# Asset Based Community "Response": A model promoting effective studentcommunity engagement in disaster scenarios

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#### ABSTRACT

BACKGROUND: In response to the COVID-19 pandemic, medical students organized grassroots volunteer initiatives to address community-level needs. These required community partnerships and extra-institutional resources to effectively operate. Due to curricular constraints, these efforts often lacked familiarity and working knowledge of existing university infrastructure on how to engage with established community partnerships and resources.

OBJECTIVES: The authors call for institutions to capitalize upon the response experience gained by medical students during the pandemic. This includes: (1) formally integrating the infrastructure and community relationships established by student COVID-19 volunteer initiatives into existing university community-engagement systems, and (2) incorporating Asset Based Community Development (ABCD) into medical student curricula as a framework for community engagement and disaster response.

METHODS: A case study from the University of Nebraska Medical Center (UNMC) presents student COVID-19 response initiatives, their outcomes, and how their approach emulated the ABCD model. The ABCD model asserts that communities should employ "Asset Mapping" to identify the skills and resources of community members, rather than using "deficiency-oriented" approaches. Further, the case study demonstrates how the use of an established ABCD model could have contributed to a more effective and efficient COVID-19 student response. CONCLUSIONS: Experiences at UNMC support the value of utilizing a modified ABCD model to facilitate community relationships related to rapid health response. Formal integration of the ABCD model within a university's centralized Office of Community Engagement will increase

access and foster town-gown reciprocal relationships, empowering students, academic health centers, and surrounding communities in times of crisis and calm.

KEYWORDS: Curriculum, Sociology and Social Phenomena, Needs Assessment, Education,

Students, Medicine, United States, Organizations, Academic Medical Centers, COVID-19

#### BACKGROUND

In the early stages of the COVID-19 pandemic, medical students were removed from clerkships and classrooms to limit viral spread. Population health theories from students' textbooks unfolded in real time, but the shift to off-campus, remote learning offered an additional unexpected opportunity: the chance to engage with community members during the time that otherwise would have been spent in an in-person class setting. Medical students nationwide launched grassroots efforts to address local needs; employing existing knowledge, using institutional infrastructure when present, and harnessing community assets when existing infrastructure did not match needs. Response efforts took place at Harvard, the University of Pittsburgh, the University of Southern California, and the University of Nebraska Medical Center (UNMC), among many others. <sup>1,2,3,4</sup> The Association of American Medical Colleges (AAMC) launched a central repository to document these volunteer efforts, organizing initiatives into four categories: Direct COVID-19 Support, Non-clinical Support, Support for Healthcare Workers, and Charitable/Social Services (Table 1).<sup>5</sup> The review of student efforts revealed an overlap in services offered and populations engaged, indicating that distant communities faced a common set of pandemic-related challenges. Further, these remote-but-related initiatives relied upon similar extra-institutional community resources to support their goal or reach their target population.

In pursuit of value-added medical education and its effect on public health infrastructure, it is imperative to consider ways to integrate disaster preparedness and response into medical school curricula. Any curricular updates should consider the strategies employed in real-time by students' community response efforts, the hurdles encountered, and best practices adopted. At UNMC, students sought friends, family, neighbors, and familiar local organizations to support

their efforts, independent of their institution. The absence of formal curricula on best practices for community response delayed student action. Additionally, student-led initiatives could have mobilized more rapidly and effectively if there had been greater knowledge of existing institutional relationships with community members, organizations, and neighboring institutions. What practical model or established framework could have better prepared medical students and offered resources to support their goals?

