


Moving Medical Students into Shared Housing During the COVID-19 Pandemic

Allison B Ludwig¹, Mimoza M Mehooli¹, Stephen G Baum¹, Todd Cassese² and Joshua D Nosanchuk²

¹Student Affairs at Albert Einstein College of Medicine, Bronx, NY, USA. ²Medical Education at Albert Einstein College of Medicine, Bronx, NY, USA.

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ABSTRACT: A new academic year began in the midst of the COVID-19 pandemic. In order to allow for in-person learning, a fundamental part of medical education, some medical schools grappled with how to safely move students into shared on-campus housing. The authors describe a behavior-based strategy to safely move students from all parts of the United States to the Albert Einstein College of Medicine in the Bronx, New York. This strategy included a school-organized phased move-in that included 14-day quarantines for students coming from states with high COVID prevalence; requiring students to sign a COVID-agreement; the use of a phone-based daily COVID risk assessment; and facilitation of safe in-person social activities with peer monitoring of adherence to behavior guidelines. This strategy resulted in no known transmission of SARS-CoV-2 in student housing between July and October of the 2020 to 2021 academic year. The authors share this strategy in the hope that colleagues at other medical schools will find it useful in utilizing similar behavior-based strategies to keep students safe in shared housing.

KEYWORDS: Shared Housing, COVID-19, Quarantine

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CORRESPONDING AUTHOR: Allison B Ludwig, Student Affairs at Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461, USA. Email: Allison.Ludwig@einsteinmed.org

Introduction

The COVID-19 pandemic has caused great personal suffering and left a trail of isolation and death in its wake. Additionally, it has had a profound effect on institutions of higher education seeking to engage learners in a variety of ways while being conscious of the safety of students, staff, and faculty. In addition to making decisions about how students learn (eg, virtual, in-person, hybrid learning), universities with communal living arrangements (ie, dormitories) have had to determine whether or not to allow students on campus, how to safely move students into on-campus housing and how to keep them safe once they have arrived. For schools that have allowed students to move into on-campus housing, new practices, policies and procedures had to be put in place to focus on safety as the top priority.

Educating medical students poses different challenges and opportunities compared with undergraduate students in light of the COVID-19 pandemic. An advantage of working with medical students is that they are older and generally considered more emotionally mature than their undergraduate counterparts. They are also typically more socially conscious, scientifically oriented and are therefore we hope more likely to follow public health and prevention guidelines. However, they also tend to be more extroverted¹ than age-matched peers which may increase the chances of them congregating in a non-socially distanced manner. Moreover, medical school cannot be conducted entirely virtual, as students need to participate in live, group-based dissections of human donors in anatomy, practice physical examination skills on other people, engage in and be assessed performing clinical interactions with patients

and standardized patients. In this manuscript we describe a single urban medical school's experience of designing, implementing and assessing a safe move onto campus at the start of this past academic year.

Institutional Context

The Albert Einstein College of Medicine (Einstein) is located in The Bronx, New York and offers MD, PhD, MD/PhD, and Masters level degrees. It is considered a “stand-alone” medical school in that it is not part of a larger university. Enrollment includes 716 medical students, 181 PhD students, 110 combined MD-PhD students, 47 students in 1 of 2 master's programs and 266 postdoctoral research fellows. The school guarantees housing at below market rate to all MD, PhD, and MD-PhD students. The housing complex is comprised of 3 high-rise buildings with studio, 1-, 2- and 3-bedroom apartments. All MD-PhD students are assigned studio apartments. For the MD and PhD students, unless they are married, in a domestic partnership and/or moving to campus with children, they are assigned apartment-mates. These cohabiters can be in either program and in any year of their studies.

In March 2020, New York City became the epicenter of the U.S. COVID-19 pandemic. In response, Einstein moved to an all-virtual curriculum. However, students were permitted to stay on campus in housing. Fortunately, by June 2020, as cases substantially declined after state and city-imposed lockdowns, it was deemed safe to resume in-person educational activities. Third- and fourth-year medical students returned to the clinical rotations, and the focus of the Einstein administration transitioned to safely resuming in-person pre-clinical learning.



