



H1N1 & Higher Ed LESSONS LEARNED

**Pandemic Influenza
Tools, Tips, and
Takeaways from the
Big 10+2 Universities**

Prepared by the Center for
Infectious Disease Research and
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H1N1 & Higher Ed: Lessons Learned

Pandemic Influenza Tools, Tips, and Takeaways from the Big 10+2 Universities

The Center for Infectious Disease Research and Policy (CIDRAP)

CIDRAP, founded in 2001, is a global leader in addressing public health preparedness and emerging infectious disease response. Part of the Academic Health Center at the University of Minnesota, the center reduces illness and death from infectious diseases by effecting change through public policy refinement, fostering the adoption of science-based best practices in public health among professionals and the public, and conducting original interdisciplinary research.



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PARTNERS

The Big 10 + 2 Universities H1N1 Lessons Learned Project

Colleges and universities played key roles in the nation's response to the 2009 H1N1 influenza pandemic. The goal of The Big 10 + 2 Universities H1N1 Lessons Learned Project has been to find and tell the success stories from this experience and to raise the many issues yet to be resolved before the next influenza pandemic. Information was collected through (1) key informant interviews conducted between March and July 2010, (2) an online conference hosted May 18, 2010, for the Big 10+2 universities, their respective state health departments, and Centers for Disease Control and Prevention (CDC) partners, and (3) follow-up interviews.

University of Minnesota coordination and staffing support for the project was provided by the Center for Infectious Disease Research and Policy (CIDRAP), Academic Health Center, Boynton Health Service, and School of Public Health, with CDC funding provided by the Association of State and Territorial Health Officials (ASTHO). In addition to this report, CIDRAP has (1) posted the [webinar](#) and presentation [slides](#) from the May 18 event and (2) published Promising Practices for higher education at www.PublicHealthPractices.org.

The following partner universities contributed to this project:



Table of Contents

Executive Summary	5
Introduction	7
Chapter 1 Incident Management <i>Planning paid off</i>	13
Chapter 2 Residence Halls <i>Successful housing response depended on many campus partners</i>	17
Chapter 3 Health Services <i>An all-hands-on-deck approach was needed, as was the tenet 'divide and conquer'</i>	23
Chapter 4 Communications <i>One voice, one message mattered most</i>	29
Chapter 5 Vaccine Distribution <i>Coping with uncertainty was key to success</i>	33
Chapter 6 Teaching <i>Supportive leadership made possible short-term solutions</i>	39
Chapter 7 Human Resources <i>Relaxing policies didn't require revoking them</i>	43
Chapter 8 Student Engagement <i>Students were 'a tremendous asset'</i>	47
Chapter 9 Collaborations With Public Health <i>Established partnerships enhanced response</i>	53
Conclusion	57
Acknowledgments	60

Executive Summary



Although the 2009 H1N1 influenza pandemic is often described as ‘mild,’ such a characterization glosses over its considerable impact on college campuses.



he 12 universities that are featured in this report spent more than 3 years preparing for an influenza pandemic of dire consequences. The one that emerged in late April 2009 differed in magnitude from the one they expected—but it left no aspect of university life untouched. Universities housed, fed, educated, and cared for

one of the populations most vulnerable during the 2009 H1N1: young adults. The stakes were high, and the preparedness work paid off. But it was the *process* of planning, more so than the actual plans, that produced what Big 10+2 found most valuable—savvy teams that could pivot and respond appropriately to a pandemic full of surprises.

This report represents the capstone of the Big 10+2 Universities H1N1 Lessons Learned Project. The project sought to identify and document the most essential lessons learned from (1) planning for a hypothetical influenza pandemic and (2) responding to a real one, the 2009 H1N1 influenza pandemic. The report also tells a compelling *story* of how 12 complex organizations—communities that function like cities and serve tens of thousands of people—worked their way from one side of the pandemic to the other.

Information gathered through key informant interviews and an online conference emphasized nine topics: (1) incident management, (2) residence halls, (3) university health services, (4) communication, (5) vaccine distribution, (6) teaching, (7) human resources, (8) student engagement, and (9) collaborations. This report illustrates key takeaways in these areas through sample practices, direct quotes, tips, and brief stories from the field.

The project underscored four overarching lessons that can be translated into the following actions for pandemic planning and, likely, for other public health challenges:

1. Build and sustain partnerships. Response to H1N1 required strong internal and external collaborations that were built well before the pandemic and nurtured long-term. Joining forces with local public health authorities, for

example, gave universities access to information they needed to make critical decisions, while the combined efforts of campus health and residential life services ensured students had coordinated care. *See chapters on incident management, residence halls, health services, communication, vaccine distribution, and collaborations.*

2. Cast a wide net for resources. Big 10+2 universities found they could scale up their response by thinking creatively. Students turned out to be one of the universities’ most important assets. Technology intended for other uses was adapted to streamline activities such as scheduling mass vaccine clinics, monitoring sick patients, and pursuing infection control strategies. *See chapters on vaccine distribution, health services, and student engagement.*

3. Build flexibility into response plans. Universities discovered quickly that written plans didn’t always apply to the threat at hand. They used the relative quiet of the summer months to retool and shelved plans based on certain triggers that didn’t jibe with H1N1 realities in favor of more relevant logic models. They also sought ways to encourage ill students who could not go home to self-isolate in residence halls and apartments. *See chapters on incident management, residence halls, and health services.*

4. Tackle remaining challenges now. The H1N1 pandemic left important issues unresolved, either owing to the nature of this particular pandemic or the fact that the plans were not fully fleshed out before H1N1 emerged. Such issues include how to ensure educational continuity through distance teaching, how to equitably adjust sick leave practices so that employees can afford to stay home when sick, and how to build faculty willingness to suspend doctor’s notes to excuse pandemic flu–related absences. These are complicated issues with no easy answers, but, if left unresolved, they’re likely to confound response to a pandemic that causes more severe or widespread illness, results in more deaths, or lasts longer. *See chapters on teaching and human resources.*

Although the content was drawn from 12 large universities, many of the lessons and practices can inform the preparedness efforts of smaller institutions of higher education as well.

Introduction



No part of higher education escaped the tumult of the 2009 H1N1 influenza pandemic. Nearly every function had to break from business as usual.

Remarkably, the story of how colleges and universities coped with, endured, and were changed by the first influenza pandemic of the 21st century has largely gone untold. The millions of young adults served by colleges and universities were among the groups most at risk for severe illness during the 2009 H1N1 influenza pandemic. Few other institutions were as likely to house, feed, teach, and care for such large clusters of people vulnerable to the novel H1N1 virus. So it follows that colleges and universities experienced the pandemic threat in an extraordinary way.

Nearly 80,000 college students were diagnosed with a flu-like illness between Aug 22, 2009, and Apr 30, 2010, according to the [American College Health Association](#), which collected data from 165 colleges and universities during the H1N1 pandemic. (Public health officials began to assume such illness indicated H1N1 infection after laboratory testing showed that the pandemic strain was responsible for almost all cases of influenza during that period.) No one knows how many additional students became sick but never received a diagnosis. The number of staff, faculty, and administrators who became ill also is unknown. But it's safe to assume that surveillance data underestimates the full extent of H1N1 infection on college and university campuses.

No part of higher education escaped the tumult of the 2009 H1N1 influenza pandemic. Nearly every aspect of college operations—from athletics to communications to facilities and security—had to break from business as usual to meet the challenges.

What's more, universities could not respond in a vacuum—nor did they try. Organized like cities (complete with emergency, security, and health services; utilities and

infrastructure; housing and businesses that serve residents; and a hierarchy of governance), Big 10+2 universities are, in fact, self-contained communities. But they're also located within the jurisdictions of cities or counties, which have their own emergency response plans and responsibilities.

For several years leading up to the H1N1 pandemic, many Big 10+2 universities and local public agencies built and tested plans. But it was the *process*, more so than the plans themselves, that yielded what was most needed to respond to the H1N1 pandemic: strong collaborative teams able to problem-solve and pivot when plans didn't match reality.

This document represents a collaboration among the Big 10+2 institutions to document the strategies, practices, and tactics found to be most useful in addressing the 2009 H1N1 influenza pandemic. It is funded by the Association of State and Territorial Health Officials (ASTHO). The many examples

and descriptions here draw upon myriad experiences of students, faculty, administrators, care providers, planners, and members of partnering local public health and emergency response agencies.

This information is meant to illustrate a range of activities used to address common challenges in higher education. Inclusion here does not imply that a practice reported to have worked well on one campus is necessarily the best approach for another. If anything, the Big 10+2

experience demonstrated that a one-size-fits-all approach does not exist. Influenza viruses—and pandemics—are notoriously unpredictable. Documenting what strategies worked well, what didn't, what lessons were learned, and what challenges remain helps move pandemic readiness past theory and builds a knowledge base for the future.

The project included:

- **Key informant interviews** with representatives from each university to identify key themes and practices


TIP FROM THE FIELD

It was the process, more so than the plans themselves, that yielded what was most needed to respond to the H1N1 pandemic: strong collaborative teams.

- **An online conference** that provided snapshots of promising practices, highlights of lessons learned, and an opportunity to interact with staff from the US Centers for Disease Control and Prevention (CDC) and is archived for public use
- **A collection of Promising Practices for Higher Education**, hosted by the University of Minnesota Center for Infectious Disease Research and Policy (CIDRAP) and ASTHO at www.PublicHealthPractices.org
- **This report**, which pulls the project findings into a broad picture of higher education's response to H1N1 and details lessons learned, promising practices, and key takeaway messages that can be used for the next public health emergency

This report and the Promising Practices Web site are organized by these key topics:

- **Incident management.** Years of planning, testing, and revising plans clearly paid off, particularly in the relationships formed.
- **Residence halls.** Limited space and a changing clinical picture meant successful response required the support of many partners.
- **Health services.** Coping with unprecedented demand required all hands on deck, efficient delegation of duties, and creative use of technology.
- **Communications.** The principle of “one voice, one message” was key.
- **Vaccine distribution.** Many creative approaches were used to immunize campus communities as vaccines became available.
- **Teaching.** Academic leaders were essential to addressing the needs of students and faculty.
- **Human resources.** Policies sometimes required temporary revisions.
- **Student engagement.** Students provided reinforcement and insight.
- **Collaboration with public health partners.** Relationships built before the pandemic fostered strong results.

In this report, each chapter begins with the lessons learned, includes examples of practices that universities considered promising enough to share with their peers, and highlights compelling quotes and stories. Practices available online (at www.PublicHealthPractices.org) at the time of publication are noted with this icon: .

In addition, links cited in the print version of this document are underlined and in blue type. Readers are encouraged to view the document online (www.PublicHealthPractices.org) to access the links.

H1N1 AND THE BIG 10+2

The Story That Flew Under the Radar

The story of how higher education pulled through the first influenza pandemic of the 21st century is a compelling one, filled with innovation and the dedication of a wide variety of professionals.

The 2009 H1N1 influenza pandemic and where it emerged caught people off guard, including people at colleges and universities. Late in April 2009, concerns grew as news accounts began to flow out of Mexico of adults with severe respiratory problems. Mexico was ground zero for the pandemic and a place where many Big 10+2 students had recently visited, were

studying, or were preparing to visit for special programs.

Among the first confirmed cases seen at universities were students who had traveled to Mexico during spring break. Sporadic cases of 2009 H1N1 pandemic infection appeared on campuses throughout the spring and summer. By fall, the largest wave of H1N1-related illness began to build as students returned

to campus, eventually peaking around the end of October and beginning of November, then tailing off by January 2010.


But the story actually begins *before* the pandemic did.

The planning years

For years before the novel H1N1 virus appeared, eyes had been on Asia and Africa, where the deadly

Mistakes made and corrected during pandemic response are presented where possible to show the varied approaches and flexibility required. Chapter conclusions highlight the lessons gleaned, as well as areas for action. A narrative of the collective Big 10+2 experience is included as a sidebar to the introduction.

The partner universities who contributed to this report are

typically large land-grant, state-funded, or privately funded institutions, but the principles underlying many of the practices can apply to small and mid-size institutions. The authors hope and expect that most institutions of higher education will find aspects of their own experiences reflected in these pages, as well as useful examples that can strengthen their response to the next public health emergency. 



Seen and Heard at American College Health Association Meeting

Experiences of Selected Universities

Project staff attended the American College Health Association (ACHA) annual meeting in June 2010 in Philadelphia and heard about the impact of H1N1 on many universities and colleges nationwide. A key message from that meeting was that small, mid-size, and even some large institutions that did that not have adequate resources, plans, partnerships, or leadership struggled to cope with the surge of ill students. Several breakout sessions addressed the 2009 H1N1 pandemic. The following are quotes from presentations and attendees who worked in health services.

"We have a huge international component. H1N1 in August and September just about killed us. If it went any longer, we'd be in a heap."

— Ivy League college

"H1N1 was manageable but tricky at times. It was manageable because of the relative mild severity of illness. It was a terrible thing to go through, but, given what we planned for, it was manageable."

— Ivy League college

"H1N1 nearly killed us. We have a student population of 30,000. We were triaging 50 to 60 students a day."

— Public university in Texas

"The sheer numbers were a challenge. Even though the pandemic was called 'mild,' these kids were moderately ill."

— Business university in Massachusetts

"H1N1 devastated us."

— Small university in Massachusetts

H5N1 virus responsible for "avian flu" was considered a likely candidate to launch the first pandemic of the 21st century. With this backdrop, university planners began to imagine how an influenza pandemic might play out on campuses.

No stranger to infectious disease outbreaks among students and emergencies on campus that can disrupt operations, university planners at least had some point of reference to begin their work. But an influenza pandemic akin to the one that killed so many young, otherwise healthy adults in 1918 posed a threat that few at the planning table could even envision. And, in fact, planners

were encouraged to expect such 1918-like conditions, including 30% or more of students, faculty, and staff (including planners) ill at the same time, two or three waves of illness, and a duration that could span months, possibly even years.

And then there were the hard facts. A plentiful supply of an effective vac-

cine would not be available for months after the pandemic virus was identified. Thousands of students living in close quarters made for less-than-ideal conditions for limiting virus spread. Overseas students posed unique challenges. At home, clinics were staffed and scaled for business

continued on page 10

One of the groups at higher risk of developing severe complications such as pneumonia turned out to be of considerable interest to universities: people younger than 24 years old.

continued from page 9

as usual—not for surges of very sick students. Meanwhile, budget pressures continued to build, and some doubted whether an influenza pandemic was a risk worthy of attention.

Up against an unfamiliar threat with dire consequences and myriad challenges, universities turned to their best source of ideas and support—each other. In January 2006, Big 10 universities participated in an online conference hosted by the University of Minnesota to share strategies and discuss planning. Some 25% of attendees who responded to a conference survey question said their university had not begun planning.

Within 3 years, the picture changed radically. Most universities had organized their pandemic response through an incident management framework developed by the US Department of Homeland Security (DHS) aimed at harmonizing response efforts. Universities built strong working relationships with planners from public health agencies in their communities, conducted tabletop exercises and drills, revised plans based on after-action reports, and met regularly. By April 2009 they had rehearsed for, fine-tuned their response to, and maintained vigilance around a threat as yet unrealized.

The difficulties of planning for an unpredictable virus were about to be replaced by the challenge of responding to an actual pandemic.

■ Spring 2009

The much-feared H5N1 did not launch the first influenza pandemic of the 21st century, nor did the novel

influenza virus hail from Asia or Africa. Instead, it emerged close to home for Big 10+2 universities at a time when spring allergies become more commonplace than flu. Characteristic of its capricious nature, the influenza pandemic began in *North America* during the *spring* as a result of a novel *H1N1* “swine” flu virus.

And it spread fast, infecting a worker at a University of Chicago healthcare facility the same week public health authorities confirmed that the virus was a brand new pathogen with pandemic potential. With little hard data to inform decisions, universities began their response. Some saw little choice but to act aggressively to slow viral transmission in case the severe scenario they had anticipated was unfolding and lives were in danger. Several schools activated their emergency operations centers (EOCs), while others took a wait-and-see approach. One school immediately gave doses of antiviral drugs to students who were either sick from or exposed to the H1N1 virus—and began to move ill students into isolation.

With Mexico the apparent epicenter of the pandemic, universities cancelled study-abroad trips there and worked to get students home. They fielded calls from worried students, anxious parents, and curious reporters. The virus moved swiftly to multiple continents, but the scientific picture emerged more slowly and with some baffling details.

The 2009 H1N1 influenza virus, as it came to be known, met the pandemic criteria established by the World Health Organization (WHO), but the illness it caused in most peo-

ple differed markedly from the worst-case scenario. The new virus was behaving much like seasonal influenza, with a few exceptions. One of the groups at higher risk of developing severe complications such as pneumonia turned out to be of considerable interest to universities: people younger than 24 years old.

■ Summer 2009

The WHO declared a pandemic on Jun 11, 2009. By then, summer camps were under way. Some universities were faced with ill campers who required care. All universities hosting camps and summer conferences developed pandemic procedures.

Universities took advantage of the summer months to prepare for the collision of pandemic and seasonal influenza when students returned in the fall. By this point, the mismatch between their plans and the reality of the 2009 H1N1 pandemic was becoming evident, as was the need to come up with new strategies. Among them:

Housing. Original plans addressed the possibility of absentee rates high enough to force university closure. The more likely scenario, planners saw, would be that students would either go home to recover or, barring that option, remain on campus and need to be isolated from other students. Schools began to consider how to support students “self-isolating” in their rooms or apartments.

