Designing the College of Health Solutions: Translating Knowledge to Impact

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“When I was appointed (Dean) of the College of Health Solutions in (2017), my guidance from (President Crow and Provost Searle) was to “advance (CHS) to be a new class of (college). They April 17, 2019 told me: ‘Expect to have to figure it out along the way. And...be creative’.”

Michael M. Crow, President, ASU

Background

Between September 1 and November 30, 2017, the College of Health Solutions (CHS) undertook a visioning exercise, with the goal of reimagining CHS as an engine that drives knowledge to action to improve health outcomes. CHS is a young college, formed of eight academic units that are currently disjointed with academic programs and faculty that are siloed. CHS does not reap the benefits of its talent and it is not facile nor does it have a unified vision.

In 2018, the U.S. and the world are facing unprecedented health challenges that are creating an unsustainable burden on our economy. In 2015, the US spent $3.2 trillion on health, 17.8 % of its GDP, and five times more than the budget of the U.S. Department of Defense. Yet the U.S. has some of the worst health outcomes in the world. It also ranks the lowest on quality of care, access, efficiency, equity, and healthy lives among 11 industrialized countries. The largest proportion of health care expenditures is for chronic conditions such as diabetes, cardiovascular diseases, chronic respiratory diseases, cancer and cirrhosis. Most of these conditions are preventable. Behavioral health and substance abuse are the fourth most expensive sectors of health care spending. Physical pain, particularly low back pain, accounts for increases in spending. Despite the fact that all of these conditions are preventable, the amount spent on prevention and population health is continually decreasing. Finally, the social determinants of health such as education, housing, transportation, and food insecurity are threatening to increase the burden of disease among the most vulnerable in our nation.

It is in this backdrop that CHS undertook its visioning exercise. The work was undertaken in two phases: Phase I was held during September and October 2017. Twenty-five meetings were held with CHS staff/faculty, ASU internal stakeholders (i.e., Deans and other leaders), and external stakeholders (i.e., health and community leaders) (see Appendix for names of internal and external stakeholders). An executive visioning team (EVT), made up of CHS staff and faculty across current academic units, was formed to distill the information from those meetings and to create an initial framework that was responsive to the comments from the stakeholders.
During Phase II, EVT members held 13 meetings over two weeks to present the framework to the individuals who participated in the initial meetings. The version presented today represents the input of all of these stakeholders.

External stakeholders called on CHS to take the lead on shortening the cycle of discovery to implementation in health. They suggested CHS focus on finding solutions to problems critically important to the health of Arizona and the U.S. They encouraged CHS to recognize the context of health in Arizona and the needs of the local community by engaging stakeholders to identify problems that can be supported by research, and by using data analytics to support improved health outcomes. They encouraged CHS to consider a broader definition of scholarship, to increase inter-professional experiences for faculty and students and to expand the participation of professionals in the community in the research and education of the college. Finally, they encouraged CHS to understand how to address social determinants of health and to support a research environment that promotes sharing instead of competition. The idea of partnership was significant for external stakeholders.

External stakeholders encouraged us to teach students to be agile thinkers who work well in teams, are fluent in data analytics, and feel comfortable working across disciplines. Critical thinking, decision making and communication skills are critical. Students need to learn to define problems before driving solutions. They need to have emotional intelligence, equity awareness, cultural proficiency, ethics and professionalism and a more global vision. Rather than becoming only domain specialists, graduates should be generalists by training, understanding the complexity of health and connections across disciplines and systems. Students must have a “stout” lexicon of health care and new ways of thinking (e.g., going to the hospital is a failure of the system) and a fundamental knowledge of economics. These stakeholders encouraged CHS to consider alternative ways of educating professionals, expanding participation of professionals in the community in the research and education of the college, and giving students more access to training by partner organizations, perhaps by engaging them in longitudinal projects with partners and communities.