### **OBJECTIVES**

This paper proposes an Asset Based Community "Response" model, an adaptation of the Asset Based Community Development (ABCD) model published by Kretzmann & McKnight, to serve as a foundation for this curriculum.<sup>21,22</sup> Though the model has traditionally been used in the public health domain, its applicability to the medical profession is not a new idea, nor is the concept of training physicians to engage with their communities.<sup>23,24</sup>

The ABCD framework can be implemented in any community confronting any type of disaster. The importance of the Asset Based Community "Response" model will be illustrated using examples from student-led COVID-19 volunteer initiatives at UNMC *responding* to pandemic-related challenges. Based on our experience, we call for institutions to adopt this model for two reasons. First, institutional integration of student-built infrastructure will allow for quick reactivation in disaster scenarios. However, the town-gown relationships fostered by students can be harnessed to promote community collaboration in both crisis and calm.<sup>25</sup> Second, the ABCD model offers a framework for institutions to augment medical education by incorporating disaster response, community engagement, and multidisciplinary service-learning

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into student curricula.

#### **METHODS**

#### THE MODEL

In 1993, Kretzmann & McKnight published the concept of Asset Based Community Development (ABCD).<sup>21</sup> The authors proposed that, rather than using "deficiency-oriented" policies and programs, community improvement initiatives are more effective and sustainable if the community's preexisting assets are prioritized. The model necessitates a process called Asset Mapping: a thorough inventory of a community's *individuals, associations*, and *institutions*, in conjunction with the community's *physical assets* and *interpersonal connections*. "Household by household, building by building, block by block, the capacity map-makers will discover a vast and often surprising array of individual talents and productive skills, few of which are being mobilized for community-building purposes."<sup>22</sup>

*Individuals*' formally (e.g. education, employment) and informally acquired skills can be identified using a Capacity Inventory.<sup>26</sup> An abridged list of disaster-applicable skills from an inventory designed for two Chicago neighborhoods can be found in Table 2.<sup>21</sup>

*Associations* are groups of community members that assemble under a common interest or to solve problems, but possess a less formal structure than institutions. Examples include gardening clubs, sewing circles, or student organizations.

*Institutions* are formal community organizations, which include "Private businesses; public institutions such as schools, libraries, parks, police and fire stations; [and] nonprofit institutions such as hospitals and social service agencies."<sup>21</sup>

*Physical assets* serve as means to pursue a common goal, such as monetary resources to support a project or an available building for congregation.

Finally, *interpersonal connections* are the intangible resources a community offers. These relationships between individuals and groups facilitate cooperation and coordination.

Evidence suggests that the ABCD model promotes community-wide wellbeing, selfefficacy, pediatric development, and connectedness in elderly populations.<sup>27,28,29</sup> Additionally, this framework may prove beneficial to academic health centers, as Service-

Learning/Community Service activities are a criterium for medical school reaccreditation by the Liaison Committee on Medical Education (LCME).<sup>30</sup> While the ABCD model provides a template to engage with an institution's surrounding community, a review of published literature suggests its use in health professions education is limited. Programs employing this framework are largely limited to pediatric Graduate Medical Education, undergraduate nursing programs, and international service-learning experiences.<sup>24,31,32,33,34</sup> Published literature illustrating the use of ABCD in Undergraduate Medical Education (UME) and academic health center volunteer initiatives is particularly limited.<sup>35</sup> The organic approach taken by medical students in their organized pandemic response is a foundation for future experiential service-learning opportunities and curricular integration of the ABCD model.

### APPLICATION TO DISASTER RESPONSE

In March and April of 2020, UNMC students felt called to act as COVID-19's effects hit the Omaha community. Recognizing public health-related needs throughout the state, students employed an informal ABCD model to build partnerships with community members. Their initiatives included:

- <u>UNMC CoRe: COVID Relief</u> Provided childcare/pet care to front-line health workers, facilitated Personal Protective Equipment (PPE) donation and distribution, and coordinated community mask sewing for health care centers and local public-school programs<sup>12</sup>
- <u>Medical students United with Neighbors across America (MUNA) Box Project</u>-Organized and delivered nutrition and hygiene products for refugee/immigrant organizations, religious institutions, and community centers<sup>17</sup>
- <u>Support Your NEighbor COVID-19</u>- Coordinated grocery and medication delivery, food donation drives, and a companionship program for elderly and at-risk populations<sup>18</sup>