Surge capacity. Clinicians at one university were asked to prepare for long shifts. The hunt for extra help began, and resident assistants (RAs) and students interested in health sciences emerged as likely candidates.

Many clinicians' jobs were streamlined so that nurses triaged in person, online, or by phone, while physicians saw only students who might need medication or other interventions.

Flexibility. The surprises offered by the H1N1 pandemic showed that a “cookbook” response was not possible. One university drafted guidelines regarding human resource questions such as sick leave rather than specific protocols. Another one created a response logic model that was based on “options” rather than linking actions to triggers that were not locally relevant.

■ Fall 2009

As students returned to campus, health services at some schools saw an unprecedented surge of flu-like illness that required a rapid departure from “business as usual.”

Triage. The first task was to ensure that students with flu symptoms got the care they needed and did not infect others; another was to discourage unnecessary visits so that health services could manage the patient load. Many clinicians' jobs were streamlined so that nurses triaged in person, online, or by phone, while physicians saw only students who might need medication or other interventions. Several universities posted online tools to help students determine the care they needed.

Treatment. Universities used a variety of strategies, including sending as many sick students to their parents' homes as possible; cohorting

students with flu-like illness in special areas (which turned out to be an unpopular option with students); isolating individuals in single rooms with a bathroom (space permitting); and encouraging sick students to self-isolate in their own rooms until they recovered. In the end, the standard message was: “If you have symptoms, please return home. If you can't leave, then self-isolate.”

Students who isolated on campus were asked to avoid contact with healthy students, to wear face masks if they entered common areas, and to order meals that would be delivered. They were generally urged to stay away from classes until they were fever free for 24 hours without the use of fever-reducing medication, as recommended by the CDC.

Follow-up and monitoring. Some students received phone calls, text messages, and e-mails from nurses. Some RAs helped monitor the health of students on their floors.

Absences. To encourage students to follow through on self-isolation, administrators at many Big 10+2 campuses requested or insisted that faculty temporarily suspend requirements to document illness for an excused absence. Such action was a frequent source of tension on campuses, as faculty were often

reluctant to comply and provosts and presidents had to step in at times to relay expectations and resolve disputes.

Vaccines. Vaccinating the campus community was a high priority. However, the unpredictability of when and which types of vaccine would be available posed huge challenges. Those challenges led to a wealth of creative solutions, including adapting existing phone and scheduling technology for arranging mass vaccination clinics. In the brief period when vaccines became available, students were still on campus, and willingness to be immunized was high, universities administered thousands of doses of H1N1 vaccine to students, staff, faculty, and community members.

Depending on the region, flu-like cases on Big 10+2 campuses peaked from late October to early November. Most student health clinics reported being busy but not overwhelmed. A few, however, had to cease normal clinic functions during peak periods.

■ Winter 2009-10

By the time students returned from winter break, influenza activity dropped steeply. Universities were able to focus primarily on encouraging vaccination now that supplies were relatively plentiful. And as students left campus for the summer, universities had more time to reflect. They had gained on-the-ground savvy about responding successfully to the new pandemic, were in a position to examine the experience, and were ready to share what they learned and what issues still need their attention. 📌

Incident Management



How prepared were Big 10+2 universities to manage response to the 2009 H1N1 pandemic?



he first influenza pandemic of the 21st century caught Big 10+2 universities by surprise, but it did not find them unprepared. For more than 3 years, cadres of planners had been assembling, testing, and fine-tuning strategies to respond to a pandemic of considerable magnitude. The 2009 H1N1

influenza pandemic unfolded in a much different way, and universities veered from some of the plans they had on paper. This chapter examines how institutions approached and adjusted **incident management**—the system used to respond to an emergency. Following details about each lesson are examples from the field.

Lessons learned during the pandemic response emphasized the following:

- **Pre-pandemic planning** efforts were invaluable to establishing relationships and determine roles and resources. Written plans, particularly specific response actions based on external triggers, often did not match this pandemic.
- The use of **multidisciplinary response teams** was reported as an overwhelming success.
- **Integrating** pandemic preparedness and response with broader emergency operations systems, particularly determining clear lines of responsibility and authority, was important.
- Universities developed creative solutions to the challenge of **coordination and communication** among response personnel over an extended response period.

LESSON: Pre-pandemic planning efforts were invaluable

Three years before the 2009 H1N1 pandemic occurred, universities were in the midst of planning or had yet to start. By the time the novel H1N1 influenza (“swine flu”) virus emerged in the spring of 2009, all Big 10+2 universities had plans in

place to respond to a pandemic scenario that they expected would be launched by the more virulent H5N1 (“avian flu”) virus. Written for a more dire but hypothetical scenario, their plans were not always well-matched to the pandemic unfolding before them. In the end, however, the plans mattered less than the planning process itself, which had solidified teams both knowledgeable and able to work together.

Despite their preparations, many universities had to retool their response plans to an unexpected scenario with little warning and under public and parent scrutiny. Many of the universities said that the *relationships and response systems* they forged and the sense of familiarity they developed during the planning process were crucial to their ability to pivot and respond to the threat at hand.

One example of adapting is evident in the way some universities redefined trigger events. Global, federal, and state designations of pandemic phases or severity levels did not match the reality of the 2009 H1N1 influenza pandemic. As a result, universities realized that they could not use such criteria as triggers to activate their plans. They improvised.

EXAMPLES FROM THE FIELD

■ **Switching to a locally relevant logic model.** The **University of Michigan** unlinked its plan from the World Health Organization (WHO) pandemic phases, which it found did not necessarily relate to local conditions. The model was meant to trigger actions but actually limited options, planners there noted. Flexibility was the key driver for decision-making. Planners realized they could recognize dangerous versus manageable situations without relying on specific numbers or rates, allowing them to adapt more easily to the H1N1 pandemic or other infectious disease threats.

📖 [Infectious Illness Logic Model Aids Planning, Response \(MI\)](#)

KEY TAKEAWAY

Planning paid off

Practices that are available online at the time of publication are noted with this: 📖 You can go to the www.PublicHealthPractices.org Web site for more information on those and other practices.

■ **'Options-based' planning.** For **The Ohio State University**, keying response to triggers based on illness and death rates made the plan too rigid. In laying out its plan in August 2009, the university incorporated "options-based" planning, which relied on problem-solving skills rather than static documents and step-by-step procedures. Participants in the decision-making process varied depending on the issue, but the approach was always to convene the right stakeholders. The options-based planning worked extremely well in part because there was strong support from senior university leadership and from those responsible for planning. "It gave us a little extra freedom to make changes quickly rather than be tied to a black-and-white plan," a university representative said.

 [Options-Based Planning Allows Flexible H1N1 Response \(OH\)](#)

LESSON: The key role of multidisciplinary response teams

By the time the 2009 H1N1 pandemic began, universities had created response teams with representatives from many departments and functions. Teams took on varying tasks and names, depending on how the institution approached emergency response. Examples:

- All-hazards planning group
- Health emergencies response team
- Infectious disease work group
- Pandemic influenza preparedness committee
- ILI (influenza-like illness) committee
- H1N1 oversight team

Universities emphasized the importance of strong leadership, including support from highest levels of administration, and the integration of health personnel on teams. Also noteworthy for universities that had large medical centers was the ability to coordinate incident management efforts with them.

How groups formed, evolved, and were integrated into preparedness at Big 10+2 universities varied. But planners almost universally agreed that optimal teams had strong support from leaders, represented a broad spectrum of university functions, and included health personnel.

EXAMPLES FROM THE FIELD

■ **Beginning with support from the top.** Beginning in 2006, the **University of Wisconsin-Madison (UW)** made pandemic influenza planning a priority as initial support came directly from the chancellor's office. Given that the UW Police Department (UWPD) oversees emergency management on campus and that the chief of police is also an associate vice chancellor, the UWPD became significantly involved in pandemic planning and H1N1 response.

University health services and the university police formed the Campus Health Issues Planning (CHIP) Committee, which built relationships and communication protocol between health services, police, university communications, human resources, housing services, occupational health, the dean of students, the registrar's office, and the provost. From 2006 onward, UWPD ensured that campus organizations and departmental deans, chairs, and directors were trained on UW's pandemic plan and continuity of operations plan (COOP).

 [Virtual EOC Is Campus Base of Operations \(WI\)](#)

■ **One lead, three backups.** The **University of Minnesota** Emergency Operations Plan includes provisions for a Health Emergency Response Team charged with providing high-level consultation related to any health-related emergency on

NOTES FROM THE FIELD

University of Wisconsin-Madison

Example: Running a Virtual EOC

Campus police managed a virtual EOC to free others for key response activities, allowing some return to normal duties.

Close partnerships and regular communication allowed the University of Wisconsin-Madison Police Department (UWPD) to manage campus H1N1 response and maintain situational awareness—essentially functioning as the eyes and ears of the virtual Emergency Operations Center (EOC).

The police department and University Health Services (UHS) had a long history of collaboration on emergency planning. When the pandemic occurred, police established an EOC in a conference room, where the UHS director served as incident commander. After several weeks, the incident management team switched to a virtual EOC, which allowed health, police, and communications staff to perform their emergency functions while also returning to their usual roles on campus.

The virtual EOC changed the way university departments communicated. UWPD used an e-mail platform to handle EOC-related communication with health services, housing, the registrar, the state health department, and other branches of the university system. UWPD retained overall management of the virtual EOC and assumed several health services administrative tasks. By ordering masks and distributing basic communications materials, the UWPD freed UHS staff to open a triage phone line and provide care to students.

campus. A Pandemic Influenza Response Plan is an annex to the broader plan. The plan outlines specific and detailed response actions in distinct areas such as communications, campus infrastructure, teaching, and research. In addition, a larger pandemic influenza response team was formed by designating four employees in each response area (one lead and three backups for redundancy). During the pandemic, these employees had authority to represent their respective response area in an incident command structure.

 [Pandemic Influenza Response Team \(MN\)](#)

LESSON: The importance of integrated response, clear lines of responsibility

Many chose, trained in, and worked successfully with the National Incident Management System (NIMS). NIMS offers a framework for all-hazards planning that shares terminology, concepts, and processes. NIMS is a requirement for all agencies receiving federal preparedness funds, so adopting NIMS allows universities to coordinate planning and response efforts with surrounding jurisdictions and organizations. Personnel involved in pandemic planning could get NIMS training through the Federal Emergency Management Agency (FEMA). Most of the Big 10+2 universities adopted the NIMS framework for emergency operations.

EXAMPLES FROM THE FIELD

■ **Using NIMS training.** By spring of 2009, some 1,500 people at the **University of Illinois** had gone through incident command training. Illinois' director of emergency planning oversaw NIMS training for administrative, academic, and operational personnel throughout campus, as well as for multi-jurisdictional partners.

■ **Prepared leaders.** **Purdue University**—which adopted NIMS and used online FEMA training for many senior personnel—launched its planning work in 2005 by creating a pandemic preparedness committee with membership from all areas on campus as well as local public health and emergency management partners. Although the campus did not activate an EOC during the 2009 H1N1 influenza pandemic, key personnel from the preparedness committee assumed leadership roles. The experience showcased the value of NIMS.

LESSON: Long-term coordination and communication require creative solutions

Even before the WHO made its official declaration on June 11, 2009, many Big 10+2 university response teams were meeting face-to-face and via conference call weekly, daily, or more frequently. The pace and intensity that response teams encountered, particularly at the start of the pandemic, could not be sustained for 7 months, when cases of illness peaked. In addition, while broad representation on response teams was seen as a strength, it also came with challenges.

TOOLS FROM THE FIELD

What Is the National Incident Management System?

NIMS is a comprehensive, national approach to incident management that is relevant for all jurisdictional levels and across functional disciplines. It is intended to:

- Be applicable across a full spectrum of potential incidents, hazards, and impacts, regardless of size, location, or complexity
- Improve coordination and cooperation between public and private entities in a variety of incident management activities
- Provide a common standard for overall incident management

Source:

<http://www.fema.gov/emergency/nims/FAQ.shtm#item1c>

Coordinating and communicating with large teams, especially when an institution had multiple levels of redundant representation, required extra effort. When meeting in person was not practical, universities relied on video and phone conferencing, listservs, and e-mails. Maintaining teams for the duration of the pandemic was another challenge. Most campus incidents (fires, floods, acts of violence) occur over hours or days, while the pandemic response spanned many months.

EXAMPLES FROM THE FIELD

■ **Online meetings.** **Indiana University** health services anticipated in April 2009 that H1N1 would be a problem on campus and quickly activated the EOC. Individuals involved in response met online at a given time each day or week, and responders from all eight campuses were able to share data and coordinate efforts. In addition to being able to have conversations about activities happening in the university system across the state, participants could view current, comprehensive information about the unfolding situation.


■ **In-person briefings with full team, plus consistent, two-way e-mail communications.** The pandemic influenza response team at the **University of Minnesota**, some 75 members strong, met in person twice in the EOC for briefing meetings. Though logistically challenging, the on-site meetings provided an important opportunity for team members, particularly back-up employees, to experience the physical set-up and check-in requirements at the EOC. Video conferencing was used to include coordinate campuses in the university system. E-mail communications were used as needed to keep team members informed. To ensure ongoing awareness, written situation reports from each response area were

collected, compiled, and shared as needed. To safeguard communications, members of the university response team created secondary e-mail addresses for messages. The university also created an automated phone notification system that could be used in rare situations if team members needed to be notified quickly by phone. Office, home, and cell phone numbers were included in that system.

 [Pandemic Influenza Response Team \(MN\)](#)

■ **Moving to a virtual EOC.** The **University of Wisconsin-Madison** switched to a virtual EOC, which allowed health, police, and communications staff to perform emergency functions in addition to their usual roles on the campus. The police department was accustomed to operating 24 hours a day, so communicating via a virtual EOC was fairly efficient. Communication strategies, however, had to change. Whereas staff could communicate in-person or via a white board in the physical EOC, the virtual model required much closer collaborations with a variety of on-campus organizations.

 [Virtual EOC Is Campus Base of Operations \(WI\)](#)

Well-organized incident management that builds on relationships is especially important in university response to long-term emergencies. 



Incident Management Practices Online

For details please see the [Higher Education](#) section of CIDRAP's Promising Practices site.

Purdue University

- ▶ [Internal Memoranda of Understanding for Point of Dispensing Sites \(IN\)](#)

University of Michigan

- ▶ [Infectious Illness Logic Model Aids Planning, Response \(MI\)](#)

University of Minnesota

- ▶ [Health Department Operations Center \(MN\)](#)
- ▶ [Pandemic Influenza Response Team \(MN\)](#)
- ▶ [Workforce Absenteeism Exercise \(MN\)](#)

University of Wisconsin

- ▶ [MHUB Communication Tool for Students, Staff, and Faculty \(WI\)](#)
- ▶ [Virtual EOC Is Campus Base of Operations \(WI\)](#)

THE POST-H1N1 LANDSCAPE: INCIDENT MANAGEMENT



Lessons Learned Recap

- Pre-pandemic planning efforts were invaluable to establish relationships and determine roles and resources. Written plans, particularly specific response actions based upon external triggers, often did not match the H1N1 pandemic.
- The use of multi-disciplinary response teams was reported as an overwhelming success.
- Integrating pandemic preparedness and response with broader emergency operations systems, particularly determining clear lines of responsibility and authority, was important.
- Universities developed creative solutions to the challenge of coordination and communication among response personnel over an extended response period.

Actions and Challenges Ahead Include

- Maintaining and supporting campus response teams, in whatever form works best for each institution, to ensure a continued state of readiness.
- Documenting and sharing successes related to coordination and communication among response team members.
- Revising response plans to remove triggers tied to WHO pandemic phases and US stages and/or severity index.

Residence Halls



How did schools control the spread of H1N1 in crowded residence halls and ensure that sick students had adequate room and board as they recovered?

Big 10+2 university students who developed a flu-like illness during the 2009 H1N1 influenza pandemic went home to recover, were encouraged to self-isolate in their own rooms, or, rarely, were moved into a limited number of special rooms for isolation. By and large, universities hadn't planned to house the number of sick students they did. Because pre-pandemic planning assumed even greater numbers of students would become ill with more severe symptoms, universities were expecting to rapidly close residential housing, send the vast majority of students home, and care for the few unable to leave, whom they assumed would be mostly international students.

Though thousands of sick students did return home to recover during the fall wave of the H1N1 pandemic, enough remained on campuses to prompt the Big 10+2 universities to revamp housing plans, abandon certain assumptions, and further adjust as more epidemiologic information about the pandemic became available. This chapter examines how institutions addressed the issue of influenza prevention and care in **residence halls**. Following details about each lesson learned are examples from the field.

Lessons learned during the pandemic response emphasized the following:

- Specific procedures for **summer camps** hosted on campus are an important component of pandemic influenza response plans.
- **Designating isolation housing** for symptomatic students or relocating students can be challenging due to housing logistics and student preferences.
- **Sending symptomatic students home** for a specified period can be successful.
- If multiple campus supports are in place, students who cannot or choose not to go home can successfully **self-isolate in their residence hall rooms**.
- **Student leaders** did and can continue to play an important role.

LESSON: Summer camp procedures are important

Universities that hosted residential summer camps were among the first to feel the pandemic's impact. Preemptive communications were sent to

camp organizers asking families to keep sick campers at home. With most of the student body away, sick

campers could be isolated in unoccupied dorms. Universities also provided treatment to campers and prophylaxis to staff as circumstances or guidance warranted.

