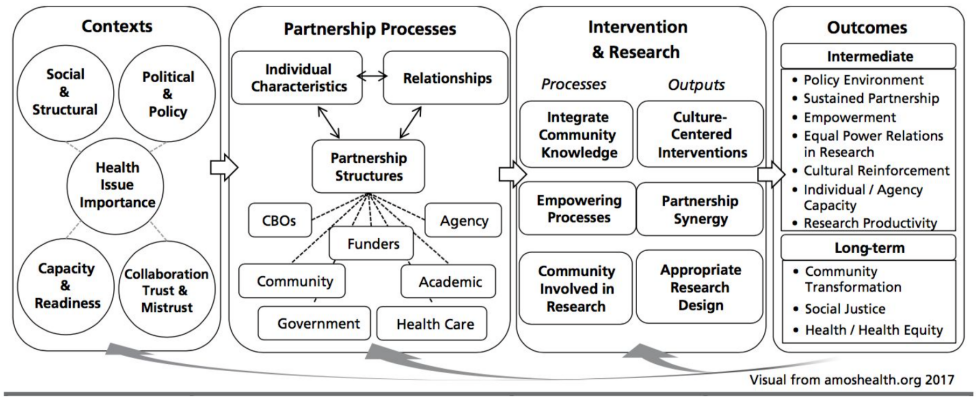


Figure 1. CBPR Conceptual Model

Domains of the CBPR Model in the Corona Crushers Partnership

For the Corona Crushers partnership, the CBPR Model provided the building blocks, for planning and evaluating a community-engaged approach. These are described below (Figure 2).

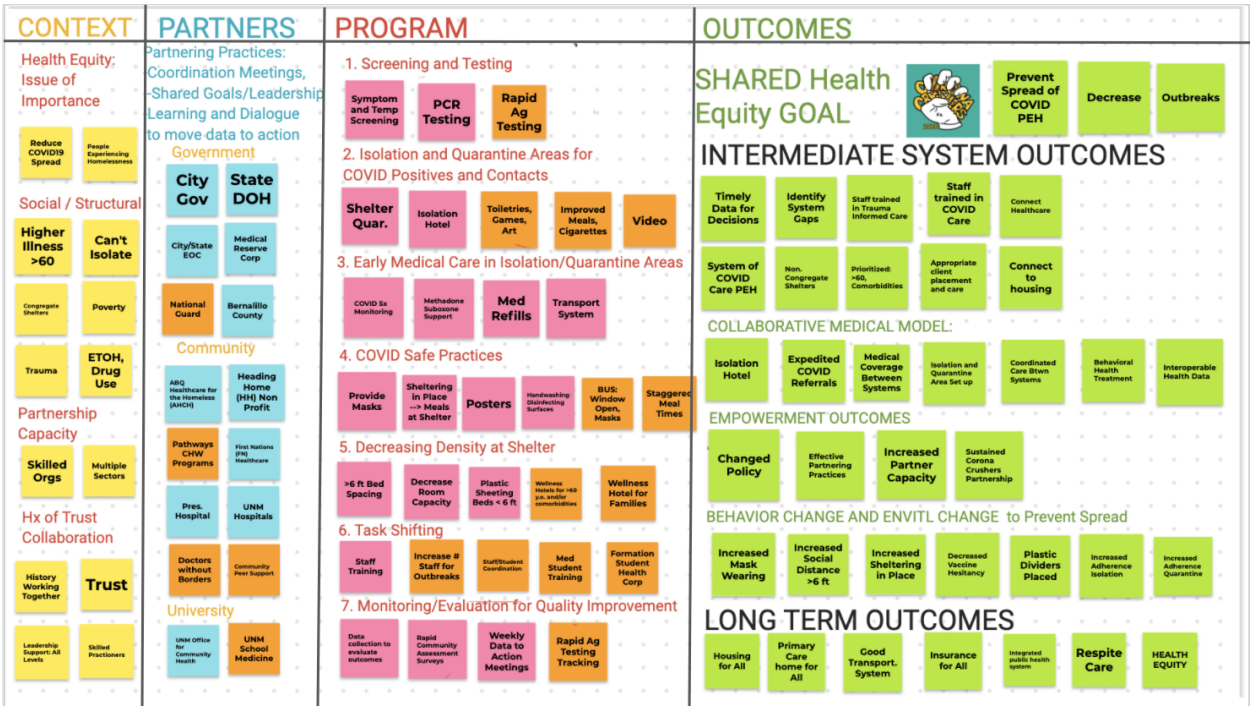


Figure 2. Corona Crushers CBPR Model for Reducing COVID-1919 for PEH

Context Domain:

COVID-19 has highlighted existing health inequities and structural racism in our healthcare system. Utilizing community-engaged approaches such as the CBPR model is critical for addressing these inequity (18). In the context of New Mexico, PEH, Native American, Hispanic/Latino, and Black/African American populations have been disproportionately affected with higher rates of COVID-19 cases, hospitalizations, and deaths (19). In this context *partnership capacity* and *history of trust* have been shown to improve equity outcomes (20). The Corona Crushers partners (Fig.2, Partners), ranging from government, community non-profits, hospitals, clinics, and university, had a history of trust through a previous collaboration based on shared goals and dialogue. Each partner brought different skills and resources to the table including medical, logistical, and public health expertise, volunteer capacity, funding, supplies and equipment. Additionally, the partnership engaged in practices (20) proven to improve health equity outcomes including shared goals and learning, coordination meetings (initially daily and then moving to three times per week), and using data to inform action.

Program and Outcome Domains

The Westside Emergency Housing Center (WEHC) in Albuquerque, New Mexico is the largest shelter in the area, and normally houses a monthly average of 337 residents a night and has a capacity of up to 500 residents per day. When the NM governor issued the first public health order for a state-wide lockdown on March 13th, 2020 to prevent the spread of SARS-CoV-2 (COVID-19), there was no isolation or quarantine area in the shelter. Under the

leadership of the City of ABQ and in collaboration with UNM's Office for Community Health (OCH), New Mexico's Department of Health (NMDOH), the Medical Reserve Corp (MRC), Albuquerque Healthcare for the Homeless Clinic (AHCH), the First Nations (FN) Clinic, and the non-profit Heading Home (HH), the multi-sector partnership brought skillsets and resources to quickly develop a program. Using the existing literature and information from the CDC (27), the Corona Crushers team developed the evidence-based program interventions for prevention of COVID-19 in PEH.

1) **Identification of Potential COVID-19 Positive Residents Through Screening and Testing**
   a. Screening: Emergency Medical Technicians (EMTs) and nurses did daily symptom and temperature screening of all residents.
   b. Testing: Nurses PCR tested all guests with symptoms or contact exposure.
2) **Quarantine:**
   a. All COVID-19 negative contact exposures or symptomatic patients with negative tests placed in semi-congregate quarantine area in shelter called the "Blue Pod" (Fig. 3).
   b. Nurses monitored residents in quarantine.
   c. Nurses and providers (nurse practitioners and physicians) worked to provide medications, methadone, and suboxone as needed for those in quarantine.
3) **Isolation:** COVID-19 positive residents isolated in non-congregate respiratory hotels staffed by physicians, nurses, and EMTs (See Figure 3, 4 below) to provide medical monitoring, as well as medications, methadone, and suboxone as needed.

