REPORT OF
THE ETHICS AND PRIVACY COMMITTEE

8 JUNE 2020

Committee members:
Gil Omenn (chair), John Ayanian, Reshma Jagsi, Anna Kirkland, Howard Markel, Peter Railton, Robert Sellers, Alexandra Minna Stern, Scott Stonington, Yi-Li Wu

Table of Contents

1) Executive summary

Introduction and aims

The University of Michigan is working on policies and means to develop a best practice bioethical and public health-informed approach to address the risks that the COVID-19 virus may pose to students, faculty, staff, and the wider community if we return to in-person study, teaching, research, residence, and other major activities in the fall of 2020. This Committee was charged by President Mark Schlissel to assess the ethical dimensions of policies that might be adopted as part of this approach.

What makes a policy or its implementation ethical? Our committee's central challenge has been to address this question in a manner that is aligned with the core commitments and values of the University while recognizing that the University is both a community and a collection of communities, which in turn are embedded in broader communities extending beyond the campus. We have identified key ethical concerns from a diverse array of standpoints.

We have conceptualized these concerns as "ethical risks" -- risks to personal privacy, trust, equity, and to the principal values that can be achieved by a great university while addressing major health risks. These risks can occur at individual and community levels. They pertain directly to core issues of equity, diversity, autonomy, and mutual respect, and to approaches to managing compliance and resolving conflict. They are often interactive, and do not reduce to a common sum.

Given these complexities, we propose a framework for ethical decision-making that focuses on these various dimensions of ethical risk to identify positive or negative synergies, and desirable or perverse effects, that can be created by how the University responds to the short- and long-term challenges it now faces. While describe which risks strike us as more or less significant for each potential action or policy under consideration, the result is not a summary approval or disapproval, but an ethical compass to guide decision-making.

Every human activity carries risks, yet not all risks are alike. The question "How much risk is acceptable?" is actually a constellation of questions about kinds and levels of risk, and about who bears the consequences of those risks, how much agency they have over the choice to bear them, what opportunities and resources they have to manage them, and what the decisions might achieve. We should see questions about risks as constructed on the basis of numerous intertwined issues and assumptions that need to be brought to the surface and critically examined.

Structure

We begin our critical examination of issues and assumptions in Section 2, discussing our charge and how we have interpreted it. Section 3 discusses the background to our proposed framework in terms of fundamentals of ethical decision-making. We make suggestions on how to overcome some false dichotomies that have distorted public discussion of possible public health responses to the pandemic.

In Section 4 we present our proposed framework by identifying a matrix of six dimensions of ethical risk: to privacy, equity, trust, principal values, compliance, and conflict management. We then apply this matrix to six primary public health objectives of the University.

Objective 1: To protect individuals at increased risk from COVID-19

Overall assessment: Required reporting of personal health history, even when narrow, and mandated restrictions on potentially "high risk" individuals, would raise serious concerns of privacy and equity that voluntary reporting and discretion in requesting accommodation would not. If the principal beneficiary is intended to be the "high risk" individual, there would be no strong public health rationale for overriding personal discretion. There are risks of unequal opportunity, stigmatization, and under-reporting unless a strong, trusted, and well-understood system of employment or academic support is in place.

Objective 2: To identify symptomatic individuals potentially infected with COVID-19 via (A) symptom screening, (B) symptom-tracking apps, or (C) temperature scanning at entryways

Overall assessment:
(A) Symptom-screening for entry into buildings has a role to play in preventing transmission, but it must not be seen as creating "safe" spaces, owing to the high rate of asymptomatic infection. Thus, the importance of other transmission-reducing measures inside buildings will remain high. Symptom-screening at entryways based on in-person interviews raises serious concerns about privacy, stigmatization, conflict, and reliability. In these respects, it would be preferable for students, faculty, staff, vendors, and visitors to be able to report symptoms remotely and receive permission to enter buildings prior to showing up at doorways.