UNMC CoRe saw the greatest student involvement, with participating students spanning all seven of UNMC's educational programs (n=271, Table 3) and 12.1% of all non-House Officer [e.g., medical residents, fellows] UNMC students on the Omaha Campus (n=2232). The College of Medicine contributed the most student participants to the UNMC CoRe initiative, with more than 40% of medical students volunteering (n=209, Table 3). These response initiatives were fast moving and independently developed by students with limited university oversight. They sought *individuals* to serve as volunteers, *associations* in the community needing assistance, *institutions* for financial support, *physical assets* for fabrication of products, and *interpersonal connections* to coordinate effectively. This was challenging, as students were generally unaware of UNMC's existing resources and relationships. Further, some resources and relationships were either informal in nature, not established at the institutional level, and/or not readily accessible to students. Notwithstanding other legal barriers encountered, knowledge of and access to an existing, formalized, and institutionally maintained Asset Map would have enabled a faster and

more effective response, matching longstanding relationships with newly identified needs and resources.

This gap in knowledge and resource-sharing illustrates the value of an institutionalized ABCD model. Student initiatives lost valuable time building a network that an institutionalized ABCD model and Asset Map would have offered. For example, UNMC CoRe's Community Mask Sewing program required:

- <u>Recognition of a need</u>: a student with ties to the Omaha Public School District (OPS, Omaha, Nebraska's largest school district) recognized a subpopulation of students and families in need
- <u>Material acquisition</u>: crowd funding through volunteers' friends and family to purchase mask-sewing materials (e.g. textiles, thread, elastic bands)
- <u>Material processing</u>: a partnership with a local quilting shop to cut fabric sheets, identifying volunteers with laundering capacity, and organizational skills to sort mask sewing materials
- <u>Sewing capacity</u>: social media posts and local news stories calling for community volunteers with sewing skills and machinery
- <u>Kit distribution & completed mask pick-up</u>: student volunteers with access to personal transportation
- <u>Recipient identification</u>: a partnership with OPS's meal assistance program as a centralized means to distribute completed masks to a decentralized population in need

The initiative's approach illustrates Asset Mapping and an informal Capacity Inventory. Students surveyed the skills and resources of their community and identified otherwise unreachable resources. To illustrate this point further, local tailor shops did not have the capacity to

contribute to UNMC CoRe's mask sewing initiative and still maintain day-to-day business operations. However, UNMC CoRe identified community members who sewed as a hobby and had the skills, machinery, and availability to produce masks.

Academic institutions need to foster community partnerships, establish infrastructure to maintain these relationships, and ensure this information is readily accessible to students. Several existing UNMC resources and community partnerships could have supported student COVID-19 volunteer initiatives, but due to the public health versus clinical nature of this information, medical students were not educated on where to seek institutional help. Through independent initiative, students discovered a plethora of tools and partnerships available. Formal education on resource identification, effective community engagement, and methods to coordinate with established extra-institutional partners could have produced a more successful disaster response.

Prior identification, education, and coordination with our community's *individuals*, *associations*, *institutions*, *physical assets*, and UNMC's established *interpersonal connections* would have allowed student initiatives to collaborate more rapidly and effectively in responding to identified COVID-19 related needs.

#### COMMUNITY PARTNERSHIP & IMPACT

By employing ABCD strategies on a small scale, UNMC student COVID-19 volunteers (Table 3) were able to build meaningful partnerships with community members and make a positive impact. The UNMC CoRe initiative sought partnerships with (a) UNMC's clinical partner to identify frontline healthcare workers in need of child & pet care, (b) local medical societies and national organizations for PPE procurement and distribution, and (c) Omaha community organizations in need of sewn masks. An Asset Map depicting UNMC CoRe's

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community partnerships (Figure 1) and a summary of the initiative's service outcomes (Table 4) illustrate the collaborative structure an ABCD model could provide.<sup>36</sup>