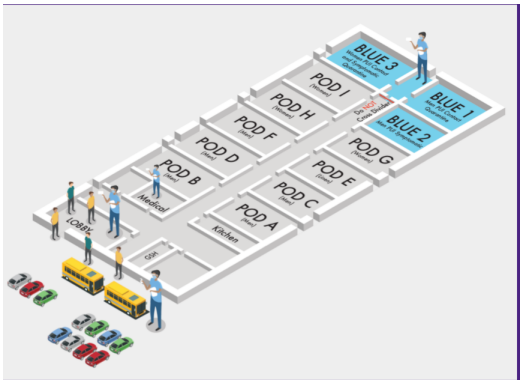
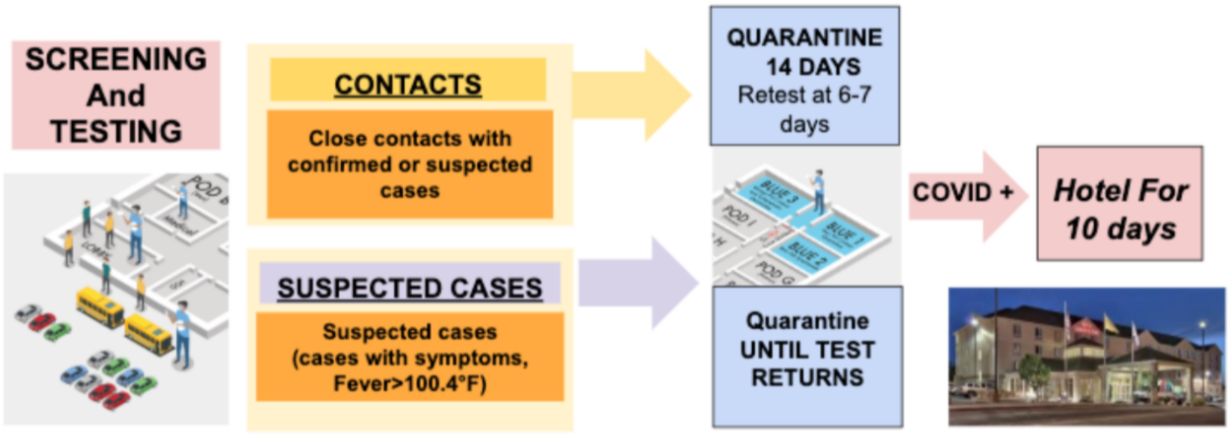


Figure 3. WEHC Dorm Map
The WEHC shelters up to 500 residents/day, but was reduced to 340/day due to the pandemic. It has been broken down into 11 dorms, 3 of which served as COVID-19 quarantine dorms during outbreaks. The shelter's quarantine dorms (in Blue) housed COVID-19 positive cases. Regular dorms had a maximum capacity of 28 to 44 residents, while each quarantine dorm held 15-18 residents whose beds are at least 6 feet apart and separated by curtains.

Figure 4 : Screening, Testing, Quarantine and Isolation of Residents.



4) **Promotion of COVID-19 Safety Practices:** Shelter medical staff promoted social distancing, mask wearing, handwashing, frequent disinfecting of surfaces. It also assured bus safety such as open windows, spacing with only every other seat occupied, and sanitizer gel and masks before getting on the bus.

5) **Decreasing Shelter Density**: Within the shelter, plastic sheets or curtain dividers were put up between rows of beds to decrease the density of people within each dorm and reduce transmission through air particles
(Fig. 5). To decrease density of the entire shelter, the City of ABQ provided resources and support to stand up three "Wellness Hotels" as a non-congregate shelter to reduce congregate shelter density at the WEHC. Non-congregate shelter intake criteria was for people at higher risk of COVID-19 (>60 years old and/or high risk medical conditions), as well as families with children.

Figure 5: Curtains Separate Beds in Quarantine Area

6) **Task shifting:** When faced with health provider shortages, the Medical Director provided support through oversight and training to shift tasks to shelter staff, CHWs, and medical students.

As the Corona Crushers partnership progressed and these gaps were identified, new partners were included to enhance the impact of the work (See Figure 2, Partnership Column, Orange squares). Daily video conference meetings of the team helped keep the partnership focused on the shared mission and outcomes. As new challenges surfaced, the partnership used data to inform new actions, and other program elements were added to prevent the spread of COVID-19 for PEH (Fig. 2. Program Column, Orange Squares). While the partnership had long term outcomes to work towards such as housing, transportation and healthcare homes for PEH, the immediate goals revolved around a system of collaborative COVID-19 care, timely data for decision making, and sustained partnership (Fig.2. Outcomes Column, Green Squares).

Figure 6. Corona Crusher Daily Zoom
Daily zoom meetings and a clearly developed agenda by the City of ABQ helped partners stay on track and make decisions based on local data. Clarity of roles between the different partners was essential in defining what roles could be filled by task shifting.

METHODS:

Setting:

From March 13th to September 29th, 2020, the Corona Crusher's interventions limited outbreaks at the WEHC with only 3 positive cases identified. However, on Sept. 30th, 2020, the shelter was informed that 3 other residents who were PCR tested off-site had tested positive. At the time, test turnaround time for PCR testing was between 3 to 5 days. By the time the shelter was informed of these results, these residents had circulated in three different dorms for 5 days. Due to a surge of COVID-19 in the community, other residents in the dorms were most likely asymptomatic cases, and added to the general outbreak. Through mass testing of the entire shelter, a total of 131cases were identified.

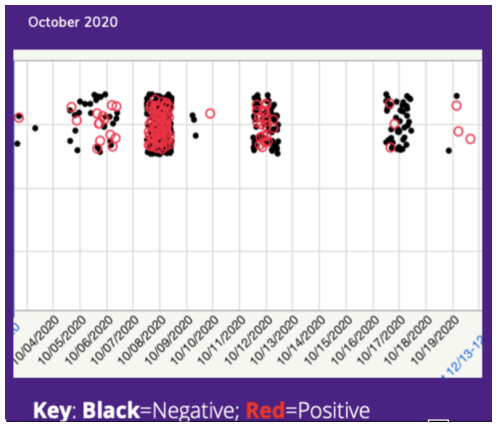


Figure 7: Sept-October 2020 WEHC Outbreak

In this visual, the spread of the COVID-19 virus is depicted by red circles (COVID-19+) and black circles (COVID-19-). PCR test results for the initial three cases were delayed due to 3-5 day turnaround times. Since these tests were done off-site without the knowledge of the WEHC medical team, the residents were able to circulate throughout the dorms. As demonstrated by this graphic, the 3 cases rapidly spread throughout the entire shelter.

The large number of cases at the WEHC caused the shelter to shut down and become a quarantine center for COVID-19 positive residents and their contacts for 2 weeks. This became a hardship for other PEH, hospitals, clinics and social services that used the WEHC for temporary housing. While the initial COVID-19 prevention practices and staffing implemented at the WEHC was sufficient for preventing outbreaks, it was not sufficient to handle a sudden surge of COVID-19 positive residents.

As a collaborative, the Corona Crushers engaged in ongoing problem solving and dialogue based on data collected locally and the application of new interventions as COVID-19 science evolved. The questions we asked included: *With the continuing surge in COVID-19 positive cases in the community, how would we keep the shelter open and prevent further outbreaks? With a lack of health professionals available for support, what can we do for medical and public health staffing at the shelter?*

To answer these questions, the leadership encouraged and supported a learning environment for adaptive change. This led to innovations for COVID-19 outbreak control in the area of testing, quarantining and isolating. This enabled the WEHC to remain open to the community during the COVID-19 surge experienced in November and December of 2020.

COVID-19 Innovations for Outbreak Control: Testing, Quarantine and Isolation

Below we describe two strategies developed by the Corona Crushers to decrease outbreaks, but required significant task shifting to achieve:

1) Rapid Antigen Testing for outbreak control in the shelter to identify cases and contacts for quarantine and isolation quickly.

2) Rapid quality improvement surveys to improve conditions for those in quarantine and isolation.

Because the shelter is already under-resourced, implementing and evaluating new strategies can place a significant burden on healthcare staff. Homeless shelters are typically focused on addressing immediate needs of overnight shelter and transportation rather than pandemic response, so additional protocols and staff supports were needed to detect and mitigate the spread of COVID-19. By

redistributing duties normally carried out by healthcare or public health professionals to healthcare workers with less training (medical students, CHWs, and shelter staff), the Corona Crushers partnership was able to develop and innovate new protocols to decrease frequency of outbreaks at the shelter and improve adherence to quarantine guidelines. The task-shifting strategies described here have the potential to expand the healthcare workforce so that future inequities may also be addressed (Table 1).