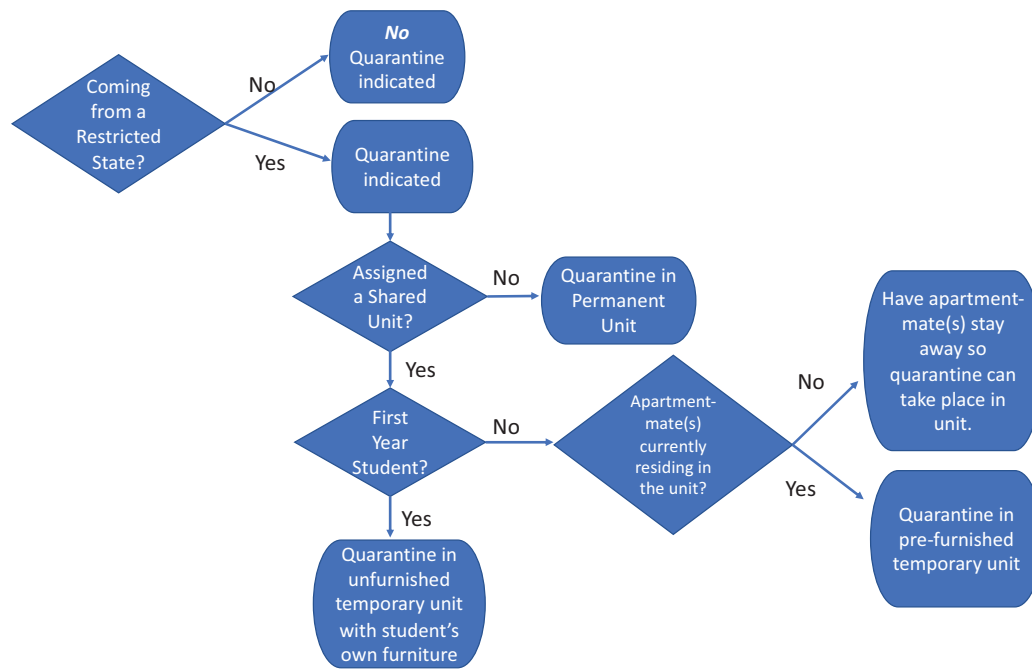


Figure 1. Workflow to determine if and where students should quarantine.

A curriculum plan was developed for a hybrid learning model, focusing on safety measures to ensure in-person learning for courses like gross anatomy and the doctoring course. An important component to medical education is social learning whereby the observation of peers and other health professionals allows students to model others' behaviors as well as provide opportunities for team learning and mentorship.² We felt that among our highly gregarious student population that there were clear benefits of providing in person, social learning opportunities, while following social distancing guidelines, to counteract the physical isolation that is inherent in the virtual learning space and provide students with a sense of purpose and collegiality. Moreover, Einstein's shared campus housing is a major source of community-building that happens during the first year of medical school. However, in order to implement this transition safely, the issue of students arriving on campus from different parts of the country where the prevalence of COVID-19 was higher and on the rise, had to be accommodated. This situation was further complicated by Executive Order 202, a travel restriction imposed by New York State that required people arriving from states with high rates of COVID-19 to quarantine for 14 days.³

Planning for Campus Move-Ins

In July, 2020, in response to the above Executive Order, Einstein leadership formed a task force to safely move students through quarantine and into housing. The task force included the Dean of the Medical School, the Deans for Student Affairs and Medical Education, the campus housing manager, student health, occupational health, Hospital Infection Control experts as well as deans and directors of finance, administration, and operations. Due to the rapid evolution of state guidelines,

students were not initially included in the task force meetings. However, multiple town-hall style virtual meetings were held with students in order to solicit student feedback and elicit their concerns in implementing the move-in guidelines.