KEY TAKEAWAY

Successful housing response depends on many campus partners

LESSON: Dedicated isolation housing can be challenging

Extra housing capacity quickly disappeared in the fall. For some universities, H1N1 cases appeared the first day of fall classes. Early media images showing colleges with plenty of space to house and isolate sick students in no way resembled the Big 10+2. Even with limited empty space, some universities implemented isolation approaches, including creating designated spaces and housing sick students together. Use of dedicated isolation housing was successful in some instances but showed mixed results in others. In addition to logistical problems, some found that some students, both the sick and the well, were not supportive of these plans, even when based on public health recommendations. Engaging students in planning, response, and trouble-shooting led to successful outcomes.

EXAMPLES FROM THE FIELD

■ **Designating isolation rooms.** Housing services at the **University of Illinois**, which had committed to locating space to isolate students who could not return home, designated 12 "medical rooms" early in the pandemic. Some students stayed for the full course of their illness; others stayed until a parent transported them home. Housing staff would contact those students daily (usually via phone) for a

nonmedical check-in. Ill students could review the campus dining service menu online and place an order for delivery by housing staff. Staff also stocked in-room refrigerators with sports drinks and healthy snacks. The rooms were furnished with linens, TV, furniture, and Internet. On average, four students a day used the rooms, and each needed about 5 days to recover. At the peak of H1N1 illness on campus, 11 of 12 rooms were in use. As the number of cases dropped, housing leaders transitioned to a system of self-isolation.

 [Self-Isolation: The On-Campus Option \(IL\)](#)

■ **Cohort isolation.** One of the first of the Big 10+2 to have a laboratory-confirmed H1N1 case, the **University of Chicago** asked students not affected by the virus to relocate, so potentially ill students could move into housing that provided private bathrooms and areas that could be easily closed off. Students pushed back when the designated residence halls were identified. In one case, sick students were to be relocated to an empty floor of a facility normally designated for international students in their 30s and 40s, and visitors to the university. Existing residents, however, voiced strong concerns about the plan and called for a meeting with campus administrators. Officials learned that healthy students were willing to be around someone with H1N1 if the person was someone they knew well and was a part of the community, but they were concerned about having sick people they didn't know move into their area. In response to student concerns, the university revisited its housing plans and included students in developing the next iteration, which proved successful.

 [Students Developed Housing Plan in Response to H1N1 \(IL\)](#)

LESSON: Recovery at home can be a successful strategy

An important strategy to mitigate H1N1 spread was to encourage sick students to recover at home. In preparation for fall classes, provosts, housing and student affairs directors, and other administrators sent letters and e-mails to students and parents requesting that sick students stay home until they recovered. Students who developed symptoms after arriving on campus were asked to return home, if possible. For the most part, this approach succeeded. Complications arose on occasion, when physicians told students they could return to campus before the recommended self-isolation period had ended.

EXAMPLES FROM THE FIELD

■ **Sending students home.** The **University of Illinois** described its approach as one of the most aggressive in the nation. On the first day of school, the university decided that it would send home as many sick students as possible. Most students had homes within a 3-hour drive, and 12,000 students lived on campus. **Illinois** set up a special clinic to see only people with flu-like symptoms. Sick students were encouraged to contact family members to pick them up.

TIP FROM THE FIELD

“ In addition to simplifying recovery efforts for those affected, isolating ill students helped reduce concerns for the broader community and other students’ parents. I’m obviously concerned about the student who is ill, but also the other 50 they live with. ”

*Jim Rooney, EDD
Associate Director of Housing
University of Illinois*

Most students were able to use their cell phone and call parents while the students were still with healthcare providers. Some parents became sick after being exposed to their students, but the university reported overall success with the approach.

LESSON: Self-isolation in residence halls requires added support

Most Big 10+2 university students who had flu-like symptoms and could not leave campus were asked to self-isolate in their rooms. The success of self-isolation depended on student compliance, having students’ concerns addressed by healthcare providers, easy access to food and self-care items, and careful monitoring of students by health services staff, housing staff, RAs, or others. Several universities relied heavily on technology to link sick students with dining and health services and to look after them. Online and telephone contact (typically with nurses who used triage and follow-up protocols) was a successful practice at some universities. Ordering meals online allowed in-room meals to be delivered by dining services staff, roommates, or other students. Self-care kits were provided and included face masks, disposable thermometers, fever-reducing medications, hand sanitizer, and health information.

Universities reported working closely with Greek societies on the same measures. Though isolation housing was a new concept, fraternities and sororities joined the effort to isolate sick students. The unique needs of international students were also addressed.

EXAMPLES FROM THE FIELD

■ **Medical monitoring.** Ill students at the **University of Wisconsin-Madison** who had been diagnosed by nurses via telephone triage received text messages with tips on how to

care for themselves. Students could also call or e-mail questions. Follow-up monitoring at **Pennsylvania State University** allowed health services to identify signs that certain students were developing pneumonia; this step may have prevented the need to hospitalize them. In general, universities that provided follow-up reported that both students and parents expressed appreciation.

■ **Meal support.** The **University of Iowa** created a special isolation meal pack that included items such as fruit juice, sports drink, granola bars, soup, crackers, sandwiches, and cereal. Isolated students could request the meal pack online. If students did not have a friend who could pick up the pack, dining services would deliver it. Many other universities used a similar approach.

■ **Monitoring student compliance.** Students who were seen in the ILI clinic at the **University of Illinois** signed a form that allowed health services to contact housing, faculty, and the dean of students and share health information relevant to the student's illness. Most students complied with isolation procedures. The few who did not were monitored, contacted by the dean's office, and reminded that isolation was for the benefit of others.

LESSON: Student leaders played an important role

Another significant resource was students. RAs, roommates, health advocates, peer health educators, and international student groups made important contributions to monitoring and caring for their peers; developing, revamping, and proposing alternative housing plans; and building community partnerships.

EXAMPLES FROM THE FIELD

■ **Training RAs.** The Office of Residence Life at the **University of Iowa** trained RAs to respond to ill students. Checklists, scripts, and protocols were created for assessing potentially ill students and responding to inquiries from parents and students. Rather than asking RAs to make decisions about referral or treatment, the protocol was designed to encourage students living in residence halls to communicate their needs and for RAs to have what they needed to help students access various levels of healthcare. The guidelines also encouraged RAs to practice social distancing and maintain the privacy of a student's condition when friends and families inquired.

 [Resident Assistant Checklist for Assessing Students \(IA\)](#)

■ **Providing peer support through health advocates.** Health advocates at the **University of Minnesota** are students serving as health resources where they live, such as in their residence hall or apartment, fraternity, or sorority.

continued on page 20

NOTES FROM THE FIELD

University of Minnesota

Health Advocates' Role in H1N1 Response

Emma Casey is a public relations major at the University of Minnesota. She worked as a health advocate in a residence hall during the H1N1 response. It was a natural extension of the existing health advocate activities, which can include first aid for minor injuries or providing sexual health information.

"Our work providing H1N1 information to students was easy, because the students naturally come to us for all kinds of information anyway," Casey said. "We have a code of conduct that values confidentiality, and the students know that, so [the] information we gave them or they shared with us will not be leaked. For me, to be seen as a resource that students could trust was important."

The health advocates program was expanded to help the campus community address H1N1 response in several ways:

- **Health advocates received special training** related to H1N1 and campus response procedures and instruction on how to detect and report symptoms of flu-like illness.
- **Each advocate was fitted with an N95 respirator** and given a supply of surgical masks to hand out to students with flu-like symptoms and their roommates.
- **Health advocates learned when students** with flu-like symptoms should just stay in their rooms and rest and when symptoms necessitated care at the health service. Health advocates also were trained to call the 24-hour nurse line to help inform their decisions.

They were reminded that residence hall students could have meals delivered to their rooms instead of going to the dining hall. The residence hall directors could contact an advocate if a student needed a meal delivered.

- **They received specially equipped messenger bags** with pre-made packages of thermometers and over-the-counter medications.
- **Advocates were surveyed during weekly classes** to determine how prevalent flu symptoms were in the residence halls and fraternities and sororities.

University of Wisconsin-Madison

Housing Letter to Students with Flu-like Illnesses

Dear Residence Hall Resident,

You have been confirmed to have flu like symptoms. Please remember that it is our expectation that you go home, which is the best place to recuperate. If you are able to leave campus without the use of public transportation, you should contact your family to make necessary arrangements.

You will also need to contact your House Fellow or Residence Life Coordinator upon your return to the residence hall to prepare for your arrangements. You can also talk to them if you are having difficulty leaving campus. Please note that you should wear a mask while remaining in the residence hall community.

For specific information regarding influenza, please refer to the campus' website: flu.wisc.edu.

Sincerely,
University Housing


Health advocates attend weekly training at the student health service for common health issues, receive first aid and CPR certification, and are offered the opportunity to earn two credits each semester through the School of Public Health. They share information and prevention strategies with other students and also refer students to other health resources on campus. During H1N1 response, health advocates provided frontline public health interventions in all types of student housing. The health advocates program is one of several initiatives supported by a portion of student services fees dedicated to public health on campus.

 [Student Health Advocates Also Address H1N1 \(MN\)](#)

■ **Engaging international student groups in creating housing plans.** At **Michigan State University (MSU)**, the Office for International Student Services (OISS) worked closely with international students and many on-campus international student groups to plan for emergency housing. One of the groups is the MSU International Students Association, whose membership includes more than 4,000 international students. Most of the outreach and planning for international students came from informal conversations between OISS and the students themselves, demonstrating the students' ability to advocate and prepare. In addition, the international community on MSU's campus connected with East Lansing residents and organizations, demonstrating the

strength and breadth of the support system available should it be needed. Student groups reached out to families and congregations in East Lansing, and students often said they knew someone in the community whom they could ask for help. The plan did not have to be activated for the H1N1 pandemic, but the process strengthened ties between the university and the East Lansing community.

 [International Students Participate in Planning Alternative Housing \(MI\)](#)

Universities responded to the challenge of housing ill students in a number of ways during the H1N1 pandemic, including sending ill students to recuperate with their parents and finding ways to isolate them in their homes. By testing strategies to limit the spread of influenza on campus, universities have identified some successful approaches, as well as areas for improvement. Closer collaborations with students and public health partners at all levels of government can strengthen response to student housing issues. 



Residence Halls Practices Online

For details please see the [Higher Education](#) section of CIDRAP's Promising Practices site.

Michigan State University

- ▶ [International Students Participate in Planning Alternative Housing \(MI\)](#)

University of Chicago

- ▶ [Students Developed Housing Plan in Response to H1N1 \(IL\)](#)

University of Illinois

- ▶ [Self-Isolation: The On-Campus Option \(IL\)](#)

University of Iowa

- ▶ [Meal Pack for Isolated Students \(IA\)](#)
- ▶ [Resident Assistant Checklist for Assessing Students \(IA\)](#)

University of Minnesota

- ▶ [Facemask and N95 Respirator Recommendations \(MN\)](#)
- ▶ [Student Health Advocates Also Address H1N1 \(MN\)](#)

University of Wisconsin-Madison

- ▶ [Telephone Triage and Treatment Protocol \(WI\)](#)



Lessons Learned Recap

- Specific procedures for summer camps hosted on campus are an important component of pandemic influenza response plans.
- Designating isolation housing for symptomatic students or relocating students can be challenging due to housing logistics and student preferences.
- Sending symptomatic students home for a specified period can be successful.
- If multiple campus supports are in place, students who cannot or choose not to go home can successfully self-isolate in their residence hall rooms.
- Student leaders did and can continue to play an important role.

Actions and Challenges Ahead Include

- Expanding pandemic influenza response plans to include less-severe scenarios based upon what worked and what did not work in 2009 and 2010.
- Increasing communication between universities and the CDC on the development of higher education guidelines, particularly related to residence hall recommendations.
- Possibly boosting the role public health partners play in educating family clinicians about the importance of reinforcing self-isolation recommendations for symptomatic students.

Health Services



How did health services meet the surge in demand created by the pandemic while ensuring qualified help over extended periods?

Faced with a surge of sick students during the 2009 H1N1 pandemic, health services at the Big 10+2 universities met the demand by streamlining job duties; expanding capacity with volunteers, students, and additional providers; and leaning heavily on phones, computers, and online technology. Although “business as usual” in health services fell away to long hours that stretched over weeks, particularly during the fall, university clinics for the most part reported being “busy but not overwhelmed.” Nonetheless, the pandemic tested **health services** preparedness as no exercise could, pointing out weak spots but also highlighting innovation and the importance of a flexible response.

Lessons learned during the pandemic response emphasized the following:

- College-aged students were **among the groups of people most at risk** of developing complications from H1N1 infection. Universities became important sites for care, with campus health services playing a key role.
- **Streamlining operations was a successful approach** to maintain quality and effectiveness within the health service.
- **Online and phone-based triage systems were used effectively** to provide care information and referrals to patients.
- Prescribing **self-isolation and home care can be a successful strategy** if adequate support systems are put in place.
- **Campus partners were available to provide additional staff support** within the health service.
- **Students played an important role** in providing information and care.

LESSON: College-aged students were at risk for H1N1 complications

Although some campuses were affected earlier in the year, the biggest wave of sick students needing health services began to

build in the fall. By then, evidence had emerged that college-age students were among the groups of people most at risk of developing complications (pneumonia for example) from

H1N1 infection and therefore required extra watchfulness. Young people between the ages of 5 and 24 also had the second-highest rate of hospitalizations, according to the CDC. Because institutions of higher education serve millions of young people in this risk group, many of whom are away from home and sick at the same time for the first time, health services became busy hubs of pandemic response.

KEY TAKEAWAY

An all-hands-on-deck approach was needed, as was the tenet of ‘divide & conquer’

EXAMPLE FROM THE FIELD

■ **Drawing on redesign principles.** The **University of Chicago** needed to act quickly in late April 2009 when it discovered that a medical center employee was diagnosed as having H1N1. Charged with the health of 15,000 students, the director of the Student Care Center (SCC), a separate operation, faced several challenges:

1. **Limited information.** Data on the scope of the threat would not be available for weeks.
2. **Small staff size.** The SCC has the smallest clinical staff per student of the Big 10 + 2 schools, according to the director—three nurse practitioners, two medical doctors, five nurses, and five front office and administrative support staff.
3. **Space limitations.** The SCC occupies 3,600 square feet of space.

The clinic director used principles of quality improvement and healthcare redesign, one of her areas of expertise, to determine how to quickly, efficiently, and carefully serve the large population with limited resources. She and the SCC staff, for example:

- **Began triage operations in a ventilated campus parking garage** until a better arrangement could be made
- **Developed a partnership with the University of Chicago Medical Center** to take over standard student healthcare needs so the SCC could handle H1N1 screening and testing cases
- **Participated on the Medical Center's Bio-Outbreak Task Force** to discuss information and adjust plans as needed

 [Quality Improvement Redesign a Tool in Pandemic Planning and Response \(IL\)](#)

LESSON: Streamlining operations was successful

Big 10+2 universities took advantage of the summer months to gear up for a possible surge of students with influenza. Members of the health services staff at **Indiana University**, for example, were notified that demands on their time might increase and could affect vacation requests and prompt a need for weekend/evening shifts. For maximum efficiency when the surge began, some health services narrowed the scope of clinicians' jobs so that nurses, for example, focused on triage, data collection, and follow-up, while physicians treated students with conditions that upped their risk of complications or who needed antiviral medication.

Creating and standardizing H1N1 protocols, forms, and recommendations as much as possible also saved time. Campuses that could put online newly created H1N1-specific protocols and data collection documents or link them to electronic medical records saw even more benefits, such as streamlined follow-up with sick students.

EXAMPLES FROM THE FIELD

■ **From nurse to 'flu' nurse.** Six primary care nurses at the **University of Wisconsin-Madison** were reassigned from direct patient care to advising ill students by phone. As new epidemiologic information became available (eg, hospitalization rates and who was most vulnerable to complications), the CDC would revise and refine its guidance. Keeping up to date with the rapid-fire release of new data and new guidance required a level of expertise that the primary care nurses had, owing to their extensive training.

 [Telephone Triage and Treatment Protocol \(WI\)](#)

■ **Quick and convenient care.** After students, staff, and faculty expressed a desire for faster, more convenient, and more affordable options for healthcare on campus, the **University of Minnesota** health service opened the Gopher Quick Clinic. The Quick Clinic is a convenience care clinic staffed by certified practitioners trained to diagnose, treat, and write prescriptions. Care is provided on a first-come, first-served basis, with most visits lasting about 10 minutes. Patients are seen for common

illnesses, skin conditions, vaccines, and pregnancy testing only. According to the health services director, having the Gopher Quick Clinic established prior to the arrival of H1N1 helped staff to successfully meet the sudden demands for care. The Quick Clinic enabled large numbers of patients to be seen without placing undue pressure on clinicians. Only the sickest patients were referred to the regular primary care clinic, which allowed the health service to maintain a consistent level of service throughout the pandemic.

LESSON: Online and phone-based triage was used effectively

Discouraging unnecessary clinic visits while ensuring that ill students who truly required services were seen became a strategy for some universities to both slow transmission of disease and manage the clinic workload. Materials and protocols had to be developed that allowed students to screen themselves using online tools. For consistency, quality assurance, and smooth workflow, nurses who triaged students via phone also needed protocols that standardized questions and allowed them to enter information online. Where such tools were developed and used, Big 10+2 universities reported success and expressed confidence with the approach.

EXAMPLES FROM THE FIELD

■ **Self screening.** Northwestern University created two online screening forms—"I think I may have H1N1 influenza" and "I think I may have been exposed to H1N1 influenza"—that guided students through an algorithm of questions to "outcomes" that either reassured them that they could manage with self-care or alerted them that they should schedule a clinic visit. The service received praise from parents who were also physicians.