Table 1. Components of original and adapted COVID-19 response models for PEH

	Original Model (5/25/20--10/20/20)	**New Model: COVID-19 Surge and Outbreaks (10/20/20--6/30/21)**
COVID-19 testing procedure	PCR Testing for Symptomatic People and Contact Exposures	Rapid antigen test for: -Surveillance screening of 30 people/day coming into the shelter. -Symptomatic persons or close contact of known COVID-19+ individuals. -Symptomatic persons with Negative Ag Test.
Task Shifting **Positions highlighted in yellow represent new positions with tasks shifted from health professionals** **Positions highlighted in green represent new tasks**	Medical Director: - Development of Protocols - Supervision of Medical Team -Testing -Medical Care Nurse: -Track Result -Testing -Supervise Shelter Staff Medical Reserve Corp (MRC) volunteers: -Nurses, EMTs, MDs: Test, Screen, Record Results, Monitor, Med Care Medical Coverage for Testing: 8 am- 5 pm, 5 days/ week	Project Manager (PM): -Oversight of testing, contact tracing, isolation, and quarantine transfers between shelter and hotel facilities. -Updating of protocols/policies in accordance with changing best practice recommendations from CDC/NMDOH; facilitate staff trainings EMT: Screening and testing during evening hours. Data Manager: Tracking and reporting of results. Volunteer medical students: Triage of residents to quarantine/isolation; testing of dorms; tracking and documentation of test results in coordination with medical team; medical monitoring of residents; surveys. Community Health Workers and peer support case workers: Support of residents in quarantine or isolation; surveys. Shelter Staff: monitoring of residents in quarantine; support of residents in quarantine and isolation. Nurse: Oversight of daily screening and medical needs of residents in isolation. Shelter Staff Director: Supervise daily shelter staff operations in accordance with COVID-19 mitigation measures. Medical Coverage: Increased to 6 am - 11:30 PM, 7 days/week
Outcomes of New Interventions Supported by Task Shifting	-Delayed Results -Large Outbreaks	-Ability to rapidly quarantine and isolate based on Rapid Ag Testing. -Limited Outbreaks. -COVID-19 vaccination clinic for vulnerable individuals (BMI $\geq$ 30; age $\geq$ 75 years old and/or comorbidities).

1. Task-shifting for implementing and evaluating Rapid Antigen Testing for outbreak control

Rapid Ag vs. PCR Testing for Outbreak Control in a Shelter

Two testing methods are currently used for identifying active COVID-19 infections: molecular testing and rapid antigen testing. Nucleic acid amplification tests (NAAT), such as RT-PCR, act by detecting viral genetic material. While RT-PCR has a higher sensitivity than antigen tests, a test result can take up to 7 days when laboratories are at capacity during a COVID-19 surge. Antigen tests are less sensitive, but affordable, and do not require sending a specimen to a lab as they can detect viral antigen in as little as 15 minutes (9). Abbott's BinaxNOW is an example of an antigen test that is instrument-free and simple to perform. Due to immediate results, the BinaxNOW rapid antigen test can identify COVID-19 positive shelter residents and immediately move to quarantine them. With long wait times for test results eliminated, the rapid tests mitigate frequency of outbreaks by preventing further transmission of the virus (6).

Antigen testing was not widely available until October 2020, when the federal government deployed the BinaxNow rapid antigen test throughout the U.S. via Departments of Health. Since the NMDOH was part of the multi-sector partnership and worked closely with the medical team, training and protocol were set up to test the effectiveness of the BinaxNow Ag test. To determine the effectiveness of the BinaxNow against PCR testing, 679 residents were co-tested with both tests to calculate sensitivity and specificity. Despite the relatively low sensitivity of the Rapid Ag test of 54%, test specificity was 96.7% with a positive predictive value of 95%, which is similar to other studies done comparing Rapid Ag testing with the gold standard PCR (16,17). In the case of the WEHC, the drawback of the lower sensitivity was outweighed by the rapid results which led to the immediate isolation of COVID-19 positive residents. As a result, the following protocol was developed by Corona Crushers to reduce future outbreaks:

1) Symptom screening of shelter residents, and people coming into the shelter.
2) Immediate BinaxNOW testing of anyone identified as symptomatic.
3) Immediate isolation of positive residents, and transfer to isolation hotel for 10 days.
4) Immediate identification of closest contacts with transfer to quarantine area in shelter for 14 days.
5) When a positive is identified in any of the 8 dorms sheltering between 30-40 people per dorm, those dorms then undergo increased screening and surveillance testing with both BinaxNOw and NAAT on day 1 and 7, and in between, BinaxNOW every 2-3 days.

Task Shifting for Implementation of Antigen Testing to Control Outbreaks

However, this protocol required an increase in staff to regularly test and prevent outbreaks. However, the Corona Crushers medical team no longer had enough physicians, nurses, and EMTs to do the screening, testing, tracking, and documentation of test results. As a result, tasks were shifted from EMTs to shelter staff for entry screening, from the medical director to a program manager for oversight of the evolving interventions, from nurses to medical students and a data manager for additional testing, tracking of outbreaks and reporting to the DOH. Task-shifting required restructuring of roles and responsibilities of the health professionals from implementing program elements to providing oversight, training and support of the shelter staff and medical students who participated as volunteers through the Medical Reserve Corp (MRC). Since over 20 medical students participated, the development of a Community Health and Engagement (CHE) curriculum and formation of a student organization, the Student Health Corp, coordinated the assignment of tasks needed during the COVID-19 surge (See Appendix A. CHE Curriculum).

Task Shifting for Tracking System to Manage Outbreaks

Once COVID-19 positive residents were identified, they were immediately notified and transferred to designated non-congregate respiratory hotels to isolate for 10 days. Any contacts of COVID-19 positive residents were then transferred to the semi-congregate quarantine areas within the shelter (Fig. 3). Ideally, all residents requiring quarantine and isolation would be transferred to non-congregate sheltering, but since resources were limited, a decision was made to move only positive cases to the hotels.

There is currently no interoperable data system that shares information about COVID-19 status across health and social service systems. This makes it difficult and time consuming to track COVID-19 patients within and across systems. Subsequently, an internal system was developed by the medical team in coordination with the NMDOH to track COVID-19 status of residents, identify contacts for outbreak control, and record all necessary laboratory information to the DOH. The developed data tracker is HIPAA compliant and includes the name, date of birth, dorm and bed #, COVID-19 test results, type of COVID-19 test (PCR, Rapid Ag or both), and staff member who administered their test (Appendix B. Lab Form). This data was then de-identified and placed on a Daily COVID-19 Update Map created by medical students that tracked COVID-19 status and bed location for contact tracing of positive cases. The nurse or program manager then (Appendix C. Intake Form) placed residents in the appropriate isolation or quarantine location. This map was created using a Miro Board shown below (Fig 8).

Figure 8: WEHC Daily COVID-19 Update Map

2. Task shifting for quality improvement surveys to improve conditions for quarantine and isolation

As the number of positive COVID-19 cases increased in the WEHC, the shelter staff discovered that residents were leaving the shelter before their quarantine period was over. It has been suggested that adherence to quarantine guidelines among PEH is low because many of them fear hospitalization and incarceration, negatively impacting their mental health (8). In an effort to identify reasons for PEH leaving the shelter and risking the further spread of COVID-19, quality improvement surveys were administered to shelter residents in order to get direct feedback from PEH. This was done to understand what would make them more likely to stay (Appendix D. Quality Improvement Surveys). CHWs, public health students, undergraduates, and medical students have all contributed to the staffing of quality improvements surveys in coordination with the Corona Crushers. Through UNM's Office of Community Health (OCH), we had one part-time student coordinator to support COVID-19 response efforts as part of a grant to work with students in the health professions. They were able to work with students from June of 2020 to March of 2021 to support improvement of quarantine and isolation during COVID-19 response.