To determine the potential demand for quarantine units and better understand housing inventory, Einstein's Office of Institutional Assessment created a survey to determine from where students were coming, their anticipated return-to or move-to campus date and the type of unit they lived in (ie, studio vs apartment-mates). Since Einstein is an open, urban campus, a decision was made to only require quarantine for students coming from places with high COVID-19 prevalence. All other students were permitted to move into their assigned permanent units as long as they could affirm that they did not have COVID-19 symptoms or had been in contact with anybody with confirmed infection for the 14 days prior to move-in.

For students with studio apartments or larger units in which they resided with family, students could quarantine in their assigned unit. For students with apartment-mates to whom they were not related, alternative spaces for the 14-day quarantine needed to be identified (Figure 1).

The housing manager assessed inventory. He reserved all recently vacated studio apartments for the purpose of move-in quarantine. There were also a number of furnished units normally reserved for visiting professors that were available, and these were reserved for quarantine, as well. Quarantine units were provided at no additional expense to students. In total, 28 units were identified to be utilized for quarantine purposes.

Eight hundred ninety two of 1018 (87.6%) students responded to the housing survey to determine need for quarantine. Of those, 132 required quarantine. About 36 of those

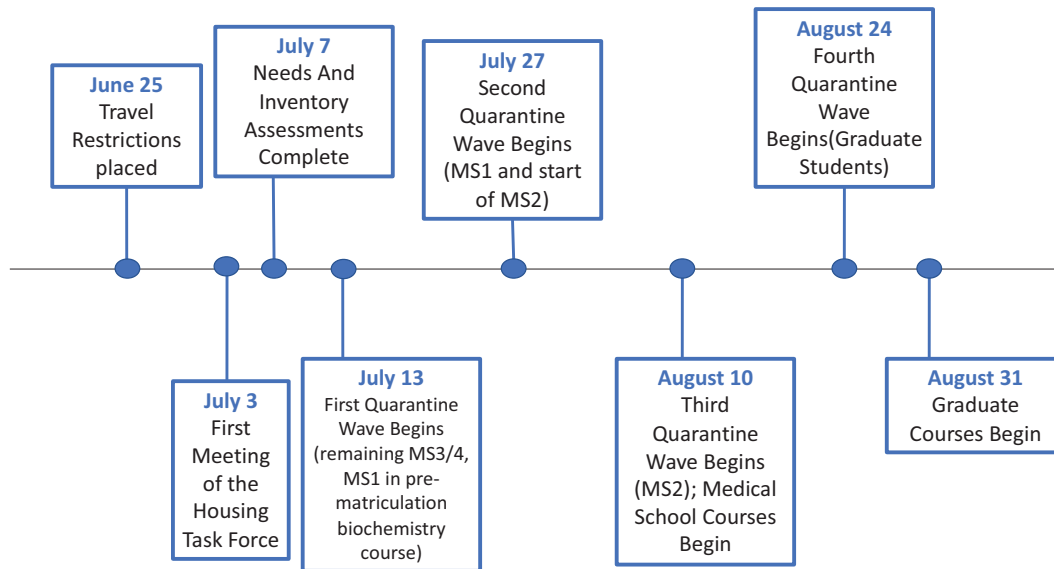


Figure 2. Timeline of process for students to move into shared campus housing.

students could quarantine in their permanent units, leaving 96 students who needed temporary quarantine housing. Utilizing the 28 units available, we planned a staggered move in so that the units could support a student, be terminally cleaned and a new student could move in. The turnaround time for a unit was 24 hours.

The next task was to create a move-in schedule (Figure 2). The first priority went to fourth- and third-year students who had not returned from campus after the March 15th announcement of the pause of all in-person activities and were about to start clinical rotations on June 22nd and 29th, respectively. Fortunately, the majority of these students were on campus, so their need was minimal. Next, we moved to 53 first year medical students who were planning to attend a 2-week pre-matriculation biochemistry course that started on July 27th. The next group of students to move in were the remainder of the new first year students followed by the second-year students and finally the PhD students. First year orientation began on August 10th and second year classes began on August 11th. PhD students began on August 30th. These moves took place over the course of 8 weeks. There were 4 “waves” of scheduled move-ins based on the matriculating class, but the actual move-in dates were staggered so that there was a constant flow in and out of units. All mandatory in-person sessions were delayed until late September to ensure that all students were safely on campus. Students were permitted to do all of their work remotely if classes began prior to their completion of quarantine.