■ **Tools for 'flu' nurses.** The **University of Wisconsin-Madison**, where nurses screened and triaged up to approximately 100 calls a day as soon as the fall semester began, leaned heavily on protocols that connected to the school's electronic medical record. These included:

- Nurse protocol for management of flu-like illness when H1N1 is widespread
- Nurse telephone triage and management of flu-like illness
- Nurse visit—initial assessment
- Nurse visit—initial visit for flu-like illness

 [Telephone Triage and Treatment Protocol \(WI\)](#)

LESSON: With the right support, self-isolation and home-care strategies can succeed

CDC guidance recommended that institutions of higher education "promote self-isolation" by residential students and off-campus residents, that, where possible, students return

home, and that, for students who could not leave campus and did not have a private room, schools consider providing temporary alternative housing. For Big 10+2 universities, where housing tends to be tight and where there also may be large contingents of international students who cannot get home easily, trying to provide separate housing was often not practical. Still, Big 10+2 universities made every effort to meet the guidance. They encouraged ill students to recover at home, promoted self-isolation by providing self-care guidance and “flu kit” supplies, set up ways for students to have meals delivered, and engaged residence hall staff to help monitor the health of students. Phones, e-mail, and electronic medical records provided means for nurses to stay in touch with students diagnosed as having flu-like illness.

Some universities that followed CDC guidance and sent home students with flu-like illness later learned that family doctors may not have been as familiar with the guidance and would question the school’s actions. This confused students and parents. Several Big 10+2 universities have asked the CDC to address this issue in the future by unbundling such recommendations from the guidance and highlighting them as separate documents that universities can reference when they take action.

EXAMPLES FROM THE FIELD

■ **Sending ill students home.** Promoting isolation was a central tenet of pandemic response efforts at the **University of Illinois**. A communications campaign explained the self-isolation plan. Staff at McKinley Health Center reorganized the facility to allow a separate triage and treatment area for students with flu-like illness. Students were asked to review and sign a one-page form that collected their current contact and housing information and provided authorization to share health information relevant to their illness. This helped clinicians identify potential infection control issues (such as whether the student lived in a dormitory or a fraternity or sorority). Most students signed the form before seeing a clinician. Most students diagnosed as having flu-like illness called their parents or accepted the clinician’s offer to explain the students’ needs to parents. Some 90% of the 2,000 students diagnosed as having ILI went home.

 [Self-Isolation: The Family Home Option \(IL\)](#)

■ **Staying in touch.** Following up with ill students at **Pennsylvania State University** meant tracking their illness daily by phone or through secure electronic messages. Having an electronic medical record made it possible for the college’s information technology staff to run daily reports of which students were seen for flu-like illness at the campus health service and local hospital. Students were notified during their clinic visit that their condition would be monitored either until they went home or until their symptoms improved. Students who stayed in their residence halls or in off-campus housing were contacted by phone or through secure e-mail. Nurses found quite a few students

TIP FROM THE FIELD

Pennsylvania State University

Nurse Follow-up Phone Contact

Students with ILI were contacted by nurses after diagnosis

Week during fall semester	Students contacted per week
Week 1	25-30
Week 3	150
Weeks 4-10	560-700

whose symptoms were worsening, many of whom were diagnosed as having pneumonia. The number of students contacted reached 80 to 100 a day by week 10. Students and parents appreciated the daily contacts, especially during the first few days of illness when students felt the worst, a university representative noted. Early detection of worsening symptoms prompted a continuous reinforcement of self-care advice. Of more than 2,200 patients treated, only 2 students were hospitalized with influenza-related complications.

 [Phone Monitoring of Students With ILI \(PA\)](#)

LESSON: Campus partners provide additional staff support

Most of the Big 10+2 universities needed extra help at some point during the fall of 2009, and health services built surge capacity with volunteer clinic greeters and clinicians, public health and nursing students, peer health educators, temporary nurses, and staff from other campus departments and services. For the most part, enough extra help was available that health services remained busy but not overwhelmed. Not all universities, however, were able to maintain routine clinic services during the peak of student illness. Two schools reported the need to suspend standard operations for up to 4 weeks during peak periods so providers could focus on examining patients with flu-like illness.

EXAMPLES FROM THE FIELD

■ **Adding clinical staff.** The **University of Wisconsin-Madison** health services is typically staffed by an on-call clinician during Labor Day weekend. But in 2009, a surge of calls from sick and worried students came that first week of September, before the semester began, overwhelming the one staff member and making clear the need to ramp up services immediately. The university was compelled to open the clinic with physician volunteers to screen and treat students. Even one psychiatrist volunteered to see students. A nurse from the Women’s Health Clinic was recruited to help when primary care nurses were reassigned to work the phone.

 [Telephone Triage and Treatment Protocol \(WI\)](#)

■ **Help from epidemiologists.** Two universities cited the value of having an epidemiologist help health services interpret rapidly changing information. By collaborating with the medical center and joining twice-daily meetings of a small group that included administrators, clinician “champions,” and an epidemiologist, health services at the **University of Chicago** was able to get quick answers and solutions at a time when local and state public health agencies were stretched thin. At the **University of Wisconsin-Madison**, the campus epidemiologist, a physician’s assistant, monitored CDC guidance on treatment, prophylaxis, and laboratory testing to ensure the health services staff were informed and knew to follow the same protocol. He synthesized the information and prepared a daily “Influenza Update Letter” with the number of triage calls handled the previous day, new CDC guidelines, and requirements for submitting potential H1N1 samples for testing.

TIP FROM THE FIELD

“Working with an epidemiologist was very helpful. He was able to address questions right away. Any school that can attach itself to a medical center with an epidemiologist should, because the public health department was totally stressed [during the pandemic].”

*Kristine Bordenave, MD
Medical Director, Student Care Center
University of Chicago*

■ **Relying on help from residence halls.** Staff from the Office of Residence Life and Student Health Service at the **University of Iowa** developed checklists and scripts that RAs and full-time professional staff could follow as they assessed potentially ill students and responded to inquiries from parents and students. Checklists and scripts were geared toward different roles in residence hall management. A response protocol for the 24-hour residence hall help desk addressed how to respond to reports of student illness. Rather than asking RAs to make decisions about referral or treatment, the protocol asks students to communicate their needs and presents the RA with healthcare and transportation resources to offer.

Similarly, extensive guidelines for RAs and full-time professional housing staff provided information they needed to respond to student and parent inquiries. The algorithm

included information on how to access various levels of healthcare for an ill student, including availability of transportation and phone consultations, how to order meal packs for students unable to leave their rooms, and how to obtain other materials, such as face masks and gloves. The guidelines also describe some expectations of RAs and professional housing staff and how they can encourage/practice social distancing and maintain the privacy of a student’s condition from inquiring parents or friends.

RAs monitored ongoing illness within their halls, doing a head count of ill students each week and reporting the number at weekly staff meetings.

 [Resident Assistant Checklist for Assessing Students \(IA\)](#)

LESSON: Student leaders provided information and care

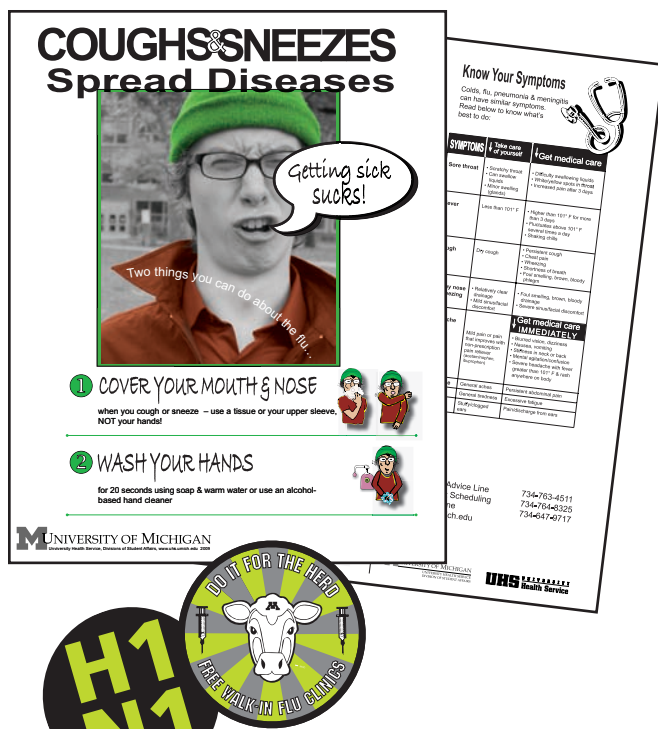
As major stakeholders in the universities’ pandemic response—and an energetic and creative resource to tap—students helped health services avoid incorrect assumptions and misunderstandings. Cadres of Big 10+2 students educated their peers about 2009 H1N1 pandemic influenza, served as a trustworthy source of answers to questions from fellow students and response teams, assisted with infection control efforts, and, with training and supervision, even administered H1N1 vaccine. For their efforts, some students received course credits and some were paid. One student said her experience was life-changing.

EXAMPLES FROM THE FIELD

■ **Infection control internships.** As the fall 2009 semester and the threat of novel H1N1 loomed at **Pennsylvania State University**, the infection control nurse manager at University Health Services recognized she needed help. Outreach to the university’s schools of nursing and health policy administration rallied four undergraduate interns. They helped collect data and run the flu clinics. They even donned a “flu bug” costume to promote H1N1 prevention. The internships contributed 36 hours a week of help, and students earned credits toward their degrees.

 [Infection Control Internships Help Students, Health Services \(PA\)](#)

■ **Health advocates.** Students in the health advocates program at the **University of Minnesota** helped track the spread of pandemic influenza across the campus and served as a source of information and support in their residence halls, apartment communities, fraternities, and sororities. Health advocates typically attend weekly classes at student health services to learn how to respond to common health issues in their residences and can earn credit through the School of Public Health. During the pandemic, health advocates received special training about H1N1 and campus response, were fitted with an N95 respirator and learned



Above, University of Michigan posters, below, University of Minnesota stickers.

about the university's recommendations for using them, and were given a supply of surgical masks for students with flu-like symptoms and their roommates. They also:

- **Learned when students with flu-like symptoms should rest in their rooms** and when flu-like symptoms necessitated care at the health service
- **Were trained to call the 24-hour nurse line** to help inform their decisions
- **Were instructed on how students who were self-isolating could have meals delivered** to their rooms
- **Placed window clings** in bathrooms to remind students to wash their hands
- **Received specially equipped messenger bags** with pre-made packages of thermometers and over-the-counter medications
- **Were surveyed during weekly classes** to determine how prevalent flu symptoms were in the residence halls and fraternities and sororities.

[Student Health Advocates Also Address H1N1 \(MN\)](#)

[Facemask and N95 Respirator Recommendations \(MN\)](#)

The 2009 H1N1 influenza pandemic showed that when college-age students are at high risk of developing complications during an influenza pandemic, universities can respond creatively and effectively. Strategies include streamlining operations; sending students home when possible and encouraging well-supported self-isolation; collaborating with students, other medical professionals, and residential life services; and putting in place effective online and phone protocols for triage and follow-up.



Health Services Practices Online

For details please see the [Higher Education](#) section of CIDRAP's Promising Practices site.

Pennsylvania State University

► [Infection Control Internships Help Students, Health Services \(PA\)](#)

► [Phone Monitoring of Students With ILI \(PA\)](#)

University of Chicago

► [Quality Improvement Redesign a Tool in Pandemic Planning and Response \(IL\)](#)

► [Students Serve as Peer Educators \(IL\)](#)

University of Illinois

► [Self-Isolation: The Family Home Option \(IL\)](#)

University of Iowa

► [Health Sciences Students Administer Vaccine on Campus \(IA\)](#)

► [Resident Assistant Checklist for Assessing Students \(IA\)](#)

University of Minnesota

► [Facemask and N95 Respirator Recommendations \(MN\)](#)

► [Student Health Advocates Also Address H1N1 \(MN\)](#)

University of Wisconsin-Madison

► [MHUB Communication Tool for Students, Staff, and Faculty \(WI\)](#)

► [Telephone Triage and Treatment Protocol \(WI\)](#)

► [Virtual EOC Is Campus Base of Operations \(WI\)](#)



Lessons Learned Recap

- College-aged students were among the groups of people most at risk of developing complications from H1N1 infection. Universities became important sites for care, with campus health services playing a key role.
- Streamlining operations was a successful approach to maintain quality and effectiveness within the health service.
- Online and phone-based triage systems were used effectively to provide care information and referrals to patients.
- Prescribing self-isolation and home care can be a successful strategy if adequate support systems are put in place.
- Campus partners were available to provide additional staff support within the health service.
- Student leaders played an important role in providing information and care.

Actions and Challenges Ahead Include

- Documenting and sharing health service successes.
- Ensuring adequate pandemic response supplies through stockpiling, which continues to be a challenge. In particular, having greater clarity about access to federally available antivirals at the campus level would be useful for many institutions.
- Encouraging additional federal dialogue on the use of personal protective equipment (PPE) during a pandemic to ensure clear and consistent information at the local level. Availability of N95 respirators and fit-testing resources, including stockpiling considerations, was also cited as a challenge.
- Getting clarity about what some universities considered vague federal guidance about prescribing antiviral medications. Guidelines provided were cited by some as too restrictive, and lack of clarity led to frustration.
- Sharing lessons learned about the use of non-alcohol versus alcohol-based hand sanitizers, as well as the appropriate short- and long-term investments in those products, would be beneficial.
- Having public health partners play a greater role in educating family clinicians about the importance of reinforcing self-isolation recommendations.

Communications



How did universities harness the technology, the experts, and the creativity to harmonize messages about H1N1?

Deluged with data, news, guidance, and queries during the 2009 H1N1 pandemic, many Big 10+2 universities applied a simple strategy to solve the complex challenge of how best to communicate with their constituencies: Agree on one message and communicate it with one voice. Neither simple nor easy, of course, was the task of orchestrating all the other variables, including deciding what to say, when and how often to communicate, what channels to use, and, in the case of electronic media, ensuring that the infrastructure was intact. Public affairs, news service, information technology, health services, and emergency response professionals, administrators, and student leaders formed partnerships to ensure that people had the information they needed.

TIP FROM THE FIELD

Effective communications

“A key step in communicating was making information easy to find and use. The university did that in the virtual world by reorganizing its Web site to consolidate all H1N1 information in an easy-to-use format. Physically placing the information in front of students on campus was also a high priority.”

*Andrew Burchfield
Manager of the Office of Emergency Preparedness
University of Michigan*

Universities developed strategies for communicating among members of pandemic response teams; among members of the university community; and between the university and parents, public health officials, public service providers, media, and the community at large.

KEY TAKEAWAY

**One voice,
one message
mattered most**

Universities made heavy use of online formats—Web sites, e-mail, social networking tools, blogs, text messages, listservs, and electronic newsletters. Face-to-face meetings, phone calls, videos, letters, white boards, cling signage, and posters also were put to use. Students even dressed in costume to spread the word about H1N1. This chapter addresses how universities managed **communications**. Following details about each lesson learned are examples from the field.

Lessons learned during the pandemic response emphasized the following:

- Due to the rapidly changing, and sometimes conflicting, information from multiple sources, university **responders had to proactively coordinate and centralize communications**.
- **Universities relied heavily on online and e-mail communications** as timely forums for information exchange.
- Effective communications with college students meant a **heavy emphasis on creativity**.

LESSON: Coordinating communications was a high priority

Effective, timely, coordinated communications is a key part of incident management. Even before the WHO made its official declaration on Jun 11, 2009, teams were meeting face-to-face and via conference call weekly, daily, or more. Responders quickly recognized the need to be proactive in coordinating and centralizing communications. The “one voice, one message” concept was widely emphasized and adopted.

Universities addressed communications from organizational, technical, and collaborative perspectives. The **University of Wisconsin-Madison** established its EOC and used an e-mail platform called MHUB to manage communications. At **Purdue University**, emergency preparedness staff sent daily bulleted items in a situation report to the pandemic preparedness committee. The **University of Minnesota** formed a communications group with representation from University Relations, health services, the Academic Health Center's Office of Emergency Response, and the School of Public Health, and shared information via an e-mail listserv and met by phone every Tuesday. The **Ohio State University** director of emergency management and safety director opened a "unified office" to share information and unify messaging.

The Internet quickly became the hub for information and updates at universities. Some universities also used the Internet for online triage and for scheduling clinic visits and vaccinations. With so many Web sites and pages at each university, the possibility existed for conflicting information to appear online. Many universities made it a priority to centralize electronic information to improve accuracy and clarity of information. The **University of Minnesota** placed an icon on all pandemic-related communications that, when clicked, took the user to the main H1N1 page. The **University of Michigan** pulled all materials into one section on its site.

Coordinating messages with public health authorities was valuable, though not always feasible. The **University of Minnesota** helped to distribute an open letter to athletic directors and coaches from the state epidemiologist to reinforce the importance of athletes staying home when sick. The **University of Wisconsin-Madison** published information about H1N1 *before* the Wisconsin Department of Health Services did, because illness appeared on campus and spread quickly in spring 2009. Nonetheless, the university needed to align its communications with the state's throughout the pandemic, because the university employed approximately half of the state workers. The state health department also had authority over some university activities, such as cancelation of public gatherings. Universities emphasized the importance of harmonizing key messages with public health partners.