As part of the CHE class, medical students adapted an existing rapid community assessment to assess barriers to quarantine for elderly PEH populations. This interprofessional experience of medical and public health students working alongside shelter staff, CHWs and health professionals to engage in quality improvement (QI) gives them real-life experience in community engagement as part of the CBPR process. This enables building the foundation for future community engaged work. After redesigning and implementing the survey, students analyzed and shared the data with the leadership of the Corona Crushers team, who then took the data and created action items to improve quarantine and isolation conditions.

OUTCOMES

Results of task shifting for outbreak control and improved conditions for quarantine and isolation

Like many others struggling to staff-up during COVID-19 surges, the Corona Crushers health professionals were overwhelmed by the hundreds of tests, quarantine allocations, and outbreak controls in the shelter. Being able to evaluate the impact of the Rapid Ag testing as well as assess barriers and facilitators to adherence to quarantine in real time was critical. Having a partnership in place to facilitate leadership with an evaluative mindset, training for task-shifting, and financial support to staff up to implement new interventions was also crucial. Below are the findings of the Rapid Ag testing for outbreak control and the quality improvement surveys done to improve quarantine and isolation.

Outcome 1: Results of Rapid Ag testing for Outbreak Control in Congregate Settings

As a result of task-shifting, a large portion of the testing, data collection, tracking and transfer of residents was allocated to program staff and medical students. The medical team was then able to focus their efforts on overall strategy, including the evaluation of the impact of Rapid Ag testing protocols for developing new program policy.

Outbreak Control Before and After Rapid Ag Testing

The introduction of Rapid Ag testing after October 20th demonstrated a substantial decrease in the severity of COVID-19 outbreaks at the WEHC. Between September and December 2020, the shelter experienced a total of 17 outbreaks (defined as more than two COVID-19+ people in a dorm). After incorporating Rapid Ag testing during second WEHC outbreak on October 20th, 2021, the number of COVID-19 positive individuals was initially reduced by 67%, followed by a reduction of at least 75% during all subsequent outbreaks (Figure 9,10, and 11).

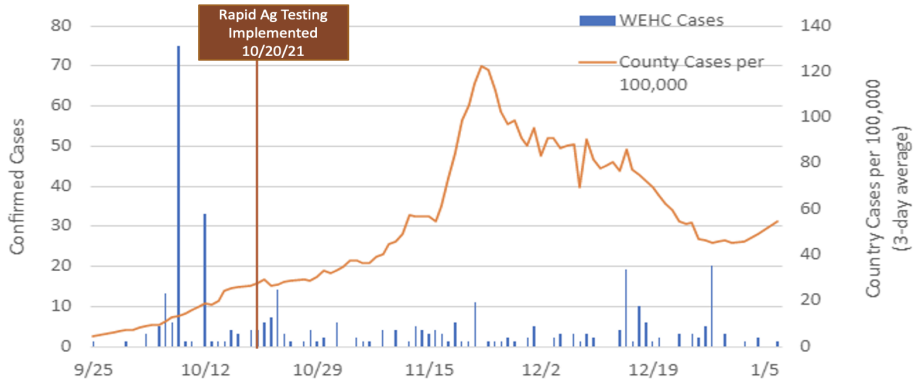


Figure 9. Frequency of confirmed cases at WEHC by date compared to the 7-day average number of new cases for Bernalillo County, New Mexico between September 25th and December 31st of 2020.

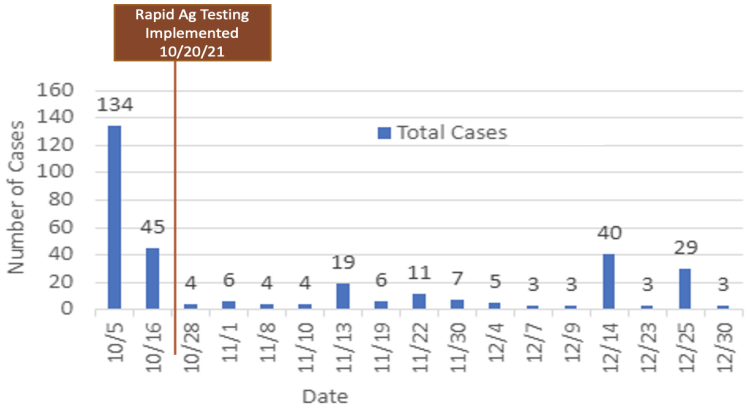


Figure 10. Total Number of COVID-19+ individuals before and after Rapid Ag Testing Introduced

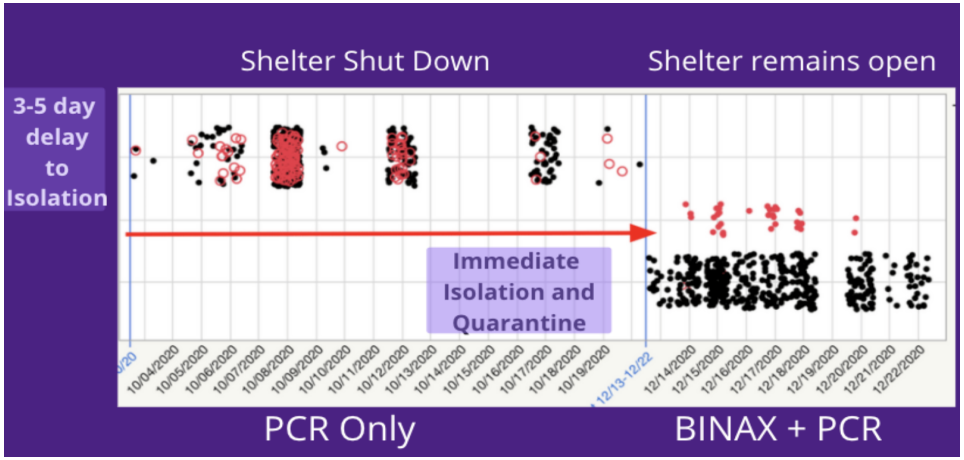


Figure 11. Graphical Representation of cases before BinaxNow Rapid Ag Testing
(Red Dots: Positive Cases, Black Dots: Negative Cases)

With the above data demonstrating the effectiveness of Rapid Ag testing for outbreak control, the medical team developed the protocols and policies for Rapid Ag testing for the shelters. This reduced the overall severity of COVID-19 outbreaks and prevented the closure of the largest congregate shelter in New Mexico. Additionally, this information was shared with the CDC, who asked the medical team to present nationwide, and added to the growing database and health policy development on the use of Rapid Ag testing in congregate settings (9, 28).

Outcome 2. Results of Rapid quality improvement surveys to improve quarantine and isolation experience

The first survey (n=109) conducted at the WEHC and the non-congregate respiratory shelter identified barriers to completing the CDC-mandated 10-day isolation period for COVID-19 positive residents and 14-day quarantine period for those exposed to COVID-19. The most common challenges identified included poor food quality and variety (90%), a lack of entertainment (63%), limited personal hygiene products (62%), and restricted access to tobacco (61.5%).

As a result of these findings, the Corona Crushers partnership and staff worked with medical students to introduce specific interventions targeted at improving quarantine conditions. These included obtaining a new food supplier, increasing staff training for trauma informed care, providing personal hygiene products such as soap and shampoo, increasing access to cigarettes, and increasing the amount of socially distanced entertainment options available to the residents (puzzles, coloring books, etc.) The data was also shared with residents at the shelter who confirmed the data in a 'town hall' discussion where everyone was masked and socially distanced. The medical team also shared that a key concern was a lack of understanding the purpose of quarantine and isolation amongst the residents. This led to a medical student video project being developed to prepare residents before entering quarantine or isolation (Fig. 12). https://youtu.be/-cRKaD9AD38

Figure 12. Quarantine and Isolation Orientation Video Developed by Med Students

The second survey (n=49) was conducted one month after initial changes were introduced. The goal of this survey was to assess the effectiveness of the previous interventions as well as improved adherence to quarantine guidelines. With regard to meals, administrators changed the food supplier at the WEHC and the City paid for three meals a day that increased the number of hot meals served -- which represented a significant resource

investment by the City of Albuquerque. The improvement in food quality and quantity led to an increase in reported food satisfaction from 10% in the initial survey to 79% in the follow-up survey.