Figure 1. UNMC CoRe Asset Map<sup>36</sup>

Although the student-led UNMC CoRe initiative did not establish a formal means to evaluate their impact on communities served, UNMC's Office of Community Engagement (OCE) independently contacted community stakeholders and service recipients to evaluate the impact of student COVID-19 volunteer initiatives. The OCE measured overall UNMC impact via informal qualitative interviews with representatives from the local school district, state health care association, and faith-based organizations. Some themes that were revealed in community

member quotes include, "demonstration of caring," "critical to addressing immediate supply shortage," and "increasing safety and assurance".<sup>37</sup>

In addition, UNMC CoRe received unprompted, informal feedback via email and written letters from institutional administrators, extramural volunteers, and service recipients. Notably, service recipients of UNMC CoRe's childcare/pet care efforts for clinicians immersed in acute pandemic response described the work as an "amazing act of kindness" and that the students "have no idea what this means to us in such a crazy time."

#### LIMITATIONS

This case study on the application of an ABCD Model is not without limitations. First, the activities described evolved rapidly in response to immediate pandemic-related needs and were initially supported only by the university's temporary Incident Command System. Although the need to implement a centralized structure connected to medical education is apparent in times of crisis, the time and resources needed to act preemptively may not seem like a prudent investment. Additionally, early in the COVID-19 pandemic, medical students at UNMC were granted unexpected time away from standard clinical commitments. Time that students would typically spend in the hospital was reinvested in community service initiatives, and extensive student involvement may not be replicable on top of normal clinical requirements. Further, the pandemic catalyzed a unifying, altruistic drive for students and Omaha community members to contribute to COVID-19 related initiatives. These circumstances fostered an environment for increased community involvement that otherwise may not have occurred. Next, the timesensitive nature of student response efforts necessitated a focus on quickly identifying and addressing the emergent needs of community partners. Consequently, a formal and contemporaneous system to gather feedback on their work was not developed. In retrospect, an

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organized evaluation process could have produced usable community impact and process improvement data. Survey development and program evaluation expertise from academic partners can significantly augment community collaboration and is precisely why formal training is needed within medical curricula.<sup>38</sup> Finally, this was a retrospective case study, as the ABCD model was employed in a spontaneous setting without formal curricular implementation. To effectively test this academic framework, a prospective analysis of the ABCD model and its application to disaster response should be evaluated after formal integration within institutional infrastructure and curriculum.

Despite these limitations, the central takeaway of this case study is the recognition that a working knowledge of community engagement and emergency response systems is critical for medical student development. This exposure ensures future physicians are familiar with community response models in emergent and non-emergent scenarios and that they recognize its complementary nature to their scope of practice.

#### CONCLUSIONS

#### INSTUTUTIONAL INTEGRATION AND IMPLEMENTATION

To effectively implement and apply the ABCD model, formal integration within a university's infrastructure must occur. UNMC supports an Office of Community Engagement (OCE) that reports to the Senior Vice Chancellor for Academic Affairs, overseeing university-wide engagement strategies. The Asset Based Community "Response" framework naturally falls under the purview of this office and aligns with its mission to "build mutually beneficial relationships and collaborations between UNMC faculty, staff, and students and the communities" served.<sup>39</sup> It is important to note that UNMC's OCE maintains many valuable

Asset Based Community "Response"

relationships and resources within a community engagement database and could have contributed to student COVID-19 response efforts. The use of the OCE's engagement infrastructure in this way was not obvious to students nor was it part of their formal curriculum. Deliberate student exposure to this office as a component of an ABCD curriculum could have facilitated partnership with community members and public health entities in the early stages of student volunteer efforts at UNMC. An office of similar purpose, with existing community ties, would be a natural home for Asset Based Community "Response" initiatives at other institutions.

This model should also be formally integrated in health professions curriculum and serve as a framework to support experiential service-learning. In an era of recorded lectures and eModules, medical education has evolved to be more decentralized than ever before. The knowledge gained through a community Asset Map, outlining key assets and resources possessed by a community's *individuals*, *associations*, *institutions*, *physical assets*, and established *interpersonal connections*, will empower academic health centers to better engage medical students with the populations they will serve as physicians. This, in turn, will allow for innovative strategies and mutually beneficial initiatives to promote health equity.