EXAMPLES FROM THE FIELD

Experts vet information. Given the rapid pace of change and the serious consequences of misinformation, being first and being right were key elements of H1N1 communications. University communications personnel crafted messages but vetted all information for accuracy through health services staff at **Indiana University** and the **University of Iowa** before publication. **University of Wisconsin-Madison** communications were mainly handled by a communications corps that included a police lieutenant and staff from university and health services communications.

■ **Trusted sources present information.** Media interest in how universities were managing the pandemic spiked during periods of peak illness, when vaccine became available, and when long lines were a possibility. **Purdue University** chose a senior communications professional from its news service unit to handle media inquiries. Many universities consistently relied on one trusted spokesperson, or a small team, to communicate with the media about pandemic influenza.

■ **Audience-specific messaging can be useful.** Certain audiences, such as parents, want very specific information in a public health emergency. To help address such concerns, a University of Illinois health service physician wrote letters to parents of Illinois students. The writer had special insight, because he too was the parent of an Illinois student.

 [Communications With Parents \(IL\)](#)

LESSON: Universities relied heavily on online and e-mail communications

Technology played a key role in pandemic communications. Universities used a variety of means to disseminate messages on topics ranging from vaccination clinics to hand hygiene and absenteeism to self-isolation. Online communications were an important way to collect and answer questions. Forums for questions ranged from using special e-mail addresses and adding a blog to a main Web site to post answers to frequently asked questions. One university created a newsletter that it credits with keeping queries down.

The frequency with which universities updated their H1N1 Web sites, sent out new messages, and responded to questions depended on myriad factors. The **University of Minnesota**, which committed to frequent Web site updates, found that traffic to the site was lower than expected unless messages went out that prompted people to visit. Too-frequent e-mails, however, created "message fatigue," so the university scaled back to one message a week—unless changing conditions required the community to be updated.

EXAMPLE FROM THE FIELD

■ **Creating a communications hub.** The **University of Wisconsin-Madison** used a communications focal point called MHUB as a major tool for fielding questions and communicating with students, faculty, and departments. Staff posted the MHUB e-mail address as a link on the main Web site and health services Web site. Students and university personnel sent questions to the MHUB e-mail account. That account was monitored by a member of the campus police department, which oversees emergency management on campus. The officer would answer them if they pertained to emergency response on campus or forward them to the appropriate department. Police department staff maintained a database of these questions and kept questions about medical issues, housing, grades, and other topics in separate logs to track student and staff concerns.

MHUB ensured that a quick, responsive flow of communication within and outside UW existed during even the busiest days of the pandemic. During spring 2009, the MHUB account needed to be checked every half hour, but eventually staff scaled back to checking for messages every 2 hours. UWPD forwarded answers in one business day, although e-mails concerning flu symptoms were forwarded as urgent to health services.

 [MHUB Communication Tool for Students, Staff, and Faculty \(WI\)](#)

LESSON: Creativity is a key to working with college students

Universities found creative ways to reach college students with H1N1 information. Their diverse approaches—from high-tech virtual chats to one-on-one conversations—underscore the value of using multiple modes of communication.

Podcasts, text messaging, and platforms such as Facebook, Twitter, and Blogspot were not widely used when Big 10+2 universities began pandemic planning. But adoption of social networking had exploded by the time the 2009 H1N1 influenza pandemic began, and universities capitalized on that growing popularity. **The Ohio State University** added a blog to its main H1N1 Web site to answer student questions and update information in a timely way.

High-tech approaches in many cases were buttressed by shoe-leather conversations, often featuring students reaching out to their peers with important health information.

EXAMPLES FROM THE FIELD

■ Volunteers with a Red Cross student chapter at **Purdue University** climbed on buses to hand out more than 5,000 informational fliers, as well as hand sanitizer, to CityBus passengers on routes frequented by students.

 [American Red Cross Student Chapter H1N1 Project \(IN\)](#)

Student interns in infection control at **Pennsylvania State University** took turns donning a homemade “flu bug” outfit and handing out fliers about prevention to their peers.

 [Infection Control Internships Help Students, Health Services \(PA\)](#)


■ Student health advocates at the **University of Minnesota** and others at the **University of Michigan** stuck mirror clings in residence halls and other places to spread hygiene tips.

 [Communications Outreach Ranges From Mirror Clings to E-mails \(MI\)](#)

 [Student Health Advocates Also Address H1N1 \(MN\)](#)

Communications is a demanding aspect of emergency response that depends on many factors, including:

- **Having the right subject matter experts** to vet messages
- **Harmonizing messages with public health partners** within and outside of the university whenever possible
- **Understanding and using the right technologies** to reach people
- **Recognizing that different audiences** may respond better to different messages
- **Using creativity to reach students**, who have many competing demands on their attention.

Although the messages will change from one emergency to another and sometimes from one day to another, the technological infrastructure and human connections that enhanced H1N1 communications will serve universities well for many other emergencies. 



Communication Practices Online

For details please see the [Higher Education](#) section of CIDRAP's Promising Practices site.

Minnesota Department of Health

- ▶ [Open Letter to Athletic Directors and Coaches \(MN\)](#)

Pennsylvania State University

- ▶ [Infection Control Internships Help Students, Health Services \(PA\)](#)

Purdue University (and the Purdue Chapter of the American Red Cross)

- ▶ [American Red Cross Student Chapter H1N1 Project \(IN\)](#)

University of Chicago

- ▶ [Malcolm Gladwell Theory Employed in Vaccine Distribution \(IL\)](#)

University of Illinois

- ▶ [Communications With Parents \(IL\)](#)

University of Michigan

- ▶ [Communications Outreach Ranges From Mirror Clings to E-mails \(MI\)](#)

University of Minnesota

- ▶ [Student Health Advocates Also Address H1N1 \(MN\)](#)

University of Wisconsin-Madison

- ▶ [MHUB Communication Tool for Students, Staff, and Faculty \(WI\)](#)
- ▶ [Telephone Triage and Treatment Protocol \(WI\)](#)
- ▶ [Virtual EOC Is Campus Base of Operations \(WI\)](#)



Lessons Learned Recap

- Due to the rapidly changing, and sometimes conflicting, information from multiple sources, university responders had to proactively coordinate and centralize communications.
- Universities relied heavily on online and e-mail communications as timely forums for information exchange.
- Effective communication with college students meant a heavy emphasis on creativity.

Actions and Challenges Ahead Include

- Documenting and sharing communication successes from this pandemic.
- Identifying additional creative ways to communicate with parents (a need reported by some institutions).
- Expanding and leveraging public health partnerships to harmonize communications could further save time and resources.

Vaccine Distribution



With virtually no control over vaccine supplies, how did Big 10+2 universities successfully immunize thousands of people?

Difficulty getting enough H1N1 vaccine to immunize students, faculty, and staff when they were ready and willing presented Big 10+2 universities with tough logistical and public relations challenges. It also showcased their ability to improvise creative solutions in the midst of uncertainty. Against a national media backdrop of long lines of frustrated people waiting for vaccine, Big 10+2 universities surprised even themselves with the efficiency and success of their mass vaccination clinics. This chapter examines how universities dealt with **vaccine distribution**, including planning and operating mass vaccination clinics for students, faculty, and staff. Following each lesson are examples from the field.

Lessons learned during the pandemic response emphasized the following:

- Vaccine **distribution to universities was unpredictable**, which made planning and implementation of distribution efforts on campus very challenging.
- **Past seasonal influenza vaccination experiences and bioterrorism response** planning with public health partners provided templates for H1N1 vaccine distribution.
- Due to the challenges of unpredictable vaccine availability, creative strategies were developed rapidly using **online or phone-based systems**.
- Creative approaches were also used to meet **significant staffing** needs.

LESSON: Vaccine supply distribution was unpredictable, making planning and implementation efforts challenging

As vaccine became available, state and local public health authorities were charged with first vaccinating groups at highest risk of developing complications. But several logistical complications arose: (1) doses arrived later than expected, (2) the quantities were lower than estimated, and (3) subsequent deliveries were erratic. In addition, shipments of vaccine in nasal spray form arrived before the injectable

vaccine did. Generally, the public is less familiar and less comfortable with the nasal spray vaccine (made with a live, though weakened, virus) than the injectable kind (made with a “killed” virus). The live attenuated influenza vaccine (LAIV) spray isn’t always appropriate for certain high-risk groups, and worries about the LAIV presented the Big 10+2 with yet another challenge.

Thus, universities had to plan, coordinate, and staff mass vaccine clinics when they didn’t know for certain *when* they’d get shipments, *how much* vaccine they’d receive, and *what form* of product they would get.

KEY TAKEAWAY

Coping with uncertainty was key to success


LESSON: Past experiences and bioterrorism response planning provided useful templates

Universities needed as much flexibility as possible to work with the shifting variables and still immunize as many people as they could while the interest in vaccine was high. Many offered vaccine in non-clinic settings. Some universities provided vaccine only to students; others made it available to students, faculty, staff, and dependents. Still others worked with local public health authorities to immunize others in their communities. Universities hosted mass walk-in clinics and drew on successful seasonal-flu strategies.

EXAMPLES FROM THE FIELD

■ **Taking vaccine to students.** The medical director of the Student Care Center (SCC) at the **University of Chicago** used her team’s success in improving seasonal influenza vaccine rates as a springboard for organizing H1N1 vaccine efforts. Using “the power of context” approach described in Malcolm Gladwell’s book, *The Tipping Point: How Little Things Can Make a Big Difference*, the team opted several years ago to meet students on their own turf. The goal was to make it as convenient as possible. They selected vaccination sites that already had considerable student foot traffic. Promotional materials listed locations and included maps. During clinics, maps, signs, and arrows directed students to the sites.

Seasonal vaccination rates more than doubled the first year the SCC tried the approach. At the peak of the H1N1 pandemic, the clinicians were vaccinating approximately 25% of the total student population of 15,000.

 [Malcolm Gladwell Theory Employed in Vaccine Distribution \(IL\)](#)

■ **The right place at the right time.** The executive director of the health center at **Indiana University** also considered student habits when he selected the time and venue of H1N1 vaccine clinics. Plenty of parking was one criterion, and timing the clinics when students were most likely to be available was another. Clinics were held in the lobby of the basketball center, from 11 am to 7 pm, after classes started but before evening activities.

■ **Perfecting points of dispensing.** The directors of the student health center at **Purdue University** and the Tippecanoe County Health Department applied the lessons from a previous mass clinic collaboration related to antibiotic distribution in the event of a bioterrorism attack to streamline H1N1 vaccine clinics. Purdue developed and tested specific floor plans for designated Points of Dispensing (PODs) on campus. Purdue's approach to mass vaccination clinics changed to minimize wait times and enhance efficiency of the university-county-run clinics. Among the lessons they learned were:

- **Site selection is critical.** The facility needs to be large and have ample parking. *Don't skimp on staff.* A clinic manager is needed to carefully organize the POD, assign responsibilities, and coordinate with the health department the supplies needed. Purdue hired a graduate student as the clinic manager. Nursing students helped administer vaccine. For optimal movement through the POD, vaccine stations need to be overstaffed.

NOTES FROM THE FIELD

Purdue University

“Overstaff vaccine stations. I can't overemphasize that point. You want to hear a giant sucking sound when the nurses' stations open. If you do have a line, utilize it for filling out paperwork.”

Mike Bohlin, MD
Director, Tippecanoe County Health Department, Indiana

- **Ensuring optimal flow.** POD layout must be considered to move people quickly. Purdue set up six stations and processed 700 to 800 people an hour. The turnaround time when everything was set up properly was no more than a minute. Ushers directed pre-registered people who had forms completed to vaccinators; walk-ins would sit at a table to fill out paperwork before getting a vaccine. Any lines that formed were reduced within 30 minutes. Another way Purdue worked to prevent lines was to have the clinic ready 30 minutes earlier than scheduled. If a line began to form, the clinic would open early.

 [Mass Clinic Approach Evolved to Meet Needs \(IN\)](#)

TIP FROM THE FIELD

How to Avoid Long Lines at Vaccine Clinics

- Register people online or using an automated phone service
- Encourage people to wear short-sleeve shirts
- Be ready to open a half hour earlier than the scheduled time
- Overstaff clinics
- Involve students in all facets
- Use good signage, with arrows pointing to the clinic
- Make forms available online and encourage people to fill them out before they arrive
- Don't administer seasonal and H1N1 vaccine at the same time

LESSON: New strategies were developed rapidly to use online or phone systems

Online scheduling gave universities some control over the number of people they could vaccinate and helped them identify who should receive the type of vaccine they had on hand. One university customized telephone technology to streamline clinic scheduling and communications.

Universities that booked vaccine appointments online ensured 24-hour student access. The advantage for universities was controlling who came to clinics and when, thus compensating for unpredictable vaccine supplies. Online booking also sometimes included paperwork for students to download and sign before they came to the clinic, which helped speed the process.

EXAMPLES FROM THE FIELD

- **'Just-in-time' registration.** Owing to uncertainties about how much vaccine it would receive, Indiana University decided to limit clinics to 3 days a week and offer 1,200



Universities that booked vaccine appointments online ensured 24-hour student access. The advantage for universities was controlling who came to clinics and when, thus compensating for unpredictable vaccine supplies. Online booking also sometimes included paperwork for students to download and sign before coming to the clinic, which helped speed the process.

appointments a day using a secure online system. Over the course of the clinics, more than 7,000 people were vaccinated. Planners said the following factors led to their success:

- **Rolling registration.** The university developed a secure online registration system for faculty, staff, and students. Once appointments for one day were filled, the system automatically began filling the next day's slots.
- **Pre-vaccine paperwork.** Registrants were instructed to download materials to complete before the appointment.
- **Spreading the word.** The university used every channel available—Facebook, Twitter, e-mails from a dean, television ads—to announce clinics.
- **Injections-only policy.** The university declined nasal-spray vaccine. That decision eliminated time that otherwise would have been spent on addressing safety concerns about the LAIV, a spokesperson said. The university had a collaborative agreement with pediatricians to take the declined LAIV doses.

■ **An off-the-shelf option.** Flexibility was very critical to **Michigan State University (MSU)** when it selected SurveyMonkey, a secure, customizable online tool, to register students for H1N1 vaccination appointments. The software offered the flexibility MSU needed to accommodate changing eligibility guidelines and spotty delivery of supplies.

■ **Customizing a telephone system.** The **Ohio State University** found that building and launching an online system would take a month. An alternative approach was to use a phoned-based scheduling system. That system was built in 2 days, tested over a weekend, launched, and proved to be highly efficient and successful.

 [Automated Clinic Registry Simplifies Vaccine Clinics \(OH\)](#)

■ **Building blocks.** After several walk-in vaccination clinics took place at the **University of Minnesota**, planners identified a need to regulate client flow and reduce wait times. They shifted to an online system that allowed clients to register for a 15-minute block of time. Within each time block, clients were vaccinated on a first-come, first-served basis. The system enhanced clinic operations by shortening wait times, promoting a steady and predictable flow of patients, maximizing resources and vaccine delivered, and ultimately increasing the number of vaccinations provided. Use of the system also resulted in less stress on clients, as well as nurses and other clinic staff.

The Minnesota Department of Health awarded Public Health Emergency Response (PHER) IV funds to the university to expand and enhance the online scheduling system. Once completed, this new system will be used to support seasonal influenza vaccine campaigns, as well as standing ready for future pandemic response.

TIP FROM THE FIELD

Getting Immunized: The '5-Minute' Clinic

Big 10+2 universities vaccinated thousands of students, faculty, staff, dependents, and community members quickly while working with many variables beyond their control. Generally, they estimated they were able to get people through the clinic in about 5 minutes, and waiting time typically was used for paperwork.

TIP FROM THE FIELD

“The use of online block appointments was extremely successful. Public health partners have approached us with an interest in adopting a similar model.”

*Ed Ehlinger, MD, MSPH
Director and Chief Health Officer, Boynton Health Service
University of Minnesota*

LESSON: Creative approaches were used to meet staffing needs

The unpredictability of vaccine supply complicated efforts to arrange vaccine clinics, but getting and scheduling sufficient staff on short notice were additional challenges. Big 10+2 universities rallied help in creative ways, often calling on a wide range of people with interest in medicine and health sciences. Several universities noted how instrumental students were to the success of their vaccination efforts. Students served as promoters, greeters, paperwork wranglers, and vaccinators. The director of student health services at one university said: “We couldn’t have done it without them.” Students also helped spread the word about vaccine availability. At one university, the waiting room of a clinic filled 10 minutes after the university sent an e-mail announcing vaccine was available, and many students texted friends to meet them at the health center.

EXAMPLES FROM THE FIELD

■ **Health sciences students pitch in.** When H1N1 vaccine began to trickle in to the **University of Iowa** (UI) campus

in fall 2009, the Student Health Service relied on a familiar resource to help vaccinate students—UI health sciences students. Administering vaccine under staff supervision, students formed a strong clinical and logistical foundation of the H1N1 vaccination campaign. UI had precedence for involving students. Nursing students have always helped with seasonal influenza vaccination. Pharmacy students also became involved in H1N1 clinics. Nursing and pharmacy students also helped with community vaccination clinics sponsored by the Johnson County Public Health department and the Johnson County Visiting Nurse Association.