Returning students were housed in furnished units for their quarantine whereas new students were assigned unfurnished apartments with instructions to have their furniture delivered to these temporary units 2 days prior to their anticipated move-in date. At the end of quarantine, housing staff moved students from the quarantine unit to their permanent units, and a

terminal cleaning was performed of the quarantine unit in preparation for the next student to move in.

Once students were settled in their quarantine units, they were not permitted to leave for 14 days. Students ordered groceries online, and student volunteers delivered the groceries to the units. This was organized with the Office of Student Activities. Trash removal was also coordinated with the housing staff in order to avoid people under quarantine going to the compactor room. Student volunteers also assisted with any other deliveries that students needed during their quarantine. All units have high speed wireless internet access and full kitchens.

We carefully considered The Centers for Disease Control and Prevention COVID-19 testing strategies for colleges with some degree of in-person instruction. These included (1) universal screening of all students prior to arrival on campus; (2) 2-phased universal screening (pre-arrival test and a follow-up test approximately 1 week later); (3) scheduled interval screening; (4) screening of random samples of students; (5) testing on-demand, and (6) wastewater testing to detect virus in facilities.⁴ Ultimately, in light of the relatively low prevalence of infection in New York City in July and August, and the quarantine plan outlined above, a decision was made to employ a testing-on-demand strategy. We were concerned that negative tests on screening could give false reassurance and encourage behavior that might lead to spread of the virus. We felt that an appeal to students’ sense of professionalism would help prevent the spread of SARS-CoV-2. Therefore, all students were required to sign an agreement that they would follow all mask guidelines, social distancing guidelines, and handwashing protocols as well as cooperate with contact tracing. They were reminded of these rules at regular town hall meetings, through student representatives and frequent emails along with notices on video monitors, posters and flyers in housing and the University. Students who

failed to abide by these guidelines were subject to disciplinary action. Additionally, all students were expected to fill out a daily symptom and travel questionnaire provided as a phone app in order to gain access to campus.

Implementation of Move-in Plan

Between July 11, 2020 and August 25, 2020, 87 students were moved through the quarantine units. One furnished unit was set aside in case of delayed furniture delivery. This unit was used twice for this purpose. After all students were successfully moved through quarantine and into their permanent units, the previously furnished apartments were kept in reserve for future quarantine needs. These needs include exposure, symptoms awaiting testing and known positive COVID-19 cases.

In order to encourage safe socializing and abidance by the COVID agreement, the Office of Student Activities rented outdoor furniture that was placed throughout campus. Seating where students could continue to socialize was spaced at safe distances. Socializing activities were also held in person, mostly outdoors and all food was served in a “grab-and-go” style. All school-sponsored social events had student-monitors assigned to ensure that students were wearing masks and keeping appropriate distance.

Outcome of Move-in Plan

During the earliest quarantine waves, there were 5 breaches in quarantine as documented by usage of ID cards to enter buildings on campus, including housing. The campus security office contacted these students and reminded them of their need to maintain quarantine. Any further breaches in quarantine would have prompted a professionalism citation as well as a meeting with the appropriate Dean of Student Affairs. Fortunately, after a warning from security there were no further incidents of such breaches; and therefore, no further disciplinary action was taken.

Between July and mid-October 2020, there were no known COVID-19 infections amongst students in housing. As numbers in New York began to rise in late October, there were 4 first year medical students who reported COVID-19 exposures, all of which took place off campus. All 4 students were tested and instructed to quarantine for 14 days. Only one of those students required an on-campus quarantine unit. Of the 4 students, only 1 tested positive for SARS-COV2. This student was determined to have no contact with other students between exposure and quarantine, and therefore, no further testing or contact tracing needed to be completed.