Many tools exist to help institutions streamline the execution of a disaster-oriented ABCD model in partnership with their local communities. For example, by using information attained from a Capacity Inventory, institutions can develop a website/smartphone app for communicating needs with sub-populations in the community. Additionally, institutions can produce a geospatial visual aid by uploading community members' identifiers, assets, and capacities into a mapping program, like Google Maps.<sup>40</sup> This easily produced and readily updatable interface can help identify the strengths of a street, neighborhood, or city. A similar

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mapping tool was employed by UNMC CoRe's Mask Sewing initiative to generate routes for mask sewing kit distribution to community volunteers' homes.

#### INSTITUTIONAL CHALLENGES

One of the most daunting challenges facing formal implementation of this adapted model is its demand for institutional resources. Effective launch would require a robust engagement campaign to elicit community investment and understanding of the ABCD model. Additionally, the responsibility to launch, monitor, and maintain the program should be housed in a permanent university department. An Office of Community Engagement or an office of similar ethos would be an appropriate fit, as the ABCD infrastructure will require regular upkeep that cannot be effectively maintained by transient students.

Second, while health professions students offer a unique skill set and are eager to engage the community, their involvement in emergency scenarios carries risk. Student volunteerism should be formally integrated into institutional Incident Command Systems to limit legal vulnerabilities, mitigate health risks, support multidisciplinary collaboration, and promote resource sharing.<sup>41</sup> Expanding this infrastructure proactively ensures that sufficient risk mitigation strategies are in place for student safety.

Finally, in carrying out Capacity Inventories, it may be difficult to contact and integrate populations with limited literacy or restricted access to technology. In these cases, it is important to reach these individuals by other means (e.g., hosting in-person Capacity Inventories at community events).

### TAKE-AWAYS

There is no shortage of evidenced-based information on effective preparation for and response to a disaster scenario. The Centers for Disease Control and Prevention (CDC) annually publishes reports and toolkits on a wide array of disaster preparation strategies for government entities and individual citizens.<sup>42</sup> There is a need, however, for an effective structure to launch and support grassroots volunteer initiatives. The adapted ABCD model seeks to address this gap by engaging skills and resources in our own backyard, while infusing medical education with a critical appreciation for community outreach. Academic health centers are often important pillars of the community and can empower their neighbors to contribute to a common cause.

The CDC states, "When enough healthy, socially connected, and prepared people come together, they form a community that is often better able to withstand, manage, and recover from disasters." <sup>43</sup> In the wake of the COVID-19 crisis, community members gained a keen understanding of their community's needs and recognized the importance of collective action. Student organizations, like those at UNMC, identified community members' skills, recognized their hunger to serve, and worked together against a common threat. The current climate is fertile to launch the ABCD model in every academic medical center and to improve student awareness of institutional resources. The crystallization of student volunteerism in health professions curriculum is an opportunity to be better prepared for the next disaster.

### DISCLOSURES

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Table	1 Medical	student CO	VID-19	volunteer	initiatives	organized b	w service	category <sup>5</sup>
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Category	Examples of Services	Program Examples (State)*		
Direct COVID-19 support	Community hotline, telemedicine, overflow staffing/support	<ul> <li>COVID Rapid Response Team-Chicago (IL)<sup>6</sup></li> <li>UC Davis COVID-19 Medical Student Response (CA)<sup>7</sup></li> <li>Families Connect Program (NY)<sup>8</sup></li> </ul>		
Non-clinical support	Research, wellbeing support, educational resource development, sample processing	<ul> <li>National Student Response Network (MA)<sup>9</sup></li> <li>The Philadelphia Organization of Health Professions Students (PA)<sup>10</sup></li> <li>WashU Med Student Coronavirus Response (MO)<sup>11</sup></li> </ul>		
Support for healthcare workers	Childcare, grocery delivery/food coordination, personal protective equipment (PPE) manufacturing and coordination	<ul> <li>UNMC CoRe: COVID Relief (NE)<sup>12</sup></li> <li>MN Covid Sitters (MN)<sup>13</sup></li> <li>Alpert Med Resource Aid (RI)<sup>14</sup></li> <li>Tulane University School of Medicine COVID Response Group (LA)<sup>15</sup></li> <li>University of Arizona-Phoenix Mask-Quaraders (AZ)<sup>16</sup></li> </ul>		
Charitable/Social Services	Food banks, blood banks, hygiene kits, community outreach, meal delivery	<ul> <li>The MUNA Box (NE)<sup>17</sup></li> <li>Support Your Neighbor COVID-19 (NE)<sup>18</sup></li> <li>TCU and UNTHSC: Virtual Blood Drive (TX)<sup>19</sup></li> <li>Carolina COVID-19 Student Services Corps (NC)<sup>20</sup></li> </ul>		