With regard to personal hygiene products, an expanded collection of products was provided to residents of the WEHC. This collection included increased soap, shampoo, and conditioner. This led to an increase in reported personal hygiene satisfaction from 38% in the initial survey to 75.5% in the follow-up survey.

Expanded entertainment activities included coloring books and a cornhole game. At the time of the follow-up survey, 11/49 (22.4%) participants had used the coloring books, 10 of whom reported being satisfied with the activity. 6/49 (12.2%) participants had played cornhole, 5 of whom reported being satisfied with the game (Table 4).

Additionally, improved and consistent cigarette distribution led to overall tobacco satisfaction rising from 38.5% in the initial survey to 91.7% in the follow-up survey. (Table 2).

Table 2. PEH satisfaction with WEHC quarantine conditions

Intervention	% satisfied first survey	% satisfied second survey
Meals	10	79
Personal hygiene products	38	75.5
Coloring books	N/A	90.9
Cornhole	N/A	83.3
Cigarette Distribution	38.5	91.7

The responsiveness of the City of Albuquerque as a partner in addressing survey findings by making the changes and investments to improve quarantine and isolation was also critical to this outcome.

Outcome 3: Health Professions Education Outcome

In addition to supporting the health equity goal of the Corona Crushers through task-shifting, medical students meaningfully participated in supporting community identified needs within a CBPR Model (Table 3). While health professionals are well-versed in providing quality individual healthcare, a stronger educational focus on population health interventions and partnering practices for multi-sectoral policy and action is needed for the health workforce to respond to community priorities (29). Task shifting with

medical students demonstrates the benefit of training health professionals in participatory, evidence-based frameworks such as the CBPR Model. This helps develop future professionals who have had real life experiences in community engagement and equitable power-sharing partnerships. Task shifting also increased the quality of the deliverables and learning done by the students. As part of their course, students presented their work to the Corona Crushers leadership and saw their data being put to action within the context of CBPR and community engagement. Many students in the course as well as the newly formed Student Health Corp continue their participation with the Corona Crushers (Fig. 13).

Fig. 13. Medical Students Setting up for Testing at the WEHC

Table 3. Medical student volunteer hours during the COVID-19 response: September 2020- April 2021

Activity	**# of students participated**	**Total Hours**
Training	36	40
COVID-19 Hotels	72	508
Vaccination Campaigns	18	164
Mass Testing	7	70
Pre-Med data entry	5	52
Survey and Data Analysis	7	**37**

Quarantine and Isolation Video	2	**42**
TOTAL	**147**	**913**

Discussion

The COVID-19 pandemic has resulted in a global shortage of trained and accessible health professionals. In our experience, task-shifting time-consuming yet important public health tasks such as testing, data collection, data cleaning, contact tracing, and data analysis from health professionals to non-medical staff and medical students can distribute the high workloads generated by a COVID-19 surge. In addition, this type of task-shifting allows for real time data analysis and support staff in answering the Corona Crusher's surge questions:

1. *With the continuing surge in COVID-19 positive cases in the community, how would we keep the shelter open and prevent further outbreaks?*

The WEHC experienced fewer outbreaks and was able to stay open by using updated Rapid Ag testing protocols and daily contact tracing of residents from the Daily COVID-19 Map.

2. With a shortage of health professionals available for support, what can we do for medical and public health staffing at the shelter?

By staffing up and training non-medical positions such as a project manager and data manager with additional funding from the City of ABQ, and working with medical students who volunteered their time to support testing, quarantine and isolation, and data analysis, there was sufficient staff to complete the key interventions developed by the Corona Crushers.

The Corona Crusher task-shifting experience demonstrates the power of multi-sector partnerships to achieve health equity outcomes. In the fast-paced world of COVID-19, rapidly translating science into effective implementation can be challenging. Because of a long-standing partnership and shared leadership, the Corona Crushers were quick to respond to the evolving pandemic. Additionally, the use of the CBPR framework to guide the overall work enabled the development of clear roles within program activities needed for effective task-shifting. The ability to respond to local data and adapt effectively to healthcare workforce shortages resulted in achieving multiple outcomes such as decreasing the spread of COVID-19 in PEH, decreasing outbreaks, changed program policies for testing, and the development of increased partnership capacity in the healthcare workforce pipeline (Fig. 14. Achieved

Outcomes outlined in Purple). The CBPR model of partnership can leverage the skills and resources of multiple partners to support task-shifting from health professionals to medical students, shelter staff and CHWs. This can serve as a model for addressing future health equity issues and creating more inclusive and collaborative solutions for underserved and under-represented populations.

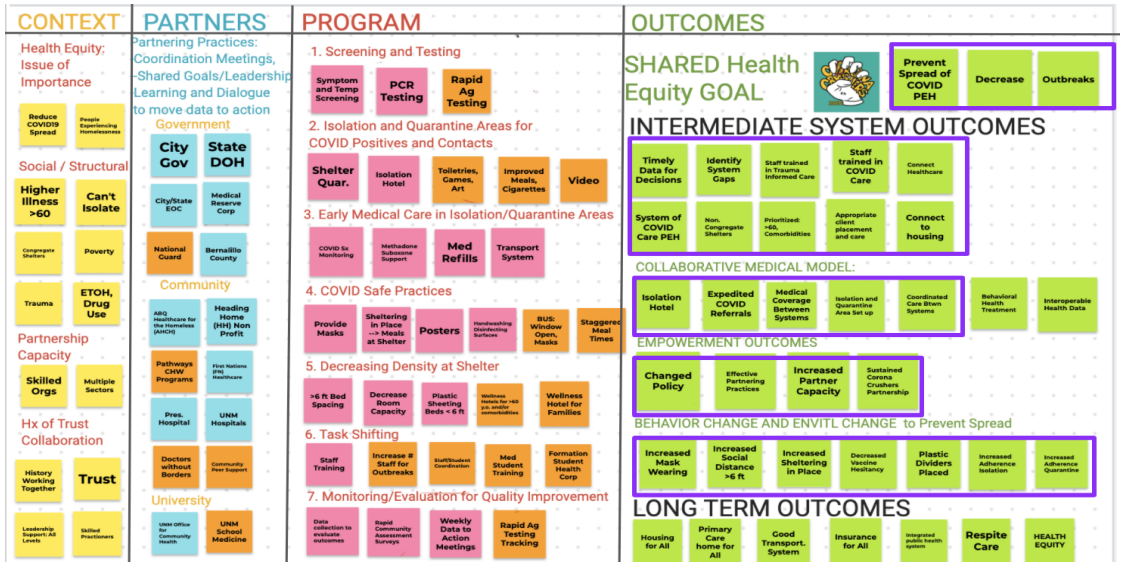


Figure 14. Achieve Outcomes in the CBPR Model
In the outcome column, the areas outlined in purple represent the achieved shared health equity goals of the Corona Crushers team.

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Special thanks to the leadership at the City of ABQ for making the Corona Crushers partnership a reality. Thank you to Carol Pierce, the Director of Family and Community Services Department, for unwavering leadership and support of using the CBPR model as a framework for health equity.

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Appendix A. Community Health and Engagement Block Curriculum

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Background for the Community Health and Engagement Block (CHE): The WHY

Purpose: CHE program is designed to help increase the capacity of health professionals to take action on the social determinants of health and equity in their communities.

Health equity means that everyone has a fair and just opportunity to be as healthy as possible. To achieve this, we must remove obstacles to health -- such as poverty, discrimininination and deep power imbalances -- and their consequences, including lack of access to good jobs with fair pay, quality education and housing, safe environments and health care.

Social Justice: A matter of life and death

According to the World Health Organization (WHO), ***"Social justice is a matter of life and death.*** It affects the way people live, their consequence chance of illness, and their risk of premature death." This course focuses on developing the skills, strategies, and support for tackling health inequities over the long haul. We hope that the concepts and skills you learn in CHE will enhance your lifelong journey as a health professional towards gaining specific concrete skills to help address health inequities by responding to a community need, which in this case is the COVID-19 Pandemic.