Internal stakeholders provided both an external perspective (i.e., what other colleges are looking for from CHS) and an internal perspective (i.e., how can CHS grow from within). Externally, internal stakeholders suggested that ASU constituents are craving for a more comprehensive topical, multi-unit approach to solutions in health. They encouraged CHS to take the leadership role to form the identity for health at ASU, and to be able to represent solutions from entities all over campus. In other words, can CHS help ASU to re-imagine the health system? Internally, stakeholders urged CHS to develop more common efforts across units, rather than being siloed within units – they suggested CHS needs better internal collaboration to make a higher impact. CHS has the opportunity to lead the use of big data, analytics and artificial intelligence in health, an area ASU is currently not prepared to deal with adequately. Finally, they encouraged ASU to identify effective approaches to organize and lead interdisciplinary teams to address specific health problems.
Internal stakeholders suggest that pre-med students need programs that will enhance their knowledge of the health system. CHS could be a resource to all colleges preparing students for medical school and other health professional training programs. There is more demand for online degrees in health. CHS should explore opportunities to lend credit and non-credit offerings that would allow some populations a pathway into credit. Additional programs could include medical communications, medical journalism and health literacy. CHS could collaborate with other units to meet the demand for health-related programs. Internal stakeholders think that CHS can take the lead to show how ASU can differentiate itself in education about health.

The Vision

With that background as guidance, I am presenting the vision for a new structure, a new function and a new culture at CHS. The vision is responsive to the input from the internal and external stakeholders summarized in Table 1.

Table 1: Summary of CHS structural changes in response to stakeholders’ feedback

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<th>Feedback from stakeholders</th>
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<td>Reduce silos among faculty; enhance transdisciplinary teaching and instruction</td>
<td>Replacing schools/departments with translational teams and affinity networks</td>
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The vision is grounded by the decision to **centralize the primary functions of the college**. This model replaces the roles of schools, departments or other smaller units. A “flat organization” (a) elevates faculty and staff’s level of responsibility; (b) removes excess layers of management;
(c) improves the coordination and speed of communication amongst faculty and staff; and (d) facilitates easier decision-making processes. This model is also more efficient and reduces costs and overhead. There are five components to the new structure: Translational Teams; Faculty/Staff Affinity Networks; Academic Degree Programs and Executive and Continuing Education; Success Service Units; and the College Infrastructure, all of which are led by the Dean’s office.

1. Translational Teams

A translational team is a resourced and agile team of faculty, students and community partners, that is focused on solving complex health problems through teaching, research and service. Central to the purpose of translational teams is the recognition of the current complexity within the system of health, and the need to be able to bring together transdisciplinary teams of scientists, educators, practitioners, and students to solve critical health problems within this complex system. Each translational team will self-organize around solving a pressing health problem that is multi-faceted, has a complex etiology, and is a major driver of healthcare costs and patient quality of life (e.g., chronic pain, diabetes, caring for patients with multiple co-morbidities). CHS faculty, research staff, students, faculty outside of CHS, and community partners across the translational spectrum will convene to identify measurable outcomes. The teams will be composed of groups of faculty who are engaged in a variety of research: basic (bench) research, clinical trials (both clinical and policy), behavioral interventions, policy interventions, and measurement and informatics. Community partners will be engaged to identify problems, to provide access to communities or groups of patients who are affected by the health problem, and work collaboratively toward solutions. Faculty from other units within ASU will be sought to provide more comprehensive and innovative strategies to address the health problem. The translational teams will be designed to demonstrate measurable impact on complex, system-level health problems, not just on one facet of a problem.