(B) Compared with entryway interviewing, a mobile symptom-tracking app code to enter approved buildings should yield greater privacy and reliability, with less risk of stigmatization and conflict. Much depends upon the design of the app, which potentially leads to much more serious threats to privacy. Use of an app would need to be transparent, verified, auditable, secure, and subject to review. Those with limited means may need help to gain equal access to the permission system, and some form of backstop at entryways would still be required. Since many with COVID-19 infection are asymptomatic, a symptom-based permission system could create an illusion of "safety" that lowers compliance with other public health measures.

(C) Michigan Medicine declared temperature scanning unreliable. However, UMOR has decided to include thermal scans for temperature >100.4F in the opening phase of re-entering research buildings, as does the Governor's Executive Order 114 of 5 June 2020.

Objective 3: To identify currently infected individuals (symptomatic or asymptomatic) via testing for viral RNA or viral antigens (proteins)

Overall assessment: Viral testing to determine prevalence of the infection, identify infected individuals who are symptomatic or asymptomatic carriers, identify contacts, and inform necessary mitigation is essential to an organized response to the COVID-19 pandemic. With predictions of additional waves of COVID-19 infection during re-opening of the economy and society, viral testing must be implemented with effective and sensitive approaches to storing and using test result data for contact tracing and to isolation of infected individuals and quarantining of their close contacts in an equitable and supportive manner with appropriate attention to data privacy.

Objective 4: To identify previously infected individuals at potentially reduced risk of COVID-19 re-infection and transmission

Overall assessment: If the accuracy of antibody testing proves to be high (ideally with a false-positive rate close to zero) and the presence of antibodies confers substantial and lasting protective immunity to re-infection (e.g., for at least 12-18 months until an effective vaccine becomes widely available), then antibody testing could be an important component of a public health-informed fall semester, particularly for assessing herd immunity and for reducing or eliminating the burden of ongoing viral testing for antibody-positive individuals. However, even with accurate antibody testing and effective immunity, concerns could arise about the privacy of test results and unequal employment and educational opportunities and/or burdens related to antibody status. The cost of university-wide antibody testing and test result tracking could be substantial.

Objective 5: To isolate symptomatic and asymptomatic individuals with COVID-19 and quarantine their contacts

Overall assessment: Isolation and quarantine are likely necessary components of COVID-19 mitigation on campus. However, they are fraught with many logistical, legal, and social complexities. Adequate support for those in isolation or quarantine will be needed both to make cooperation feasible and to avoid unfairness to those with lesser or limited personal resources.

Objective 6: To reduce transmission of COVID-19 on campus via a combination of (A) universal masking and/or (B) requiring or encouraging physical distancing and limits on gatherings

Overall assessment:
(A) The CDC recommends the routine wearing of cloth masks to reduce the possibility that infected people will discharge virus-laden particles into the air. Masking has become a standard strategy used by many nations and regions seeking to curtail the transmission of COVID-19. However, the anticipated benefits of masking require achieving a reasonable rate of cooperation. The University thus needs to prepare appropriate strategies to manage the conflicts that are expected to ensue if individuals refuse to cooperate with masking policies. One should also anticipate and mitigate the potential economic costs of obtaining and caring for masks that may impair cooperation. Risks to individual privacy may arise if people are required to offer medical rationales for not wearing a mask.

(B) Physical distancing and limits on gatherings could be essential elements of collective participation in a public health-informed semester. However, the expectation of sustained and consistent participation could be viewed by some as difficult and burdensome. The University will need to address who will enforce these limits, and how inevitable conflicts will be managed.

Finally, because public health interventions cannot remove all risk and take place in specific socioeconomic contexts that influence their effectiveness and include the surrounding population, Section 5 explores questions of ethics and justice pertaining to liability and compensation, adjudication of disputes, and measures for mitigating risk off-campus.

Our ultimate aim is to provide a useful conceptual framework for bringing ethical considerations into key deliberations at this time when so much is at stake and so much is uncertain. We welcome the comments and criticisms of those who must make and implement these decisions.