Corona Crushers Collaborative: A Response to a Community Need

While the pandemic has significantly impacted medical education worldwide, COVID-19 also offers a unique opportunity for medical and other health professional students to significantly contribute to the mitigation of the COVID pandemic. The Corona Crushers Collaborative is a partnership between the government, community, and the university that came together to address the problem of how to help prevent the spread of COVID-19 for people experiencing homelessness(PEH), who have higher rates of mortality and morbidity than the general population and are therefore more at risk for poor outcomes of COVID-19.

Since the pandemic hit, various health professions students including medical, public health, undergraduate students have contributed to improving health systems and policy projects with the Corona Crushers group.Through participation with the community to address their priorities, we hope you will begin to be able to practice concrete skills for engaging in health equity.

I.Course Elements: The WHAT

There are primary learning components to CHE:

- Community based participatory research (CBPR) Project
- Service Experience
- Community Engagement Reflection Sessions

In CHE, your "classroom" will be the community response to COVID-19, which is a combination of participating in the Participatory Didactics to learn the basics of CBPR, CBPR Project, and the Service Experience.

<u>Component A. COVID Service Experience: (8 hours/ week + 2 hrs/ week for independent learning)</u>

During the COVID service experience, you will learn how to respond to the "on-call" component of the COVID-19 medical response, and use your skills of health coaching. Friday mornings from 8 AM - 9:30 AM, you will be paired in learning groups to review learning issues identified during the week with a community preceptor.

For your service components, you may choose to split your service between the COVID Isolation Hotel and the COVID Hotline, or do just one of these locations. You will need to come in person to each of these sites. In either case, you will be learning from a great team of interprofessional providers who have come together to respond to a great community need:

.

SITE 1: Isolation/Quarantine Shelter: You will be participating as part of a team of health professionals including physicians, nurses, EMTs, social workers, and site coordinators at the only isolation hotel in Albuquerque. This hotel provides a place for people

experiencing homelessness, or as overflow from isolation hotels in NM, especially from Navajo Nation and varios pueblos throughout the state. There are three levels of healthcare professionals at the hotel who participate in the intake and medical surveillance of hotel residents.

Group 1: Physicians or Advanced Practice Clinicians
Group 2: Other Healthcare Professionals (Nurses, EMTs)
Group 3: Medical and Nursing Students

Since students are not allowed to be in contact with COVID+ patients, you will be providing phone surveillance, but not in person care. You will be trained and supported by the entire team at the hotel in COVID phone triage and care. Many of the patients at the hotel have underlying illnesses such as hypertension, diabetes, behavioral health or substance use disorder.

SITE 2: COVID Hotline: You will join some of your third and fourth year fellow medical students in providing support for the COVID Hotline for calls to respond to community members needing more information on COVID. The COVID hotline calls are done with an interprofessional team of nurses, and pharmacists, and you will be supported by a team of people in the COVID hotline

Component B. Community based participatory Research Project (8 hours/ wk including course time)

The CBPR Project will serve as the primary classroom for how to practice health equity in the context of the COVID-19 pandemic. Two big research needs that have been identified by the Corona Crushers are: 1) mask wearing and 2) equity with regards to the COVID-19 Vaccine when it comes out.

Using a global health methodology for community responsive health promotion called Barrier Analysis, students will participate alongside CHWs and community staff in supporting this project to identify barriers and facilitators for a COVID-19 response.

The following components of CHE are the same as the PIE group:

II.Community Health and Engagement Objectives: The HOW

In this course, the **HOW** of our approach to communities (i.e. values-based, ethics, cultural humility, empowering methods, listening, collaboration, reflective social mission, etc.) is just as important as the **WHAT** of evidence based interventions (i.e. COVID Care, Isolation, Quarantine, etc). Below are the objectives that describe both what we will be learning and how we will be learning it. We will be using our work in the community as the real life "case" upon which we learn to work collaboratively using an empowerment approach to address the increasingly complex social and health problems in our world.

Community Health Objectives

1. Identify the key elements of pandemic response for COVID for people experiencing homelessness in the ABQ area (Training in the Key Elements: Initial PowerPoint)
2. Demonstrate skills for identifying different types of COVID status (PUI, COVID +, Contact Exposure)and isolation and quarantine protocols for each type of COVID status. (Training for Patient Care in Hotel Setting)

3. Demonstrate skills in the care of COVID patients in an isolation hotel: identifying signs of danger vs. usual care (Patient care in the hotel setting or COVID Hotline calls)
4. Demonstrate patient-centered care, including respect for patient autonomy and patient confidentiality (Patient care in the hotel setting, or COVID hotline calls)
5. Collaborate with other members of a healthcare team in caring for PUIs and COVID patients with Substance use Disorder, Diabetes, Hypertension, Depression and Anxiety (Patient care in hotel settings)
6. Use health coaching skills to empower patients regarding sheltering in place for the identified time of their quarantine (Both Sites)
7. Apply skills for written and oral presentation of patients seen in the isolation hotel (Write ups of patients in Hotel or COVID Hotline)
8. Identify gaps in knowledge and resources to close the gap (Write ups of learning issues)
9. Demonstrate professional values of cultural humility, accountability, respectfulness, altruism and integrity as part of your role as medical student in a community practice. (Reports from Preceptor on site)
10. Practice health coaching skills of action planning or setting the agenda with patients on a weekly basis. (On COVID or Hotel calls)

Community Engagement Objectives

1. Describe the major principles of CBPR and how they are relevant to medical health equity practice (From CBPR Training: Principles of CBPR)
2. Identify key partnering practices and how you would apply it to your professional life (From CBPR Training and Discussion on Partnering Practices)
3. Understand health equity as both a process and an outcome and apply this to the COVID-19 response to people experiencing homelessness (From CBPR Visioning Guide and Reading on Health Equity)
4. Using the COVID experience, identify key barriers to using a health equity approach to providing healthcare services to populations (From CBPR Training: Discussion on Contexts, Partnership, and Programs)
5. Identify situations where power or privilege affected health equity and discuss what concrete steps you would take to begin to address this in your own practice (From CBPR Training: Partnering Practices: Identifying times when you had power and did not have power, and how you were able to transform that power; Community Empowerment talk and activity)
6. Identify the key components of the CBPR Conceptual model as a tool for addressing health equity and demonstrate how the use of the model in moving towards health equity outcomes
7. Explain how you would integrate the practice of CBPR into a medical practice
   (Week 4: How would you utilize this practice? Who would do this in a medical office?
8. Communicate observations with clarity and humility to community partners related to a health issue

9. Identify key components of the CBPR Barrier Analysis survey and process
10. Understand and execute the key components of a CBPR continuous quality improvement survey for improving health equity: Piloting, implementation, analysis, and dissemination of data to stakeholders to take action
11. Understand how to share data in different settings: community, stakeholders, donors, decision-makers
12. Demonstrate skills for managing community projects and roles by developing a community work plan using a Gantt Chart

Every week:

- You are expected to work five days a week
- **Service Experience**: Complete at least 2 half days in either the Hotel of Hotline site and one patient / community issue writeup with 3 learning issues;
    - You are expected to sign up for SHIFTS at the beginning of the course; if you are unable to make a shift, you are responsible for contacting Virginia Sedore, Community Course Director.
    - Every Friday, you will be meeting in small groups with CHE mentors for 1.5 hours to discuss an issue of importance that you identified during the week. There will be between 4-6 people per group; each person will be expected to present at least one case/ issue/ situation for discussion during the course.
    - At least one of these cases should be written up in the SHOWeD methodology that will be taught during the course. The SHOWeD method is a methodology used in health professions education throughout the world for training health professionals at scale, and is a health equity tool.