The translational teams will also be the focus of training and education for our students. All students will have the ability to spend four years attached to a translational team, which will help to focus their education, offer research opportunities, and improve their real-world problem-solving skills. Overall, the research and education from the translational teams will result in data-driven strategies and initiatives that can be translated to action in the community. Community members will have input into all phases of the work of the translational teams. Translational teams have the potential to evolve into centers and institutes and may be strategically established around emerging areas with high potential for sustained funding and health impact. They will become recruitment engines for the college. Utilizing our current expertise, CHS could immediately develop translational teams to address each of the complex health problems that account for the most expense and have the highest impact on patient quality of life.
An example of a translational team is provided to help contextualize this novel approach to research and learning. As mentioned above, patients with multiple co-morbidities are a critical health system challenge. This relatively small segment of the population consumes some 50% of health-related resources and requires a wide range of complex interventions across the health system and beyond. A translational team could be formed to study and improve the complex system of care for patients with multiple comorbidities. Currently, care for this population is often ineffective and fragmented. New clinical solutions tailored to patients with specific comorbidities are necessary. New evidence regarding the interaction of multiple interventions is essential. And policies and incentives at the system-level are needed to ensure that all patients get the care they need when they need it. For example, in 2012 the Arizona Department of Health Services overhauled its health care program serving children with complex health problems. The integrated approach pioneered in Arizona incentivized new collaborations between a range of disciplines, and enabled more patients to receive the latest evidence-based treatments. Yet further opportunity exists as Arizona still ranks relatively poorly in health outcomes for this population. CHS already has a small team of researchers studying this important issue, but a resourced and agile translational team presents the opportunity for CHS to have a far larger impact on teaching, knowledge generation, and on the health of the community.

Achieving this ambitious goal will require purposefully convening a team of experts from many CHS disciplines and across ASU. Team members would consist of faculty, research staff and students who are studying healthcare policy, lifestyle behaviors, behavioral health, social work, informatics, law and economics, and community partners who must address the problem as part of their work. Translational team students and faculty would use the Decision Theatre to demonstrate to health system leaders and policy-makers the potential system-level impacts of new interventions or policy solutions developed and tested by the team. This is one of the ways in which a translational team could impact patient health and quality of life and its ability to provide an educational environment for students that would result in workforce readiness.

2. Faculty/Staff Affinity Networks

As our work advances, CHS will always need increased expertise in different interdisciplinary areas. Today, we need expertise in health policy, and dissemination and implementation, for example. Instead of schools that can be siloed and rigid, “affinity networks” can attract faculty and research staff together who are of similar mindsets, use similar research approaches and methodologies, and have identified foci that will be necessary to feed the translational teams. Faculty/staff affinity networks will constitute collegial environments to build CHS capacity and offer ways in which faculty could convene around common interests.

An affinity network is another opportunity for education for students. Students interested in a particular area of knowledge and practice could attach themselves to an affinity network. A course or set of courses could emerge from an affinity network. Other examples of affinity networks could include health services research or artificial intelligence. With extramural
funding such as a planning grant or a center grant, an affinity network could evolve to become a center.

CHS already has the Center for Health Information Research (CHiR), which is an example of an affinity network that has become a center that provides expertise to the community at large, as well as to CHS. CHiR will be a resource for the translational teams as a data warehouse, a source of “big data” analytical expertise, and access to community partners with whom translational teams would like to collaborate.

Another example of an affinity network under development is one focused on the development of expertise in Clinical and Translational Science. The intention of faculty working together in this affinity network is to develop the capacity to become an Institute for Clinical and Translational Science, as a precursor to the application to be the recipient of an NIH National Center for Advancing Translational Sciences (NCATS) Clinical and Translational Science award (CTSA).

3. Academic Degree Programs and Executive and Continuing Education

All faculty are affiliated with an academic program. Some faculty are affiliated with more than one academic program. The academic program affiliation is the anchor for all the faculty from which they will participate in CHS. Academic Programs will have academic program leaders (non-tenure track) and faculty leaders (tenure track) to support the growth of the academic programs and professional development and the faculty in their teaching activities.

The formation of affinity networks and translational teams will provide opportunities to grow new academic degree programs and invigorate current offerings. Specifically, faculty/staff affinity networks (which are interdisciplinary by their nature) will develop areas of capacity that could easily evolve into degree programs, certificates or non-transcripted executive and continuing education.