2. The Ethics and Privacy Committee and its charge

Background and timeline

On March 10, 2020, the first two cases in Michigan of COVID-19 were diagnosed. The following day, the University of Michigan halted in-person, on-site classes and laboratory activity. On March 23, Governor Gretchen Whitmer issued her initial "Stay Home, Stay Healthy" Executive Order.

On April 15, University President Mark Schlissel created a Committee on Ethics and Privacy Considerations for Planning the Re-opening of Functions of the University of Michigan Campuses (the Committee) by emailing an invitation to our members. He explained that the university was "starting to plan for what we hope will be an in-residence fall semester for our students." He further noted that "The ability to test students, faculty and staff for infection with the coronavirus that causes COVID-19

and for antibodies in the blood against that virus will be critical for our ability to use public health interventions to block transmission of the disease until there is a vaccine or effective treatment." Thus, he asked the Committee "to advise me and other campus leaders on the ethical and privacy issues that might result from the large scale application of these clinical tests across campus."

Our Committee met first on April 27 with President Schlissel and Vice President Cynthia Wilbanks and has met weekly thereafter. Although the initial email spoke only of testing, on May 8 we received additional guidance that we should consider the ethical and privacy dimensions of the broader question of how the University leadership should think about requiring any of the following policies as a condition for participating in University activities: "narrow personal health history of cogent predisposing conditions; brief health interrogation for entry to research, educational, or clinical buildings; thermal temperature scan; virus testing; antibody testing; cooperation with contact tracing; cooperation with quarantine, if indicated; requiring masks in specific circumstances; mandated limitations on socializing; and flexibility in housing contracts." We also received clarification that our charge encompassed all three UM campuses, keeping in mind that these operate in different fiscal and social environments.

In sum, our charge was to address the issues of ethics, privacy, and equity that might accompany various scenarios for fall 2020, and to do so in a way that would reflect the complex nature of the UM community, the anticipated policy decisions related to a phased re-opening of campus functions when permitted by the State, the evolving scientific knowledge about the pandemic and screening, diagnosis, treatment, and prevention techniques, and the commitments and values of the University.

The Committee's operating principles

In addressing our charge, Committee members have drawn on their professional expertise in anthropology, bioethics, health policy, history, medicine, philosophy, political science, public health, and women's studies, as well as a shared interest in considering the moral dimensions and implications of conducting university operations in the context of an evolving pandemic caused by a novel coronavirus to which the vast majority have no immunity. We have shared our work with the Public Health Committee and were able to review and provide feedback on their preliminary reports. Given that our deliberations were occurring concurrently with the development of potential scenarios, evidence-based data, and estimated risk of ongoing circulation of virus, our process was iterative and strategically inductive and deductive.

Throughout, we have been cognizant of the toll that COVID-19 has taken on Michigan, most severely in metro Detroit, in patterns that lay bare stark and devastating racial, class, and economic health disparities. We also are aware that many students, faculty, and staff will be returning to the campuses from different parts of Michigan, the United States, and the world. Thus, we consider it important to ask difficult questions about the degree(s) and distribution of risk to our diverse community should we return to campus in fall 2020. Furthermore, given the socially and physically porous nature of our campuses, we need to consider the ethical implications of the many interactions among university members and the residents of Ann Arbor, Dearborn, Flint, and southeastern Michigan more broadly.

We begin by presenting a general framework for ethical decision making, including issues of justice and liability, that can be applied to many different levels of analysis. We then present a risk matrix that embodies the principles of this ethical framework and use it to evaluate several interrelated public health techniques proposed as essential for a possible return to campus. The final sections of the report address justice issues such as adjudication of problematic behavior, responding to harms through compensation, insurance, and liability, and how to consider off-campus factors in COVID-19 mitigation, including whether to close the campus to the public. We conclude with recommendations that underscore the need to approach a (partially) residential fall 2020 semester through an ethics-of-care model that acknowledges the boundaries of our community and our obligations to each other.