 [Health Sciences Students Administer Vaccine on Campus \(IA\)](#)

■ **Using help from the Medical Reserve Corps.** The Medical Reserve Corps (MRC) at the **University of Minnesota** comprises some 900 students, staff, and faculty from the Academic Health Center and Boynton Health Service. Its mission is to prepare for and respond to large-scale campus, local, state, or national emergencies efficiently, providing unique educational and experiential opportunities for students, staff, and faculty. Since its creation in 2004, the MRC has aided emergency response and public health initiatives on campus and in the broader community. So it was not unusual when the campus health service requested MRC support for its H1N1 mass vaccination clinics. More than 100 MRC members assisted with registration, screening, ushering, supply support, and injections. MRC members helped streamline clinic operations and were described as qualified, competent, and flexible.

 [Medical Reserve Corps Assists With Vaccination Clinics \(MN\)](#)

Responding to the H1N1 influenza pandemic required constantly adapting to changing circumstances and balancing shifting variables such as vaccine supply and demand. Leveraging past experience, customizing telephone or computer technologies, and finding creative staffing solutions helped Big 10+2 universities vaccinate campus community members. 📌

Students served as promoters, greeters, paperwork wranglers, and vaccinators.

The director of student health services at one university said, “We couldn’t have done it without them.” Students also spread the word about vaccine availability.



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TOOLS FROM THE FIELD

The Ohio State University

An Automated Phone System for Vaccine Registration

Planners at The Ohio State University developed a phone vaccination registration system that registered thousands of students and staff for their vaccinations.

How it was developed

- Planners developed a flow chart indicating how callers should be routed. The system was built in 2 days and tested over a weekend.
- A caller would first self-identify as a student, faculty, or staff. The phone system then asked for the caller's university identification number, to pull up that caller's e-mail address.
- Next, the phone system asked the caller's vaccine priority group(s).
- The system sent an automatic registration e-mail to that caller, and university officials could track registration in daily reports.

How it worked

- The first round of calls—to register people—occurred about 3 weeks before vaccine arrived.
- When planners received vaccine, the automated system e-mailed the first batch of registrants in high-priority groups.
- Pre-registered people in high-priority groups were told that vaccine would be available at certain times and locations and then asked to select the clinic time that best fit their schedules.

Results

- Between 3,500 and 5,500 students, faculty, and staff registered using the automated registration system.
- The system functioned well.
- The average wait-time with full staffing was about 5 minutes.



Vaccine Distribution Practices Online

For details please see the [Higher Education](#) section of CIDRAP's Promising Practices site.

Purdue University

- ▶ [Mass Clinic Approach Evolved to Meet Needs \(IN\)](#)

Purdue University (and the Purdue Chapter of the American Red Cross)

- ▶ [American Red Cross Student Chapter H1N1 Project \(IN\)](#)

The Ohio State University

- ▶ [Automated Clinic Registry Simplifies Vaccine Clinics \(OH\)](#)

University of Chicago

- ▶ [Malcolm Gladwell Theory Employed in Vaccine Distribution \(IL\)](#)
- ▶ [Quality Improvement Redesign a Tool in Pandemic Planning and Response \(IL\)](#)

University of Iowa

- ▶ [Health Sciences Students Administer Vaccine on Campus \(IA\)](#)

University of Minnesota

- ▶ [Medical Reserve Corps Assists With Vaccination Clinics \(MN\)](#)
- ▶ [Online Scheduling System for Vaccinations \(MN\)](#)



Lessons Learned Recap

- Vaccine distribution to universities was unpredictable, which made planning and implementation of distribution efforts on campus very challenging.
- Past seasonal influenza vaccination experiences and bioterrorism response planning with public health partners provided useful templates for H1N1 vaccine distribution.
- Due to the challenges of unpredictable vaccine availability, creative strategies were developed rapidly using online or phone-based systems.
- Creative approaches were also used to meet significant staffing needs.

Actions and Challenges Ahead Include

- Documenting and formalizing the new and modified vaccine distribution systems that were used successfully in response to H1N1.
- Considering use of pre-distribution education on LAIV and working with public health partners to increase awareness of LAIV in the community.

Teaching



How did Big 10+2 universities help ill students stay away from classrooms to recover while preserving academic expectations and requirements?

Faculty at most Big 10+2 universities were either encouraged to relax their attendance expectations and rules or were notified by provosts and deans that existing policies were being formally suspended during the 2009 H1N1 influenza pandemic. The goal: Ensure that students (and faculty) could follow through on public health recommendations to self-isolate while they were infectious and recovering. But asking faculty to change the requirement for a student to produce a doctor's note to have an absence excused created conflict that often required intervention by provosts and deans. Historically, the appropriateness of the doctor's note has been a source of disagreement between academic and health services colleagues. During the pandemic, however, the note policy was a specific barrier to a public health recommendation for those with influenza-like symptoms to self-isolate.

Before H1N1, universities looked at ways to teach remotely if absenteeism required them to shut down. They also knew that cancelling study-abroad programs was a possibility. As it turned out, neither step was needed, but universities did cancel trips to Mexico. This chapter addresses **teaching** issues. Following each lesson are examples from the field.

KEY TAKEAWAY

Supportive leadership made possible short-term solutions

Lessons learned during the pandemic response emphasized the following:

- Pandemic influenza response plans need specific procedures to address the effects on **study-abroad programs**
- **Teaching policies and individual faculty practices** play an important role in supporting self-isolation strategies for students.

- Although **distance learning techniques** were not required, hindrances to their successful implementation were highlighted during pre-pandemic planning.

LESSON: Response plans need specific procedures for study-abroad programs

The fast global spread of the pandemic had an impact on travel-abroad programs. Universities wound up canceling spring trips to Mexico, where reports first emerged of serious H1N1 illness. During the fall, the US Department of State issued alerts about extreme quarantine measures in China. Passenger screening varied from country to country. Universities, however, did not report major problems with study-abroad programs but noted strong cooperation with colleagues in these programs. H1N1 underscored the need to be prepared for a pandemic to emerge at any time from any global region.

LESSON: Teaching policies and faculty play an important role in students' self-isolation

Few issues generated as much internal dismay during the pandemic as excusing student absences for flu-like illness. The CDC made self-isolating a key tenet of its guidance, encouraging people with flu-like symptoms not to return to classes until 24 hours after being fever-free without fever-reducing medication. A full recovery could take 3 to 7 days. If complications such as pneumonia developed, students could be out longer.

To reduce virus transmission and encourage full recovery, most universities opted to embrace CDC guidelines and promote self-isolation, but this was only the first step. The strategy tended to be unpopular with many faculty members and created friction on some campuses. To complicate matters, in regions where the fall wave of illness peaked by early November, the timing coincided with end-of-semester deadlines and fast-approaching exams. The practical question universities faced was how to loosen faculty grip on the long-held tradition of deciding which absences to excuse.

With the exception of the **University of Wisconsin-Madison**, Big 10+2 institutions had some form of student attendance policy that required proof of illness, and unexcused absences came with academic penalties that affected students' grades. With limited capacity of health services to see every sick student and universities' heavy reliance on online and phone triage, the chances of a student securing a doctor's note for flu-like illness during the pandemic were slim to none. Students who worried about academic penalties were known to show up for class sick or return to busy clinics to get notes.

Universities identified the support of provosts and deans as key to the success of a self-isolation strategy. Universities highlighted the value of involving those key leaders during planning and the importance of their willingness to communicate about relaxing attendance policies or intervening to resolve conflict when necessary.

EXAMPLES FROM THE FIELD

■ **Requesting faculty help.** Some of the Big 10+2 universities simply requested more flexibility from faculty during the pandemic—and got it. An Aug 11, 2009, letter from the provost at **Purdue University** said:

"Our students are in an age group that has been most affected by Influenza A H1N1 (ages 5-24). Also at high risk are pregnant women and individuals with chronic ailments such as asthma. Because a high proportion of the Purdue family is in the high risk group, we must be especially vigilant."

The provost went on to suggest that faculty be sure classes and students were "storm-ready," including doing the following:

- **Consider adjusting attendance policies** to prevent penalizing ill students for "doing the right thing and not attending class"
- **Develop a method of mass communication** so they could alert students about any cancellation of classes or assignments
- **Make plans to help students get caught up** upon their return to class
- **Talk with students about not coming to class** while they have a fever or until they recover
- **Prepare personally**

Purdue also provided a link to faculty online resources on how to respond to a pandemic.

■ **Adjusting the policy.** Others institutions, such as the **University of Iowa**, sought middle ground by crafting a simple online form for sick students to fill in and submit electronically. The university made clear to faculty and students that grades were not to be affected by absences and

NOTES FROM THE FIELD

Supporting Student Self-Isolation

Dealing With Attendance Policies

When confronted with faculty objections to relaxing attendance policies, universities found they were better able to support self-isolation if:

- **Provosts and deans supported** the strategy and communicated that support effectively
- **Decision-makers officially suspended** existing attendance policies, including the requirement of a doctor's note to excuse ILI-related absences.
- **Media were covering the pandemic**, making the threat appear real and pointing out that young people were at higher risk of developing complications
- **They could effectively highlight** CDC recommendations

that students were responsible for completing requirements.

 [Online Class Absence Form for Flu-Like Illness \(IA\)](#)

■ **Suspending policies.** **Pennsylvania State University** formally suspended its absence policy, while **The Ohio State University** allowed students to submit a pandemic-specific excused absence form that could be used once, thus reducing the possibility that anyone could take advantage of the more lenient policy. Interestingly, some universities reported that students were more likely to come to class sick for fear of penalties than to abuse the policies.

In the end, planners from several universities suggested that if the CDC targeted messages to faculty about the importance of students self-isolating during a pandemic, then the strategy would be easier to put into practice.

LESSON: Planning revealed hindrances to distance learning

Although the Big 10+2 universities did not have to shutter campuses, planners knew it was a possibility if absenteeism reached high levels. Some universities had encouraged faculty to explore distancing learning options as a way to ensure education continuity.

■ **Faculty and COOPs.** At the **University of Wisconsin-Madison** (which had a no-doctor-note policy before the pandemic), departments were asked to develop models of social distancing and ways to supplement teaching plans and were invited to attend an educational forum on teaching when social distancing is required. Faculty were required to

identify their most critical courses and to write COOP plans detailing how they would proceed if classes were canceled during the H1N1 pandemic or due to any future disaster. Those plans were reviewed according to criteria supplied by the provost's office, the health services director, and UW's enrollment management office. Plans were tracked and reported to the committee charged with monitoring progress. As part of their plans, faculty members were also asked to take a generous approach to allowing ill students to make up work.

■ **Information technology services.** With so much riding on the ability of faculty and students to interact remotely and to receive updated information, information technology leaders have a role ensuring that Web sites can be updated quickly and helping evaluate or design distance learning possibilities. In addition, information technology helped universities schedule vaccination clinics and track ill students, emphasizing the broad importance of those staff as stakeholders in response.

Self-isolation during a flu-like illness was a key tenet of limiting the spread of the pandemic. Encouraging students to stay home or in their room while ill meant relaxing class attendance requirements. Some universities formally suspended attendance policies, while others allowed students to fill out online absence forms. Future efforts are likely to address additional issues off-campus, such as study-abroad and distance learning issues. ■



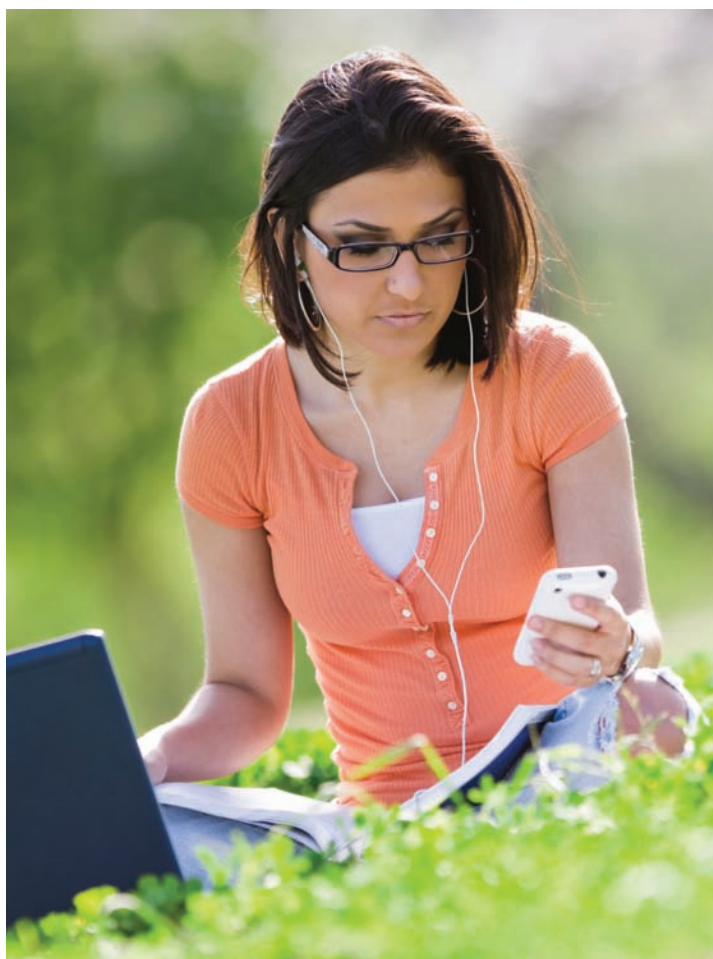
Teaching Practices Online

For details please see the [Higher Education](#) section of CIDRAP's Promising Practices site.

University of Iowa

► [Online Class Absence Form for Flu-Like Illness \(IA\)](#)

Before H1N1, universities looked at ways to teach remotely if absenteeism required them to shut down. They also knew that cancelling study-abroad programs was a possibility. As it turned out, neither step was needed.



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Lessons Learned Recap

- Pandemic influenza response plans need specific procedures to address the effects on study-abroad programs.
- Teaching policies and individual faculty practices play an important role in supporting self-isolation strategies for students.
- Although distance learning techniques were not required, hindrances to their successful implementation were highlighted during pre-pandemic planning.

Actions and Challenges Ahead Include

- Requesting that CDC consider the creation of targeted communications to faculty on the need to modify policies and practices when self-isolation strategies are used to address infectious disease outbreaks.
- Reviewing and further developing (as needed) models for addressing existing self-isolation policies and the role of faculty in providing information and support to students.
- Documenting procedures used to make policy modifications, either formally or informally, so that modifications can be made rapidly in the future.
- Further developing distance learning capabilities in some institutions, including teaching strategies, faculty preparation, and information technology infrastructure.

Human Resources



How did Big 10+2 universities work to protect a diverse workforce within the complex regulatory environment of human resources?



Human resources (HR) issues surfaced quickly when the 2009 H1N1 influenza pandemic arrived on Big 10+2 campuses, and more than a year later, a few still remain unresolved. Universities addressed how to respond to employee questions and concerns, how to apply sick-leave and pay policies during a pandemic, and

what kind of HR guidance was needed. They also worked to determine how to ensure sick employees stayed away from the workplace, how to protect healthy employees until a vaccine became available, and how to staff for surges in demand for certain services. This chapter examines how institutions addressed **human resources**. Following each lesson learned are examples from the field.

Lessons learned during the pandemic response emphasized the following:

- **Clear and timely information** was needed for HR professionals, department heads, supervisors, and employees to effectively implement public health recommendations in the workplace.
- Pandemic response efforts highlighted the importance of **continuity of operations planning**, including the designation of essential personnel.

LESSON: Personnel need clear and timely information

While pivoting to respond to the threat of the H1N1 pandemic, HR staff had to factor in the complex hierarchy of employees at Big 10+2 universities (tenured and non-tenured faculty, salaried staff, hourly workers, part-time and temporary staff, student workers, and employees working under collective bargaining agreements) and their differing mix of time-away-from-work benefits. Meanwhile, state and federal employment laws and standards still had to be met. But even some of these—the Family Medical Leave Act (FMLA) and Americans with Disabilities Act (ADA), for example—required review by government officials who then published pandemic-specific guidance that HR professionals had to monitor, interpret, communicate, and apply.

With a few exceptions, most Big 10+2 universities did not craft pandemic-specific sick-leave and sick-pay policies. One of the most onerous HR challenges was how to achieve the CDC recommendation that people who had symptoms of flu-like illness stay home until fever-free for 24 hours without the aid of fever-reducing medications. Encouraging sick employees to stay home runs counter to many work and societal norms.

In addition, compensation policies, in particular, became a thorny issue. For example, for some employees whose pay depended on their presence at work and who don't receive paid sick leave, staying home was not financially feasible. The many university job categories and variety of leave benefits made trying to produce one-size-fits-all pandemic sick-leave and pay policies too unwieldy for many universities.

Guidelines, targeted communications, and, in some situations, new policies were created to promote shared understanding, support uniform practices, and answer employee questions.

In the end, relaxing existing attendance policies rather than revamping them became the default solution for most of the Big 10+2 universities. One of the first campuses to have a confirmed case of H1N1 infection, the **University of Chicago** opted by May not to penalize employees who stayed home with flu-like symptoms. The **University of Wisconsin-Madison** revised attendance policies to relax requirements for medical excuses and to allow for telecommuting if possible. **Pennsylvania State University** expanded family sick-leave policy in general to encourage employees to stay home when ill.

EXAMPLES FROM THE FIELD

■ **Campus-level guidelines for department-level decision making.** As part of its response to the H1N1 pandemic, the **University of Illinois** Infectious Disease Work Group, comprising representatives from across the university,

KEY TAKEAWAY

Relaxing policies didn't require revoking them

tried to articulate how university employers should handle employee illness in a pandemic. Bumping up against a wall of variables, the group opted instead to provide guidance that individual units and departments could use to make their own decisions. The guidelines address topics such as whether employers could send sick employees home, how FMLA applies, and whether an employer could cancel an employee's vacation time in a staff shortage. Most Illinois employees are unionized, so before posting the guidance, an HR representative sat down with each union to hear immediate feedback and ensure buy-in.