III.CBPR Health Equity Project: Each of you will be assigned one of three CHW teams where you will be expected to work alongside and learn with your community CHW partner. Below is the schedule of activities:

- **WEEK 1:** CBPR TRAINING and PILOTING SURVEY: Before engaging in the survey response, students will be trained in the basics of CBPR, develop partnership guidelines for working together, and participate in piloting the barrier analysis survey for COVID-19 vaccine.
- **WEEK 2**: SURVEY IMPLEMENTATION: Students will do surveys in the community at different sites in the shelter system
- **WEEK 3**: SURVEY ANALYSIS: Students will participate in survey analysis with the CHWs and Staff and work on Data Visualization poster/ charts for dissemination
- **WEEK 4:** SURVEY DISSEMINATION: Students will be able to share the results of the survey first with community organizations, and then with key stakeholders in the City of ABQ and State DOH

IV. Course Guidance:

1. **Attend each class**. If you are unable to attend a class, contact Virgina Sedore via email at vsedore@salud.unm.edu

2. **Read—Actively**. There will be a few readings for the course. Please complete the readings before class. Rather than simply skimming the readings, think about the ideas expressed and how they apply to your own experiences in and out of this class. Take notes, write questions and comments—do whatever you need to do to fully engage with the text.
3. **Come prepared.** Come to class with your questions and comments and ready to engage in a discussion.
4. **Listen attentively.** Try to really listen to the thoughts and experiences of others before interjecting with your own thoughts.
5. **Participate actively.** Contribute to group discussion. Share your own thoughts and experiences in a respectful way.

6. **Commit to *living in the tension*** of learning about new content that may be contrary to your current belief system or worldview, leaning into conversations and content that may be challenging or evoke feelings of discomfort/require vulnerability.

Appendix 2. Lab Form for Tracking of Test Results

Internal Laboratory Results Log Form

Location:

#	Date Tested	Client Name (Address/Telephone if + on Rapid)	DOB	Symptoms	Test	Result	Client Notif.	Pod # Bed#	Notes* (Reason for Testing)	Initials (Person doing test)
				□ None □ HA □ Cough □ SOB □ Fever □ Myalgias □ L.o.S.T.S □ Other:	□ Binax □ PCR	□ Pos □ Neg □ Invld □ Pos □ Neg □ Invld	□ Yes □ No		□ Symptomatic □ Surveillance. □ Other:	
				□ None □ HA □ Cough □ SOB □ Fever □ Myalgias □ L.o.S.T.S □ Other:	□ Binax □ PCR	□ Pos □ Neg □ Invld □ Pos □ Neg □ Invld	□ Yes □ No		□ Symptomatic □ Surveillance. □ Other:	
				□ None □ HA □ Cough □ SOB □ Fever □ Myalgias □ L.o.S.T.S □ Other:	□ Binax □ PCR	□ Pos □ Neg □ Invld □ Pos □ Neg □ Invld	□ Yes □ No		□ Symptomatic □ Surveillance. □ Other:	
				□ None □ HA □ Cough □ SOB □ Fever □ Myalgias □ L.o.S.T.S □ Other:	□ Binax □ PCR	□ Pos □ Neg □ Invld □ Pos □ Neg □ Invld	□ Yes □ No		□ Symptomatic □ Surveillance. □ Other:	
				□ None □ HA □ Cough □ SOB □ Fever □ Myalgias □ L.o.S.T.S □ Other:	□ Binax □ PCR	□ Pos □ Neg □ Invld □ Pos □ Neg □ Invld	□ Yes □ No		□ Symptomatic □ Surveillance. □ Other:	
				□ None □ HA □ Cough □ SOB □ Fever □ Myalgias □ L.o.S.T.S □ Other:	□ Binax □ PCR	□ Pos □ Neg □ Invld □ Pos □ Neg □ Invld	□ Yes □ No		□ Symptomatic □ Surveillance. □ Other:	
				□ None □ HA □ Cough □ SOB □ Fever □ Myalgias □ L.o.S.T.S □ Other:	□ Binax □ PCR	□ Pos □ Neg □ Invld □ Pos □ Neg □ Invld	□ Yes □ No		□ Symptomatic □ Surveillance. □ Other:	

____________________________ **Laboratory Coordinator**

____________________ **Date Reviewed by Lab Coordinator**

____ **Page #**

*Note: If you are testing a staff person, please write under Other: Staff Symptomatic or Staff Contact

Appendix 3. Intake Forms

***Has this document been digitally entered into Zoho?** yes/ no **Room#**_____

SUPER 8 TRIAGE REPORT

Today's Date: ___/____/_____

Last:_____ First:_____ **DOB: ___/____/_____ Age: _____**

Sex: _____ **circle race:** *White, Black, Native, Asian, Pacific Islander* Hispanic/ non-Hispanic Tribe/ Pueblo: _____Lang: _____

Confidentiality: This screening deals with protected health information. We will maintain your privacy and the confidentiality of your information. We may share it with several organizations that collaborate to provide services to those experiencing homelessness or housing insecurity, such as (but not limited to) Albuquerque Health Care for the Homeless, the Westside Emergency Housing Center, First Nations, Heading Home, CABQ Emergency Operations Center and NM Medical Reserve Corps. With these exceptions, we will not release, disclose or share your information without your consent. **May we proceed? Yes/ No**

Regular Med Provider (if they have): _____ contact:_____

Behavioral Health provider?_____ Methadone Provider?_____

ORIGINS

Where did you sleep last night? _____

Referral Organization *(circle)*: WEHC (Pod: _____), AHCH, UNMH, Lovelace, Pres, VA, Community Clinic

Other:_____ *if from ER/Hospital/Prison:* Referral Provider: _____

Referral Type *(circle)* : Covid /Non-Covid Medical / Other: _____

Comments:

Tobacco yes no

Pets yes no

Transportation yes no If yes, make and model:_____

Dietary _____

needs/notes _____

Client Phone: _____

SYMPTOMS *(circle)*

Fever (subj), Cough, Malaise, Fever documented, Nausea, Shortness of Breath, Headache, Vomiting, Sore throat, Diarrhea, Achy muscles, Nasal congestion, loss/decrease smell/taste, Runny nose, Red eyes, No known symptoms

Contact with covid + or symptomatic person? yes / no

if yes, *Where? and When (date)?* _____

_____

High Risk travel? yes / no if yes, *destination, duration, date return:*

_____

Been tested for covid before? yes/ no

if yes, *when?* _____

Where? _____*Result?* **+/ - / na**

COMORBIDITIES

Medical History:

Increased Risk for COVID

- COPD
- Chronic Kidney Disease
- Diabetes (Type 2)
- Immunocompromised from transplant
- Cancer
- Sickle Cell Disease

Potential Increased Risk

- Asthma
- Cystic Fibrosis, Pulm. Fibrosis
- HTN
- Immunocompromise (HIV, Chronic steroids, immune dx)
- Dementia/Seizures/Neuro
- Liver Disease, Thallasemia

List of Medications:

Medical Notes: _____

_____

_____

_____

Nebulizer: yes/ no **Oxygen:** yes/ no **if yes, Device:**_____ **LPM:**_____

Dialysis: yes/ no **if yes, location/days/times:**_____

Ambulatory: Yes/ No **if no, uses:** Cane/Walker/ Wheelchair/ Other:_____

Allergies to food or medication: _____

BEHAVIORAL HEALTH

Medications?

Risk to self/ others: yes/ no **Needs behavioral health services?** yes/ no

Notes: _____

_____

SUBSTANCE ABUSE

Currently drink alcohol? yes/ no ***if yes,*** less than/ more than **four drinks per day.** **DT RISK** Yes/ No

Do you use heroin or pain pills? Yes/ No **Withdraw risk?** Yes/ No **Does patient use Suboxone/ Methadone?** Yes/ No

Clinic name?_____

Do you use any other drugs?_____ **Substance Use Notes:** _____

_____ _____

VITALS **Date:** _____/_____/_____

Heart Rate	SP02	TEMP	Respiratory Rate	BP

PATIENT VULNERABILITY/ NEXT STEPS

Vulnerability:

- High
- Moderate
- None
- Cannot determine

Final Disposition

- HGI
- Super 8
- WEHC Blue Pod
- WEHC (Non-Covid)
- ABQ Health Care for the Homeless
- ED Evaluation
- Medically inappropriate for hotel transfer.
- Not eligible for hotel transfer
- Other, explain

Disposition Note:

_____

_____

_____

_____

_____

_____

_____

_____

_____

Reason for admission to Super 8

___ PUI Symptomatic ___ COVID + Symptomatic __COVID+ Asymptomatic

___Contact Exposure ___ PUI Geo Hotspot/Surveillance _____Any Category High RISK (>65 and/or Comorbidities)

LEVEL of RISK CRITERIA: **LOW** <60, No CM; **MODERATE** <60, Controlled CM, **HIGH** >60, Not Controlled CM

Plan for stay and any other final comments:

Appendix 4. Quarantine Quality Improvement Survey

Please complete the survey below.