The new approach to Academic Programs will drive collaboration by identifying courses and concentration that can be offered by multiple degree programs. It will encourage team teaching and increase efficiency in course offerings (e.g., instead of hiring Faculty Associates (FA) for two courses in one program and another FA for similar courses in another program, we may combine courses, hire ONE full-time instructor, etc.). Finally, a centralized Academic Program structure (through one Academic Program Committee will increase equity across academic programs in teaching loads and mentoring opportunities. As duplications and similarities are identified, creative teaching and curricula will allow for cross-learning opportunities (e.g., four different behavior change classes can be streamlined to utilize the same core material with opportunities to explore variations via case studies).

The foremost goal of the academic degree programs is to prepare students to contribute in multiple ways to improving health outcomes. Our current academic degree programs will be
continued in the near term to support the needs of our students, and they will be enhanced by the new interdisciplinary approach. Meanwhile, we will begin an immediate across-program audit to identify and reduce duplicity and other issues that lead to inefficiency. Because academic programs will not be siloed within schools, we will be better able to identify new opportunities for transdisciplinary degrees (e.g., BS Translational Health, BS in Population Health). New degree programs will be intentional, forward-thinking and designed to enhance active learning.

The formation of Translation Teams will provide a better structure to generate new and innovative translational health degree programs, focused on the critical health problems being address through these Translational Teams. Students within these degrees will be provided greater interaction with research faculty (include intensive hands-on experiences in research teams), community partners and non-CHS faculty, and be provided an education program that spans across the translational spectrum. For example, a student undertaking a BS in Translational Health, with an emphasis in multiple comorbidities, will be exposed as early as their freshman year, to transdisciplinary research and practical experiences focused on improving the healthcare experiences and outcomes of patients with multiple comorbidities. They will be trained as “problem identifiers and problem solvers” and be exposed to complex systems. Specific goals for the academic degree programs:

**Undergraduate Degrees:**

- Reduce the overall number of degrees to a maximally differentiated core set, with each having tracks that allow students to flexibly optimize and navigate their undergraduate experience in four years (including transfer students).
- Embed 21st century workforce skills into the learning outcomes throughout the undergraduate curricula through a core curriculum, portfolio and badging system.
- Maximize the quality of the learning experiences through intentional instructional design and well-organized and executed experiential offerings (e.g., Transitional Team participation).
- Bolster the advising and mentoring support for our students through multiple layers of support and engagement.
- Engage in continual communication with industry partners to ensure our graduates are best prepared and highly employable.
- Increase specialty offerings with clinical partners (e.g., Echocardiography Certificate from Mayo plus CHS BS).

**Graduate Degrees:**

- Increase the number and impact of graduate degree offerings, with an emphasis on new domains that involve cross-college offerings, represent an area of expertise in the college, and provide the opportunity of access to significant extramural funding
Increase flexibility of offerings to include 4+1, etc., with an emphasis on interdisciplinary degrees (e.g., MLFTC bachelor’s degree with EXW master’s degree 4+1)

Increase the number of CHS top graduate programs in the country.

Executive and Continuing Education:

• Address the local and national demand for high-quality, flexible non-degree certificates and custom-learning needs. Meet the needs of local stakeholders for continuing education.
• Integrate closely with CHS graduate degrees to develop modules and pathways that accommodate many different types of learners and their professional goals.
• Provide access to new and evolving information in an easily accessible and flexible format.

Our degree infrastructure at all levels will provide a shell within which our specific offerings can evolve with the needs of our students and community. Our proposal will include a staged implementation plan to avoid negative ramifications for our current students.

The New Student Experience

Institutions across the nation are attempting to enhance student success by focusing on student persistence and retention. External demands and the competition among institutions have driven the need for increasing retention rates. CHS recognizes that engaging students in research, forming partnerships, and merging academics with real world solutions will provide opportunities for academic learning and real-world application. Student retention theorists suggest the intellectual congruence between the student’s involvement socially and academically is an important element of integration into the campus environment and student retention. Students who feel academically competent will be confident in continuing their studies.