 [HR Guidance Development \(IL\)](#)

■ **Campus-level policy.** The **University of Minnesota** developed a policy that outlines how the president or designee may determine circumstances that would necessitate the declaration of a University State of Emergency, or change in standard operations, either to limit exposure using "social distancing," or as a result of extremely high rates of absenteeism related to pandemic influenza. The policy was drafted by HR leaders on campus in consultation with academic health partners after reviewing draft policies created elsewhere. Although a work in progress since 2007, the policy was formally adopted based upon concerns about the 2009 H1N1 pandemic. In the end, there was no need to implement the policy; however, it provided information to employees on the intended approach should a more severe pandemic affect the campus.

 [State of Emergency Policy \(MN\)](#)

■ **Anticipating employee questions.** Early in the pandemic, anticipating that there may be questions about the use of personal protective equipment (PPE) in the workplace (particularly access to university and government-held stockpiles), **University of Minnesota** administrators charged an ad hoc task force to develop PPE recommendations. The recommendations were made available to HR professionals and were used to respond to employee inquiries. In the end, employees did not raise serious concerns about this issue; however, the recommendations will be revised as needed to address PPE recommendation during future pandemics or other infectious disease emergencies.

 [Facemask and N95 Respirator Recommendations \(MN\)](#)

LESSON: Importance of continuity of operations planning

As large employers with sizeable and complex workplaces, Big 10+2 universities generally develop continuity of operations plans (COOPs) as part of overall preparedness planning. But planning for an influenza pandemic requires a dual approach: (1) ensuring operational coverage when a high proportion of the workforce is absent, and (2) addressing situations for which social distancing measures severely limit access to the campus.

Full implementation of COOP plans was not needed for H1N1. However, university planners noted the importance of continued work on those plans and the challenges inherent in determining essential and non-essential personnel across the entire campus community.

EXAMPLES FROM THE FIELD

■ **Tools for determining essential personnel.** As part of its essential function staff recommendations, **Purdue University** outlines a system of color-coding employee groups as a means of providing simple, clear guidance to faculty, staff, and students regarding their responsibilities and course of action

TOOLS FROM THE FIELD

Purdue University

Essential and Non-essential Employee Groups

An Essential Function Staff Recommendation document has been drafted to provide simple, clear guidance to faculty, staff, and students regarding their responsibilities and course of action in the event of a pandemic or other crisis that requires severely limited access to the university.

The following four groups are proposed as a means of identifying each employee's responsibility level during an emergency:

Red Group

Employees needed to maintain essential critical infrastructure and public safety functions during a campus emergency. These individuals will normally be required to be on campus daily and may need to stay on campus for extended periods.

Orange Group

Individuals needed to maintain critical functions whose daily presence on campus would not be required but who can perform their roles on a periodic or repetitive basis each week.

Blue Group

Many of these staff can accomplish their function from remote locations or with brief, occasional visits to campus.

Green Group

All employees not already listed. While their functions are important to the university during normal operations, they are not deemed critical *during an emergency*.

in the event of a pandemic or other crisis that requires severely limited access to the university.

 [H1N1 Essential Personnel Recommendation \(IN\)](#)

■ **Reinforcing the need for redundancy.** Planners at the **University of Minnesota** used a high-absenteeism scenario as part of a tabletop exercise to (1) illustrate how a pandemic could affect members of the university's pandemic influenza response team and (2) creatively build support for identifying three backup employees for each response position. The activity leveraged the element of surprise inherent in a pandemic. Based on random markers, members learned whether they were deceased, were sick, had sick family members, or were not affected.

The exercise illustrated that:

- Most of the population would survive a pandemic
- Most healthcare would be provided in the home by family members
- The impact across the response team could be spotty and unpredictable
- Assigning three trained backups for each response lead was a must

 [Workforce Absenteeism Exercise \(MN\)](#)


TOOLS FROM THE FIELD

University of Minnesota

Workforce Reduction Activity

This exercise is a vivid way to illustrate the impact on a workforce from absenteeism caused by a severe pandemic. During the activity, participants are randomly assigned markers to represent the following:

Employee is . . .	Percent of population
Not affected	35%
Caring for 1 ill family member	20%
Caring for 2-3 ill family members	13%
Sick	30%
Deceased	2%

Planning for HR in a pandemic requires harmonizing legal responsibilities, myriad contractual requirements, epidemiologic information, cultural expectations, and university operations. The H1N1 pandemic provided a great deal of insight into what issues need further exploration at the university level, but more work remains. 



Human Resources Practices Online

For details please see the [Higher Education](#) section of CIDRAP's Promising Practices site.

Purdue University

- ▶ [H1N1 Essential Personnel Recommendation \(IN\)](#)

University of Illinois

- ▶ [HR Guidance Development \(IL\)](#)

University of Minnesota

- ▶ [Facemask and N95 Respirator Recommendations \(MN\)](#)
- ▶ [State of Emergency Policy \(MN\)](#)
- ▶ [Workforce Absenteeism Exercise \(MN\)](#)

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Human resource professionals worked to determine how to ensure sick employees stayed away from the workplace, how to protect healthy employees until a vaccine became available, and how to staff for swings in demand for certain services.



Lessons Learned Recap

- Clear and timely information was needed for HR professionals, department heads, supervisors, and employees to effectively implement public health recommendations in the workplace.
- Pandemic response efforts highlighted the importance of COOP planning on campuses, including the designation of essential personnel.

Actions and Challenges Ahead Include

- Designating essential personnel across the entire campus (a challenge cited by some universities).
- Additional planning related to compensation policies during a more severe pandemic, when social distancing measures are implemented (a need noted by some universities).

Student Engagement



How did students improve H1N1 response on campus?

As university planners responded to the challenge posed by the thousands of students on their campuses at risk of H1N1 infection, many discovered a plentiful resource: students themselves. With a slight shift of perspective, universities found that students who might pass germs could also spread hygiene messages.

Likewise, students who need vaccine might be able to administer vaccine, and students in need of housing could help plan for housing the ill.

By viewing students as stakeholders who have (1) built-in expertise on students' needs and interests, (2) knowledge, and (3) skills, or the ability to gain them, many universities in the Big 10+2 enhanced their H1N1 response. Students filled a variety of roles, from frontline educators to vaccinators and initial triage support staff.

This experience serves as a reminder that including vulnerable stakeholders in emergency planning and response can lead to unexpected, more effective approaches, as well as increasing trust between the university and the campus community. This chapter addresses **student engagement** experiences. Examples from the field follow each lesson learned.

Lessons learned during the pandemic response emphasized the following:

- Student involvement can reduce demand for healthcare services and **expand healthcare surge capacity**.
- **Students have credibility with their peers**, which gives them a powerful voice and role in health education.
- **Including students in planning** improves support for the plans.
- **Students and universities benefit** from student participation in emergency response.

LESSON: Students expand healthcare surge capacity

As universities grappled with preventing the spread of H1N1

and treating ill students, they also faced the challenges of finding extra staff, hours, or funds within healthcare systems that routinely operate at or near human and fiscal capacity. Students were valuable

resources in increasing healthcare surge capacity for several Big 10+2 universities. Students who already had specialized skills were directed to tasks such as administering flu vaccines or planning and staffing mass clinics. Students who were willing to help but lacked some skills were either given just-in-time training and education or offered opportunities that required dedication rather than skill.

Some of the benefits of enlisting student assistance were easily measured: **Pennsylvania State University** had 15 to 20 upper-level nursing students serving as vaccinators at each of the campus clinics. They delivered approximately 4,500 doses of vaccine and allowed the university to save money on overtime wages and temporary part-time nurse salaries. An unpaid internship program resulted in an additional 36 hours a week of staff time at a campus health service throughout most of the pandemic.

Other activities are harder to measure but were described as useful or successful. Several universities identified students who were already working with other students—such as RAs, peer health educators, and student Red Cross volunteers—and armed them with the training and materials they needed to provide H1N1 education.

EXAMPLES FROM THE FIELD

■ **Students work vaccine clinics.** Peer health educators (PHEs) at the **University of Chicago** assisted with H1N1 vaccination clinics, providing hygiene and self-care education. The PHEs, who were typically studying public health, medicine, or science, were tested to ensure they were providing correct information. This approach allowed university health services to greatly expand its educational outreach without further stretching clinic staff.

[Students Serve as Peer Educators \(IL\)](#)

KEY TAKEAWAY

**Students are
'a tremendous
asset'**

NOTES FROM THE FIELD

“They actively sought ways to help us. It was amazing.”

*Lisa James, RN, MSN
Interim Administrative Director, Student Health Service
University of Iowa*

■ Empowering health educators for H1N1. A

longstanding health advocate program at the **University of Minnesota** features students who receive training and then serve as health resources in residence halls, Greek houses, or other student housing. Health advocates can distribute first-aid and reproductive health items and work on health promotion activities such as starting a hall fitness club.

With the advent of H1N1 on campuses, health advocates' roles expanded. They received training on H1N1 and campus response procedures and how to detect and report flu-like illness. They were fitted with N95 respirators. They received hand-washing reminders to hang in bathrooms and surgical masks to distribute. They learned to identify when students should stay in their rooms and rest and when to send them to health services. They also had access to a 24-hour nurse line to assist with decision-making.

 [Student Health Advocates Also Address H1N1 \(MN\)](#)

LESSON: Students are trusted messengers for students

Risk communicators know that a message's acceptability depends greatly on who delivers it. Universities harnessed the power of peer pressure by enlisting students to educate other students about the importance of good hygiene, flu vaccine, and self-care. Students climbed onto buses and into costumes and in myriad ways delivered key information to their peers. While even students concede it is difficult to convince young adults they aren't invincible, they cited successes.

Students suggested approaches to reach their peers that non-students might not have considered. For example, students recommended creating a costume character, making and sharing stickers, and targeting vaccine education to participants preparing for a large student dance marathon.

EXAMPLES FROM THE FIELD

■ **Getting on the bus.** Members of the **Purdue University** chapter of the American Red Cross, in addition to other student volunteers, rode CityBus vehicles on routes serving the campus in the fall of 2009. They succeeded in distributing education materials and hand sanitizer to more than 5,000 students in 2 days.

 [American Red Cross Student Chapter H1N1 Project \(IN\)](#)

■ **Creating internships.** **Pennsylvania State University** has a school of nursing as well as health policy administration, which became a resource for the University Health Services (UHS). The infection control nurse manager at UHS created an infection control internship program to bolster staff levels for outreach and flu clinics. She found four undergraduate interns whose work included a heavy emphasis on education and outreach, particularly around increasing vaccination. Together the interns worked about 36 hours a week for much of the pandemic, with a focus on health education and planning vaccine clinics. In addition to teaching their peers, the interns said they found it easy to tap their peers as volunteers, for example, by asking for volunteers during nursing classes.

 [Infection Control Internships Help Students, Health Services \(PA\)](#)

LESSON: Including students in planning improves support

Housing ill students has been a complicated problem since the early days of pandemic planning. Universities have struggled with housing ill students on campus as well as placing students who can't get home in a more severe pandemic if the campus closes. Students proved to be an expert resource and an important stakeholder group.

EXAMPLES FROM THE FIELD

■ **Students change isolation approach.** The **University of Chicago** was one of the first nationally to have an H1N1 case. Forced to make decisions without much data, planners sought to simplify isolating the ill. Planners asked students not affected by the virus to relocate so students with confirmed or suspected cases could move into housing with private baths. Students rejected the idea of moving to enhance isolation of sick peers.

Planners revisited housing options during the summer session, but this time they included students who were identified by student government and various housing councils. Ultimately, ill students were housed in place and their healthy roommates were given the option to move out. None of the roommates chose to move.

 [Students Developed Housing Plan in Response to H1N1 \(IL\)](#)

NOTES FROM THE FIELD

“Students will listen to other students.”

*Shelley Haffner,
Infection Control Nurse Manager, University Health Service
Pennsylvania State University*

TOOLS FROM THE FIELD

University of Iowa

Example: RAs Handle Phone Calls From Sick Students

The University of Iowa developed protocols to help RAs respond to ill students in residence halls. Here is an abbreviated protocol for RAs when sick students call the front desk:

If a student or parent calls about an ill student, please respond accordingly:

- Ask if the student is in crisis/needs immediate assistance. Example: is too weak to walk to bathroom.

☐ **If YES:**

- Inform the caller you will call an ambulance.
- Call 911 and request an ambulance.
- Call Professional staff on duty & RA on duty.

☐ **If NO:**

- Get a phone number, name, and room number of the student and inform the caller that a residence life staff member will be in contact within the hour.
- Contact the Hall Coordinator on duty **between 8 AM and 5 PM Monday - Friday**. Relay information.
- Contact the RA on duty **between 5 PM and 8 AM and weekends/university holidays**. Relay information.

■ **If they need a meal pack:**

- If they want it for the next calendar day—they should fill out an online request.
- If they woke up ill and want it TODAY—they can call the Burge or Hillcrest Marketplace.

■ **International students, planners reach out to community for emergency housing.** In the early years of pandemic preparing, **Michigan State University** planners were concerned about the possible impact of a severe pandemic, particularly on their thousands of international students from more than 130 countries. The Office for International Student Services (OISS) on campus became a valuable planning partner, serving as a link to the international students and working closely with students, international student clubs, and community groups. OISS staff initially reached out to community clergy and church members to learn whether families would be willing to host international students who needed emergency homes.

Students also reached out to the community to help plan for their own needs. Although the planning effort was informal and the issue didn't arise with H1N1, in a more severe event, MSU might formalize this housing option.


 [International Students Participate in Planning Alternative Housing \(MI\)](#)

LESSON: Students, universities benefit from student engagement

The experience of Big 10+2 universities demonstrated that engaging students in planning for and responding to an influenza pandemic strengthens response on campus. Student involvement can spell an increase in surge capacity, peer-to-peer health education outside clinical settings, greater support for plans, and more flexibility. For example, student nurses who were qualified to administer vaccines sometimes had broader availability than contract nurses and worked at mass vaccination clinics on short notice on evenings and weekends, as vaccine arrived. Universities also benefited from recognizing that students have time, energy, and insights to contribute. H1N1 response shows that universities stand to benefit greatly from continuing to expand the network of students involved.

For students, being involved in H1N1 response meant a lot of things. Some received college credit. Many received valuable training and résumé-building opportunities. Some expressed delight in knowing their opinions were valued, such as the student who said, "It was kind of funny having adults asking nursing students about H1N1. Even in class, instructors were asking me and the other two nursing students questions about H1N1."

Another student said H1N1 response was life-changing. One undergraduate student at **Pennsylvania State University** was contemplating her career options in health policy when she received an internship in infection control. As a result of that internship, she decided to apply for an accelerated nursing program. "I got more out of it than I could have dreamed—a complete career choice came out of it," she said. "It was the most beneficial experience of my college career."

Students proved a tremendous resource in responding to the H1N1 pandemic on many college campuses, both as volunteers and, in some cases, as paid employees. They helped to teach their peers about influenza and hygiene, hopping buses, handing out hand sanitizer, and answering questions right in residence halls. Students helped reduce the health services staffing pinch on some campuses by planning and/or assisting in vaccination clinics. Students were also important stakeholders in planning. Giving them a voice in the decision-making process, such as for housing ill students, improved support for plans. These varied experiences of student engagement offer useful examples for the future. 

TOOLS FROM THE FIELD

Pennsylvania State University

Example: It's a (Flu) Bug's Life

Lauren Zaun was a senior nursing major when she received an internship in infection control. She spent hours dressed as Flu Bug, handing out H1N1 fliers. Some students wanted photos with the bug. Others took fliers out of pity. Here's her story:

One day the infection control interns and some health service staff members were brainstorming ideas about how to tell students to clean their hands and stay home when sick. Zaun had just read about students getting attention for being in costume, "So I was like, 'Why don't we have a flu bug costume?'" A staff member made the costume, and Zaun found herself attending homecoming dressed as a giant virus. "I was dancing around, getting hugs from little kids, and it was fun," she said.



Four infection control interns at Pennsylvania State University donned a "flu bug" costume to promote H1N1 prevention.

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Although Zaun also participated in a number of clinic-planning and student-monitoring activities, one of the most memorable parts of her senior year was time spent as Flu Bug. "It got a lot of attention," she said. "When we were handing out fliers, people would say things like 'Oh, I have to take one from the bug.'"

"College students are a hard population. They were up there in risk for H1N1, so it was extremely important that [they] knew what was going on. To try to get them to care about flu was a big process," Zaun said.

The interns' efforts paid off. Students who met Flu Bug sometimes phoned friends to come have photos taken with the bug. Soon after Flu Bug made its debut, vaccine clinic staffers asked students how they heard about the clinics and learned that Flu Bug had sent them. Interns handed out flu-related stickers and later spotted students wearing them on campus.

"It was interesting," Zaun said. "I never got the flu, but I didn't mind being the flu."



Student Engagement Practices Online

For details please see the [Higher Education](#) section of CIDRAP's Promising Practices site.