Thank you!

Name of Interviewer _____

Survey site
- ◯ WHEC/Hawthorne
- ◯ Respiratory Hotel/Super 8
- ◯ Wellness/AOC

Date of Survey _____

Informed Consent

My name is _____ (name of the interviewer). I am conducting a survey on behalf of the UNM School of Medicine in partnership with the City of Albuquerque to learn about the experiences of clients in the Albuquerque COVID-19 Response Program. We want to speak with clients like you to learn about your own personal experiences with quarantine, isolation, or recovery from Covid-19, as well as your experiences at Westside Shelter or in the hotel system.

If you agree to participate in the study, we will ask you some questions about your experiences. The survey will last approximately 15 to 20 minutes. We hope to use the information from this interview to improve our programs, and the experience for clients like you, at the Albuquerque Wellness Hotels.

All information that you provide us for the study will be strictly confidential, will be used only by the project research team, and will not be available for any other purpose. You will be identified with a number and not with your name. The results of this study may be published for scientific purposes, but they will be presented in such a way that you can not be identified. If any of the questions make you feel uncomfortable, you are free to skip it or end the interview if you desire. Your decision to participate or not to participate will not affect in any way how you are treated in the Albuquerque COVID-19 Response Program.

Are you willing to participate?
- ◯ Yes
- ◯ No

Demographics

How old are you? _____

What is the highest year of school you have completed?	◯ Elementary ◯ Middle School ◯ High School ◯ Technical School ◯ College/University ◯ Prefer not to answer
What is your race/ethnic background?	◯ Hispanic/Latino ◯ Non-Hispanic White ◯ Black/African American ◯ Asian ◯ Native American/American Indian ◯ Other ◯ Prefer not to answer

Shelter Questions

How many people do you live with?	_____
Have you or anyone in your family been affected by COVID-19?	◯ Yes ◯ No
How have you been impacted by COVID?	☐ Became symptomatic ☐ Came into contact with a person who was COVID positive ☐ Told to isolate to protect health (at high-risk for COVID complications) ☐ Quarantined for 2 weeks (after a positive test, exposure, or travel out of area) ☐ Other
If 'Other', please specify	_____
Have you received a positive result on a COVID test?	◯ Yes ◯ No
On a scale of 1-5, how prepared do you think the hotel/shelter is to handle a COVID outbreak?	1 3 5 _____ *(Place a mark on the scale above)*
Has your mental health changed since the onset of the COVID-19 pandemic?	☐ Improved ☐ Worsened ☐ No change
While at the hotel/shelter, have you experienced any mental health issues?	☐ Depression ☐ Anxiety ☐ Nervousness ☐ Excessive worry

What challenges did you face while staying in quarantine?	☐ Food ☐ Needed essential personal items ☐ Needed to attend other medical appointments ☐ Inability to attend Substance Abuse Treatment therapies ☐ Inability to obtain tobacco, alcohol, or other substances ☐ Lack of entertainment ☐ No place to exercise ☐ Too loud ☐ No pets/no resources for pets ☐ Other
Which items do you believe would make the quarantine period easier?	☐ Food ☐ Essential Personal Items ☐ Medical Care Referrals ☐ Easier access to tobacco products ☐ Substance Abuse Peer Treatment Groups (Alcoholics Anonymous, Narcotics Anonymous, etc.) ☐ A more peaceful atmosphere ☐ A library of entertainment items (games, books, movies) ☐ Access to workout equip ☐ More resources for pets ☐ Other
If 'Other', please specify	_____
How do you feel you were treated by staff at the hotel/shelter?	_____
What improvements would you like to see at the hotel/shelter?	_____
What could the hotel/shelter do to make you feel more safe during COVID?	_____
Do you have a case manager?	◯ Yes ◯ No
If "Yes", what organization provides case management for you?	_____
Do you feel you need case management services?	◯ Yes ◯ No

COVID and Flu Vaccine Questions

We want to stress the importance of getting a flu shot this year. Yearly flu shots have become one of the best ways to prevent illness and unnecessary hospitalizations during the winter months. During the COVID-19 pandemic, they have become even more important. This is why we will be bringing free flu shots to the shelter and hotels over the next 2 weeks. We highly encourage you to attend at your location's date.

Do you normally get vaccines?	◯ Yes ◯ No
If no, why not?	◯ religious reasons ◯ reasons of personal freedom, choice ◯ fear of needles ◯ fear of doctors/hospitals ◯ Other
Other:	_____
Have you received the flu shot for this season (Fall 2020)?	◯ Yes ◯ No
How likely are you to get the COVID vaccine when it becomes available?	◯ Very unlikely ◯ unlikely ◯ neutral ◯ likely ◯ very likely
What would prevent you from getting the COVID vaccine? (Check all that apply)	☐ Worried it will not be safe/will have side effects ☐ Worried it will not work ☐ I don't need the vaccine ☐ Other
if other, please specify	_____

Mask Use Questions

How many hours a day do you spend around other people?	_____
Do you have your own personal mask?	◯ Yes ◯ No
Why do you wear a mask? (Allow patient to answer and check off relevant boxes, adding additional reasons as needed.)	☐ For my own safety ☐ To stay healthy for my family ☐ To protect my loved ones ☐ To protect others around me ☐ To spend more time with others ☐ Because it's a requirement ☐ Other, Please Describe: _____

How important is it for you to wear a mask?	◯ Very Important ◯ Somewhat important ◯ Not important ◯ I don't know
How easy, or how challenging, has it been for you to wear a mask?	◯ Very easy ◯ Somewhat easy ◯ Neutral ◯ Somewhat challenging ◯ Very challenging
What do you consider to be the biggest challenges to wearing a mask?	☐ It's uncomfortable ☐ I don't like the way it looks ☐ Difficulty breathing ☐ Other people don't wear their masks ☐ Other, please describe: _____
Other, please describe:	_____
How many hours a day do you wear a mask?	_____
Do you wash or change your mask?	◯ Yes, wash ◯ Yes, change ◯ No
How do you wash your mask?	☐ With laundry ☐ Handwashing ☐ Other, Please describe: _____
Other, please describe:	_____
How often do you change or wash your mask?	◯ Every day ◯ Every few days ◯ Every week ◯ Every month, or less frequently ◯ I do not change or wash my mask
Where do you keep your mask when you're not wearing it?	_____
When do you remove your mask?	☐ Meals ☐ Sleep ☐ Physical Activity ☐ When I'm alone ☐ Other, please describe: _____

Would you please explain why or why not?

_____

Would you please describe the correct way to wear a mask?

_____

We consider the correct way to wear a mask as covering both the nose and mouth. How many hours a day do you wear your mask in this manner?

_____

How concerned about getting COVID are you?

Not Concerned | Somewhat Concerned | Very Concerned

(Place a mark on the scale above)

How likely do you think you are to get COVID?

Not Likely | Somewhat Likely | Very Likely

(Place a mark on the scale above)

Why are you concerned about getting COVID? Check all that apply

- ☐ It will affect my personal health long term
- ☐ I could get very sick from COVID
- ☐ I won't be able to go to work
- ☐ I don't want to be in isolation
- ☐ I am worried about spreading it to others
- ☐ I won't be able to get/use a substance (drug, alcohol, tobacco, etc)
- ☐ I won't get my methadone treatment
- ☐ I won't be able to see my family
- ☐ Other

If 'Other', Please specify

_____

Are there any other comments you would like to share?

_____