We have been charged with increasing the retention rate of our college to 90% by 2020. In an effort to improve our recruitment, enrollment and retention, we propose a new model to enhance the student experience. CHS will provide a coordinated experience for all students by pairing them up with a support team that will focus on the student’s learning, research, and career goals. In fact, students experience health problems as individuals, family members and as members of a broader community. As an example, diabetes affects 40% of the population of the U.S. One in three women experience breast cancer. The age-adjusted death rate for opioid mortality in Arizona is ~18%. Students are exposed to these illnesses and deaths and as such, become “expert observers” and can report on the impact of these illnesses to their families and communities. Thus, recruiting students to become “part of the solution” and imbedding them into a translational team addressing a cause of mortality that has particular meaning to them will likely help to engage them and keep them engaged throughout their four (+/-) years of undergraduate education. The New Student Experience includes:
• Having a support network to include faculty, staff, student services, and a community partner (thus being inclusive of all learner levels.) by placing the student and their learning needs at the focus of their degree.

• A different approach to advising that is personal and positive, out reaching and engaging in an active instead of passive manner.

• Being involved in research from Day 1. ALL CHS students will have the opportunity to be imbedded with a translational team and affinity networks. They will be connected to faculty, community, and staff establishing community connections and diverse campus partners.

• Engaging research and service learning providing educationally purposeful activities, which will have a positive impact on student persistence, first-year grades, and retention rates.

• Engaging students in cross disciplinary application of research and problem solving making our students more confident, socially adept, and versatile in applying creative solutions to complex problems and competitive candidates after graduation.

• Providing every CHS student with a study abroad experience, whether that is out of the U.S. or in a different geographical region within the U.S. to demonstrate the ways in which health affect people all over the world.

Enhancing the student experience:

• Allows students some control over their learning;

• Engages students with faculty, staff, and community partners earlier;

• Creates meaningful service learning experiences by explicitly focusing on the placement, reflection, and application of practice outside the classroom;

• Skills and knowledge gained through services learning can be utilized as part of career development;

• Builds resiliency by improving interactions with others; and

• Provides a collaborative project where students share knowledge with one another and the greater community

4. Success Service Hubs

The Dean’s office will centralize many of the services that are currently dispersed throughout the units into a more efficient and cohesive business unit. In addition to the typical administrative units, we propose to have four highly integrated “Success Units” focused on the needs of students, academic programs, researchers, and faculty. Each Success Service Unit will be headed by the respective associate or assistant dean, and each will contain the infrastructure to effectively and efficiently conduct the work of the college. The student success hub will improve our ability to recruit, enroll and retain students and help each student to
navigate through their learning experiences. The research success hub will include infrastructure to help faculty ideate, design, write, submit and manage their grants, including resources such as biostatistics, database managers, scientific writers, and pre-award support. The academic success hub will review all current programs for quality, overlap and instructional design; utilize enrollment statistics for program growth; organize and implement the development of high-quality new academic programs; provide instructor and mentor development; and coordinate teaching among programs. The faculty success hub will address hiring, faculty development, and all faculty personnel actions. Each faculty member will select or be assigned a senior mentor who is more experienced than they are, and a peer mentor at the same career stage. These mentors will advise and guide the faculty member to help them attain their career goals; they will develop an Individual Development Plan (IDP) that includes metrics and milestones; they will work with faculty members to track their progress to achieving their own goals; provide letters of support for their annual evaluations; identify faculty development needs, and work together with the Assistant Dean for Faculty Success to negotiate their annual workload agreements, and to support the faculty member to the best extent possible. The staff success hub will identify promotion pathways and provide professional development opportunities for all levels of staff.