\*Program initiatives may have activities that fall under multiple categories, however each program is listed only once

Kratochvil, T.J., Keeler, H.J., H. Davies, H.D. (2022) Asset Based Community "Response": A model promoting effective student-community engagement in disaster scenarios. *Progress in Community Health Partnerships*. (Forthcoming.) 28 March 2022.

	Population comfortable caring for:	Elderly Mentally Ill Sick Physically and/or Developmentally Disabled		
Health	Kind of care provided:	Bathing Feeding Exercising/Escorting Grooming/Dressing		
Child Care	Caring for Babies (under 1 year) Caring for Children (1 to 6) Caring for Children (7 to 13)			
Administrative	Typing Taking Phone Messages Accounting Planning and Directing the Work of Others			
Construction & Repair	Painting Plumbing Repairs Electrical Repairs Soldering & Welding Carpentry Roofing			
Food	Catering for Large G Baking Food Handlers Perm	roups its		
Transportation	Driving a Car/Van Driving a Large Vehicle (Bus, Commercial Truck, Ambulance)			
Operating Equipment & Repairing Machinery	Repairing Household Appliances Repairing Automobiles Using a Forklift/Hand truck Repairing Heating & Air Conditioning System			
Other	Sewing/ Tailoring Heavy Lifting Music and Entertain	ment		

Table 2. Disaster-applicable skills for an Academic Health Center's Capacity Inventory<sup>6</sup>

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	Enrolled Students (n)	UNMC CoRe Volunteers (n)	UNMC CoRe Involvement per Cohort (%)
First-year	131	49	37%
Second-year	132	74	56%
Third-year	123	68	55%
Fourth-year	130	18	14%
Total	516	209	41%

Table 3. Medical student involvement\* in the UNMC CoRe initiative, stratified by Spring 2020 enrollment status

\*Interprofessional student participation excluded (n=62)

UNMC CoRe Service	Service Recipients	<u>Outcomes</u>
Childcare & Pet Care	<ul> <li>Nebraska Medicine* frontline health care workers</li> </ul>	• 1135 hours of child & pet care provided
Community Mask Sewing	<ul> <li>Omaha Public Schools (OPS) Meal Assistance Program</li> <li>Omaha South Packer Pantry</li> <li>State Senator Tony Vargas for distribution in his legislative district</li> <li>Omaha Housing Authority</li> </ul>	<ul> <li>50,000 cloth masks for Nebraska Medicine*</li> <li>45,000 adult/child masks paired with multi-language, evidence- based COVID-19 guidance</li> </ul>
PPE Procurement and Distribution	<ul> <li>Omaha-area Federally Qualified Health Centers</li> <li>Statewide Rural Health Care Systems</li> </ul>	<ul> <li>Face Shields: 39,100</li> <li>Procedural Masks: 6,900</li> <li>N95: 90</li> <li>KN95: 4,390</li> <li>Boxes of Gloves: 264</li> <li>Sanitizing items: 27</li> <li>Msc. Protective Apparel: 605</li> </ul>

Table 4. Service recipients and quantitative o	outcomes from the	e UNMC C	oRe initiative
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\*University of Nebraska Medical Center's Clinical Partner