Discussion

Overall, our strategy was successful in safely moving to and maintaining students in hybrid education on an urban medical school campus as demonstrated by 0 reported campus-related transmission. By enabling students to live on campus, we allowed them in socially-driven in-person learning activities, including those that contribute to their professional identity formation, such as the doctoring course and gross anatomy.

They were also able to safely spend time together, forming the teamwork and cohesion that is vital in social learning, as well.²

We feel the reason for this success is multifactorial. Most importantly, the background infection rate in New York was extremely low during the time of mass move-ins. Next, the thoughtful and methodical quarantine arrangements ensured that students arriving from high-prevalence areas did not transmit SARS-CoV-2 to other students or members of our faculty and staff. The fact that these accommodations were provided at no additional cost to students ensured their adherence to the guidelines. Finally, having students sign a COVID agreement and use of a daily symptom-based app created a culture of adherence to social distancing. We have thankfully avoided the large parties that have plagued other institutions of higher education.⁵

There are limitations to our strategy, which may make it difficult to implement at other institutions. First, in places with higher background rates of infection all students would need to quarantine prior to moving in with roommates to effectively prevent spread of infection. As infection rates are rising nationally and in our own area, we are requiring students who travel outside our area to follow state guidelines introduced on October 31,² which require people to have a negative COVID test after 72 hours of quarantine. Due to high demand for testing, wait times for testing and delays in result notifications it is becoming increasingly difficult to determine an end-date to individual quarantines (and planning curriculum accordingly). Second, the resource requirement for mass quarantine is significant. Use of the studio apartments for quarantine led to short-term revenue decline in housing as well as a greater demand on the housing staff to clean apartments and help students move into their permanent units following quarantine. We also benefitted from having a significant number of students' families residing in the NYC tri-state area and these students delayed their arrival to allow for students requiring quarantine housed in shared apartments to undergo quarantine in these units. Thirdly, despite multiple reminder emails to individual students, we were unable to get 100% completion of the move-in survey. It is possible that we missed a significant number of students who may have required quarantine. Fourth, the buy-in from students is a critical component. Our strategy was largely based on an honor system. Once students were in quarantine, they were expected to stay in it. When the security office did a random check of housing entry by ID cards, they found 5 incidences of students who had broken quarantine. It is difficult to know how many actual breaches there may have been. Finally, although we had no known cases of Sars-CoV-2 spread in housing without regular screening of students with testing of the virus, we cannot say for certain that there were no new infections during this time period.

Now that safe and effective COVID vaccines are widely available, we will employ a new strategy to bring students safely to campus in the next academic year. This will include documentation of vaccination completion in order to move

into housing. We are hopeful that with widespread vaccination, we will no longer have to utilize a phased quarantine strategy for safe entry to housing. However, the behavioral strategy employed will continue to be critical in keeping students, faculty and staff safe. These include mask-wearing, ongoing social distancing, frequent hand washing, symptom monitoring and including a signed COVID agreement for future classes, as well.

Conclusion

Our strategy to allow for in-person education amidst a pandemic demonstrates that a methodical approach that avoids universal testing is feasible and safe. When medical students are empowered to monitor their own behavior, their professionalism and sense of duty shines through.

Practice points

- Medical Education requires in-person learning throughout the curriculum and the benefits of social learning for professional development and well-being should not be underestimated.
- In medical schools that offer shared housing, a methodical approach to moving students to campus is critical to prevent community spread of SARS-CoV-2.
- This approach is a reasonable and safe alternative to widespread screening of residents in student housing.

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Author Contribution

All authors made a substantial contribution to the manuscript including revisions for critically important intellectual content. All authors have approved the manuscript for publication and have agreed to be accountable for all aspects of the work.

ORCID iD

Allison B Ludwig  <https://orcid.org/0000-0001-6394-9465>

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