Michigan State University

- ▶ [International Students Participate in Planning Alternative Housing \(MI\)](#)

Pennsylvania State University

- ▶ [Infection Control Internships Help Students, Health Services \(PA\)](#)

Purdue University (and the Purdue Chapter of the American Red Cross)

- ▶ [American Red Cross Student Chapter H1N1 Project \(IN\)](#)

University of Chicago

- ▶ [Students Developed Housing Plan in Response to H1N1 \(IL\)](#)
- ▶ [Students Serve as Peer Educators \(IL\)](#)

University of Iowa

- ▶ [Health Sciences Students Administer Vaccine on Campus \(IA\)](#)
- ▶ [Resident Assistant Checklist for Assessing Students \(IA\)](#)

University of Minnesota

- ▶ [Student Health Advocates Also Address H1N1 \(MN\)](#)

Student involvement can spell an increase in surge capacity, peer-to-peer health education outside clinical settings, greater support for plans, and more flexibility.



Lessons Learned Recap

- Student involvement can reduce demand for healthcare services and expand healthcare surge capacity.
- Students have credibility with their peers, which gives them a powerful voice and role in health education.
- Including students in planning improves support for the plans.
- Students and universities benefit from student participation in emergency response.

Actions and Challenges Ahead Include

- Formalizing roles for students in pandemic influenza planning and response.
- Looking to underused and less formal resources for planning and outreach activities, such as international student groups or churches that have high student membership.

Collaborations With Public Health



How did collaborations between universities and their public health partners enhance response?



To get from one side of the 2009 H1N1 influenza pandemic to the other, Big 10+2 universities relied on strong alliances with public health partners at all levels of government. For large campuses, which operate like cities, pandemic influenza planning and response demanded a significant level of community

organizing. In addition to residence halls and large worksites, many universities include charter schools, day care centers, law enforcement agencies, first responder systems, hospitals, and community clinics.

Operating within a culture of self-sufficiency and outside of the traditional public health structure, university officials daily meet the public health needs of all who live, work, and visit on campus. During public health emergencies, close coordination with public health authorities is essential for many reasons, including (1) to ensure access to needed information and materials, (2) to provide consistent response actions and messaging, and (3) to capitalize on the varying resources and expertise among all parties.

This chapter examines the need for strong **collaborations**, what worked well, and aspects that may need improvement. Examples from the field follow lessons learned.

Lessons learned during the pandemic response:

- **CDC guidelines for institutions of higher education** are an important resource for colleges and universities.
- **Relationships with city, county, and state health departments, often established through years of joint planning, paid huge dividends.**

LESSON: Federal guidelines for higher education are important

University responders noted the importance of CDC guidelines in general throughout the pandemic, and in particular emphasized the need for guidance documents addressed to institutions of higher education. Although revised over time, initial recommendations, particularly those

KEY TAKEAWAY

Established partnerships enhance response

on creating isolation space in residence halls, were problematic for larger schools with limited available space. Big 10+2 universities have offered to work with the CDC in the future to ensure that federal guidelines are appropriate for all types of institutions. The need to highlight individual

recommendations in stand-alone, targeted communications was also identified. A communication system needs to be established between higher education and CDC personnel so that specific challenging issues can be addressed as needed during a pandemic or other public health emergency. An example from H1N1 response is to have the recommendation to suspend use of doctors' notes for excused classroom absences in a format addressed specifically to faculty. Another example is to have the recommendation for students with flu-like illness to recover at home targeted to community clinicians.

LESSON: Relationships with state and local health departments paid huge dividends

Big 10+2 universities reported that partnerships with public health authorities during the 2009 H1N1 influenza pandemic were indispensable, mutually beneficial, and often a source of professional pride. They used the words "extraordinary," "excellent," and "positive" to describe these successful collaborations. Many universities have long-established relationships with their local health departments from participating in extensive efforts to bolster public health preparedness and response capabilities since 2001.

Public health systems vary in each state, as do university systems, so no two collaborations looked the same. Some universities include public health officials on planning and response teams; many reported daily phone and e-mail communications with public health partners. Joint debriefings, shared situation reports, and conference calls were all used to ensure continued coordination throughout the extended response timeframe.

NOTES FROM THE FIELD

“This response required an unprecedented level of community organizing over an extended period of time. We need to make sure that our government partners understand that we are not just schools; we are not just workplaces; we act like cities. On a daily basis, that is how we operate. We are really responding at a community level in the face of a pandemic or other public health emergency.” ”

Jill DeBoer, MPH
Director, Academic Health Center, Office of Emergency
Response, University of Minnesota

Although established relationships were noted across the board with local health departments, not all universities have a direct relationship with their state health department. Given the authority and decision-making happening at the state level, some universities expressed a need to establish or enhance those relationships in the future.

Although close collaboration was needed throughout the pandemic on myriad topics and issues, some areas were particularly important:

- **Ensuring a coordinated approach:** Universities and public health departments worked together to sync messaging, trouble-shoot problems, share information necessary to answer questions, and calibrate their respective responses. Early in the pandemic, uncertainties about the future required universities to develop response options for a multitude of scenarios. Just-in-time decision-making was required on a wide ranging list of issues, from study-abroad programs in Mexico, handshaking during graduation ceremonies, and the status of summer camps to policies and procedures in residence halls. All of this was occurring during a time of information overload. With constant information updates from federal, state, and local sources, responders reported spending several hours each day trying to stay current. In addition, media interest in H1N1 was high, with particular focus on the impact and response on college campuses.

To harmonize messages, universities worked to clear information and practices with public health partners in advance of dissemination. One university responder described it as, “We wanted to make sure we were all singing off the same sheet of music.”

- **Vaccine distribution.** Vaccine distribution was the biggest area of conflict but also provided the best examples of collaboration between universities and the public health system. On the conflict side, the lack of information and unpredictability of vaccine supplies were huge sources of frustration for college campuses, as it was for all healthcare and public health partners. A lack of transparency and shared understanding about the distribution process at all levels was a challenge that should be addressed before the next pandemic. On the other hand, universities and public health agencies partnered extremely well to share vaccine as needed, and to share the resources needed to distribute it. Collaborative planning efforts, strategies for delivering vaccines, and the ability and willingness to work together paid off in the immunization of thousands of students, faculty, staff, dependents, and, in many cases, community members.
- **Government stockpiles.** Some universities cited the need for a better understanding of access to government-held or -funded stockpiles of medication, PPE, and other supplies.

EXAMPLES FROM THE FIELD


■ **Spelling out the terms of working together.** Purdue University and the Tippecanoe County Health Department signed a memorandum of understanding (MOU) that detailed roles and responsibilities if the county needed to use Purdue facilities to distribute items such as vaccines or medications. According to the MOU, the county health department has primary responsibility to activate plans to mitigate public health emergencies (including pandemics) and to coordinate emergency functions. Purdue, it states, has facilities “that would be of particular assistance to the Health Department for purposes of providing vaccinations, distributing prophylactic medications or other supplies.”

 [Memorandum of Understanding for Prophylaxis During Public Health Emergencies \(IN\)](#)

■ **Relying on the influence of a state epidemiologist.** During the pandemic, the University of Minnesota (U of M) joined periodic conference calls convened by the Minnesota Department of Health to exchange information with higher education institutions statewide. The state epidemiologist provided H1N1 updates, answered questions, and requested reports from institutions on their status and challenges. On one call, a college campus reported a concern that athletes were attending practices and games despite having flu-like symptoms. Based on that report, the epidemiologist rapidly created and distributed an open letter to athletic directors and coaches that reinforced the need for

prevention measures in the sports setting. Although the concern did not originate there, the U of M capitalized on the targeted letter to reinforce existing messages and practices. The use of targeted messages from experts should be incorporated into future plans.

 [Open Letter to Athletic Directors and Coaches \(MN\)](#)

Routine operations of a university in many respects resemble routine operations of a community. When faced with challenges such as an influenza pandemic, universities can and should rely heavily on outside relationships with public health partners at all levels of government. Sharing and leveraging resources through partnerships is the most effective way to promote seamless public health response in an emergency. 



Collaboration Practices Online

For details please see the [Higher Education](#) section of CIDRAP's Promising Practices site.

Minnesota Department of Health

▶ [Open Letter to Athletic Directors and Coaches \(MN\)](#)

Purdue University and the Tippecanoe County Health Department

▶ [Memorandum of Understanding for Prophylaxis During Public Health Emergencies \(IN\)](#)

THE POST-H1N1 LANDSCAPE: COLLABORATIONS WITH PUBLIC HEALTH



Lessons Learned Recap

- CDC guidelines for institutions of higher education are an important resource for colleges and universities.
- Relationships with city, county, and state health departments, often established through years of joint planning, paid huge dividends.

Actions and Challenges Ahead Include

- Maintaining effective partnerships with local public health departments.
- Developing or enhancing direct relationships with state health departments as needed.
- Reviewing federal guidelines for higher education to ensure appropriateness for all types of institutions.
- Considering the creation of targeted communications on individual guidelines where there may be confusion or a need for reinforcement from a government authority.
- Seeking greater transparency is needed regarding vaccine distribution procedures to improve consistency and shared understanding among response partners.
- Gaining greater clarity in some jurisdictions (where warranted) regarding university access to government-held or government-funded stockpiles.

Conclusion



Sharing lessons and ongoing challenges, Big 10+2 universities have documented a baseline of experience with a pandemic in the 21st century.



The picture that emerges from the Big 10+2 universities shows that the 2009 H1N1 influenza pandemic required a highly coordinated response over an extended period. Multidisciplinary teams worked efficiently during periods of uncertainty, high stress, and changing information and

recommendations. Students clearly emerged as key stakeholders who contributed to creative and effective

solutions in areas such as educating peers, administering vaccine, and revamping plans about where to house sick students who could not leave campus.

In sharing the lessons they learned and the challenges that remain, Big 10+2 universities have documented a baseline of experience with an influenza pandemic in the 21st century. The table on the next two following pages summarizes the lessons learned and future challenges in the key topic areas addressed in this report.

Multidisciplinary teams worked efficiently during periods of uncertainty, high stress, and changing information and recommendations. Students clearly emerged as key stakeholders who contributed to creative and effective solutions.



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	Lessons Learned			
	Incident Management	Residence Halls	Health Services	Communications
	<ul style="list-style-type: none"> Pre-pandemic planning efforts were invaluable to establish relationships and determine roles and resources. Written plans, particularly specific response actions based upon external triggers, often did not match this pandemic. The use of multi-disciplinary response teams was reported as an overwhelming success. Integrating pandemic preparedness and response with broader emergency operations systems, particularly determining clear lines of responsibility and authority, was important. Universities developed creative solutions to the challenge of coordination and communication among response personnel over an extended response period. 	<ul style="list-style-type: none"> Specific procedures for summer camps hosted on campus are an important component of pandemic influenza response plans. Designating isolation housing for symptomatic students or relocating students can be challenging due to housing logistics and student preferences. Sending symptomatic students home for a specified period can be successful. If multiple campus supports are in place, students who cannot or choose not to go home can successfully self-isolate in their residence hall rooms. Student leaders did and can continue to play an important role. 	<ul style="list-style-type: none"> College-aged students were among the groups of people most at risk of developing complications from H1N1 infection. Universities became important sites for care, with campus health services playing a key role. Streamlining operations was a successful approach to maintain quality and effectiveness within the health service. Online and phone-based triage systems were used effectively to provide care information and referrals to patients. Prescribing self-isolation and home care can be a successful strategy if adequate support systems are put in place. Campus partners were available to provide additional staff support within the health service. Student leaders played an important role in providing information and care. 	<ul style="list-style-type: none"> Due to the rapidly changing, and sometimes conflicting, information from multiple sources, university responders had to proactively coordinate and centralize communications. Universities relied heavily on online and e-mail communications as timely forums for information exchange. Effective communication with college students meant a heavy emphasis on creativity.
	<ul style="list-style-type: none"> Maintaining and supporting campus response teams, in whatever form works best for each institution, to ensure a continued state of readiness. Documenting and sharing successes related to coordination and communication among response team members. Revising response plans to remove triggers tied to WHO phases and US stages and/or severity index. 	<ul style="list-style-type: none"> Expanding pandemic influenza response plans to include less severe scenarios based upon what worked and what did not work in 2009 and 2010. Increasing communication between universities and the CDC on the development of higher education guidelines, particularly related to residence hall recommendations. Possibly boosting the role public health partners play in educating family clinicians about the importance of reinforcing self-isolation recommendations for symptomatic students. 	<ul style="list-style-type: none"> Documenting and sharing health service successes. Ensuring adequate pandemic response supplies through stockpiling, which continues to be a challenge. In particular, having greater clarity about access to federally available antivirals at the campus level would be useful for many institutions. Encouraging additional federal dialogue on the use of PPE during a pandemic to ensure clear and consistent information at the local level. Availability of N95 respirators and fit-testing resources, including stockpiling considerations, was also cited as a challenge. Getting clarity about what some universities considered vague federal guidance about prescribing antiviral medications. Guidelines provided were cited by some as too restrictive, and lack of clarity led to frustration. Sharing lessons learned about the use of non-alcohol versus alcohol-based hand sanitizers, as well as the appropriate short- and long-term investments in those products, would be beneficial. Having public health partners play a greater role in educating family clinicians about the importance of reinforcing self-isolation recommendations. 	<ul style="list-style-type: none"> Documenting and sharing communication successes from this pandemic. Identifying additional creative ways to communicate with parents (a need reported by some institutions). Expanding and leveraging public health partnerships to harmonize communications could further save time and resources.
	Actions & Challenges Ahead			

Vaccine Distribution	Teaching	Human Resources	Student Engagement	Collaborations With Public Health
<ul style="list-style-type: none"> • Vaccine distribution to universities was unpredictable, which made planning and implementation of distribution efforts on campus very challenging. • Past seasonal influenza vaccination experiences and bioterrorism response planning with public health partners provided useful templates for H1N1 vaccine distribution. • Due to the challenges of unpredictable vaccine availability, creative strategies were developed rapidly using online or phone-based systems. • Creative approaches were also used to meet significant staffing needs. 	<ul style="list-style-type: none"> • Pandemic influenza response plans need specific procedures to address the effects on study-abroad programs. • Teaching policies and individual faculty practices play an important role in supporting self-isolation strategies for students. • Although distance learning techniques were not required, hindrances to their successful implementation were highlighted during pre-pandemic planning. 	<ul style="list-style-type: none"> • Clear and timely information was needed for human resource professionals, department heads, supervisors, and employees to effectively implement public health recommendations in the workplace. • Pandemic response efforts highlighted the importance of continuity of operations planning on campuses, including the designation of essential personnel. 	<ul style="list-style-type: none"> • Student involvement can reduce demand for healthcare services and expand healthcare surge capacity. • Students have credibility with their peers, which gives them a powerful voice and role in health education. • Including students in planning improves support for the plans. • Students and universities benefit from student participation in emergency response. 	<ul style="list-style-type: none"> • CDC guidelines for institutions of higher education are an important resource for colleges and universities. • Relationships with city, county, and state health departments, often established through years of joint planning, paid huge dividends.
<ul style="list-style-type: none"> • Documenting and formalizing the new and modified vaccine distribution systems that were used successfully in response to H1N1. • Considering use of pre-distribution education on LAIV and working with public health partners to increase awareness of LAIV in the community. 	<ul style="list-style-type: none"> • Requesting that CDC consider the creation of targeted communications to faculty on the need to modify policies and practices when self-isolation strategies are used to address infectious disease outbreaks. • Reviewing and further developing (as needed) models for addressing existing self-isolation policies and the role of faculty in providing information and support to students. • Documenting procedures used to make policy modifications, either formally or informally, so that those modifications can be made rapidly in the future. • Further developing distance learning capabilities in some institutions, including teaching strategies, faculty preparation, and information technology infrastructure. 	<ul style="list-style-type: none"> • Designating essential personnel across the entire campus (a challenge cited by some universities). • Additional planning related to compensation policies during a more severe pandemic, when social distancing measures are implemented (a need noted by some universities). 	<ul style="list-style-type: none"> • Formalizing roles for students in pandemic influenza planning and response. • Looking to underused and less formal resources for planning and outreach activities, such as international student groups or churches that have high student membership. 	<ul style="list-style-type: none"> • Maintaining effective partnerships with local public health departments. • Developing or enhancing direct relationships with state health departments as needed. • Reviewing federal guidelines for higher education to ensure appropriateness for all types of institutions. • Considering the creation of targeted communications on individual guidelines where there may be confusion or a need for reinforcement from a government authority. • Seeking greater transparency is needed regarding vaccine distribution procedures to improve consistency and shared understanding among response partners. • Gaining greater clarity in some jurisdictions (where warranted) regarding university access to government-held or government-funded stockpiles.

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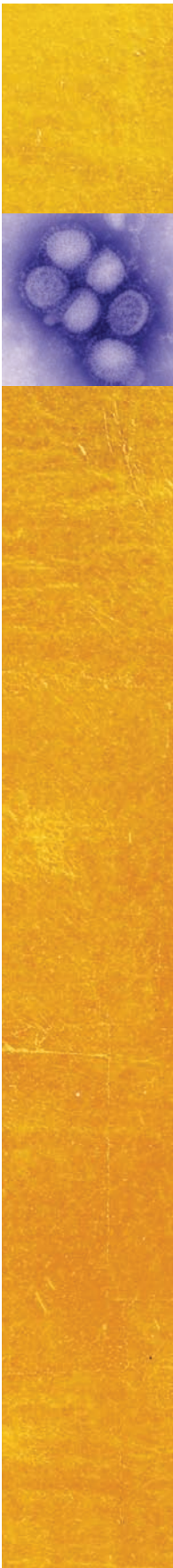
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University of Illinois

Indiana University

University of Iowa

University of Michigan

Michigan State University

University of Minnesota

Northwestern University

The Ohio State University

Pennsylvania State University

Purdue University

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