The Success Hubs will be the points of contact for faculty, staff, students and the academic program leaders, and they will create a culture of championing success of faculty, staff and students.

5. College Infrastructure

As with all Colleges, CHS Dean’s office will include a centralized infrastructure that will implement and support the business of the College. This includes finance, business and analytics; HR, marketing and communication, administrative support and technology. We have already begun to restructure the Dean’s office to make it more efficient and effective.

Conclusion

Through this visioning process, we have engaged faculty, staff and students who have contributed and are prepared for change. We have created a new culture of continuous evolution and seamless integration. Just as health problems change, CHS will evolve to be ready to address the change. The vision itself is flexible and nimble, able to incorporate new disciplines, foci, teaching approaches, and target markets. The new culture calls for nimbleness, resilience and flexibility. The design we have put forward creates the capacity for the college to be flexible, adaptive and able to grow into the future. Consciously, very few things in the college are static, so that the framework will not become irrelevant a few years from now; its fluidity allows for continuous evolution and dynamism rather than stagnation. Because we have engaged so many people in this visioning process, we have developed design capacity into the system; therefore, CHS now has a pool of people who are experienced in designing and leading a change process. The design allows us to shorten the cycle from
discovery to implementation because of the mutability of the structure and the ability to merge
experts around a particular problem. It allows us to train students to be workforce ready and
to have been exposed to experiential education and service learning.

CHS is already prepared to address the health problems that are most severely impacting the
U.S. As noted above, CHS could immediately develop translational teams to address each of
the complex health problems that account for the most expense and have the highest impact
on patient quality of life. Our strength in disciplines that address chronic diseases (nutrition,
exercise, wellness, health promotion, health education, speech and hearing sciences);
behavioral health; health care quality, efficiency and effectiveness; informatics and the use of
big data, genomics, and analytical tools to improve use of diagnostics, instrumentation and
technology for health outcomes; and preparing a new workforce (audiology, kinesiology,
dietetics, medical laboratory sciences, food service management). CHS is poised to help ASU to
take a leadership role in health policy and population health. On behalf of ASU, CHS will be
poised to adapt as problems change, policy windows open and close, new priorities emerge,
and opportunities arise to respond to natural experiments within our community. In essence,
CHS will be constantly simmering in a state prepared for change and adaptation.

Grand Challenges

In February and March 2019, the College undertook an exploration of “Grand Challenges” with
faculty, staff, and community members. These Grand Challenges will be the focus of our
college for the next few years. Our Grand Challenges, together with our Success Hub goals, will
help to propel us forward to accomplish our vision.

The questions we posed to our stakeholders were:

- What are the Grand Challenges of health for the 21st century?
- What is our role in addressing these challenges?
- What—and who—do we need, both inside and outside CHS, in order to meet
  these challenges and create solutions?

We are analyzing the results of these discussions right now.

New Charter

Better health outcomes require better solutions.
The College of Health Solutions at Arizona State University is committed to translating scientific
health research and discovery into practice. We prepare students to address the challenges
facing our populations to stay healthy, improve their health and manage chronic disease. We
bring people together to improve the health of the communities we serve, reaching them
where they live, learn, work and play throughout the lifespan.
Vision
The College of Health Solutions creates leaders who reimagine health and create a better future for people and communities on a local and global scale.

Mission
The College of Health Solutions translates health research and discovery into practice and prepares tomorrow’s leaders to address the challenges facing people and communities to stay healthy, improve their health and manage chronic disease.

Core values

**Translational science**
We are lifelong learners who move evidence into practice.

**Collaboration and teamwork**
We work together toward a common goal of improving health outcomes.

**Equity and inclusion**
We maximize opportunities for people of diverse backgrounds, abilities and perspectives.

**Agility and accountability**
We adapt to change efficiently, are reliable and are willing to take risks.

**Integrity and honesty**
We lead by example with strong ethics.

**Health and respect**
We enable the health and well-being of our communities, students, faculty and staff.