3. A framework for the ethical assessment of actions and policies in response to COVID-19

An aspirational vision

The COVID-19 pandemic presents ethical as well as logistical challenges to the University. Our framework is organized in terms of dimensions of ethical risk and informed by a positive vision of the University as a highly diverse community, rich in human resources, and capable of working together to meet shared challenges. "We are all in this together" and "We will get through this together" represent the right spirit, but making them more than aspirational will require all of us doing our part, being resilient in shouldering the inevitable difficulties and being inventive in facing evolving circumstances and uncertainties.

Building and sustaining a resilient, inventive, and effective community involves ethics, because such communities are founded upon mutual respect, shared responsibility, and fairness. Public health crises almost always have their most severe effects upon those of us who are most vulnerable or possess the fewest resources, and justice requires us to work actively to mitigate this imbalance, so that "community" does not leave some of us out or become an empty slogan. We note also that much national rhetoric about reopening universities has a tendency to focus on students while treating faculty and staff as afterthoughts, a tendency that can undermine community building. Public health crises also can bring about distrust and division, undermining the effectiveness of public health measures. Thus, protecting individual privacy and security, creating transparency and trust, and being equitable and inclusive should be conceived as *integral to* a public health-informed reopening of the University, not as a mere supplement to it.

A successful response to COVID-19 would involve a combined effort of students, faculty, and staff, in which we affirm by our acts as well as our words, "We are Michigan, and Michigan supports its people. We will do what it takes to teach, study, and work our way through this pandemic, and we will do it together, looking out for each other and for the wider community, whether we are near or far."

Ends and means, commitments and values

Ethical assessment of specific actions or policies the University might adopt in response to COVID-19 must take place in light of asking the fundamental question, "What would it take for on-campus instruction, work, and residence in the coming fall term to be an ethically appropriate goal?" The ethical assessment of ends and means cannot be separated, because

> (1) Whether to take a means to an end necessarily includes assessment of the permissibility or appropriateness of the end itself.
> (2) Whether an end is permissible or appropriate depends in part upon the existence of permissible and appropriate means adequate to achieve it.

Therefore, this Committee proposes a framework for identifying key ethical dimensions that involves considering both ends and means. To start, we need to identify fundamental commitments and values at stake. While no one set of commitments or values can be taken as given--the University expects and celebrates diverse perspectives--we will take into account at least the following (which we take to be consistent with, though not limited to, the commitments and values articulated in President Schlissel's memo to the Community of April 20, 2020: "Deliver the mission of the University of Michigan … Value, protect, and support our people … Preserve the University of Michigan's long-term excellence … Communicate effectively and thoughtfully with our community"):

> *Commitments* (akin to pre-conditions upon whatever course of action we adopt—they constrain the option sets we will consider)*:*
>
> Providing a safe and healthy environment for learning, working, and research; protecting key elements of personal privacy, freedom of expression, and integrity in teaching and research; securing equal opportunity and equal access; acting transparently and consultatively; supporting students, faculty, and staff in the face of challenges; acting responsibly toward the wider community.
>
> *Values* (goals or ideals to which we aspire that serve as weights in deciding among the permissible options, and help explain the purpose and significance of what we do)*:*
> Excellence in teaching and research; promoting the growth and transmission of knowledge both in the present and for the future; creating a University community of mutual trust and respect as well as individual autonomy and responsibility; providing benefits to the wider community; contributing to the quality of life and adaptability of students, faculty, and staff, as well as visitors.
>
> An example of how they work together in decision-making: If in-person instruction cannot meet our safety and health *commitments* as conditions stand in the fall, then we will pursue the *value* of excellence in teaching by developing and instituting the most effective forms of remote instruction.

By using this distinction, we can avoid pitting our values against our commitments or framing our decisions and actions in ways that are at odds with our fundamental ethical concerns. Just as valuing excellence in research is not at odds with refusing to run experiments that would not be approved by the human subjects review committee, valuing excellence in instruction is not at odds with refusing to engage in instruction that would put students, faculty, or staff at excessive risk.

Ethical assessment of proposed actions and policies, moreover, must take place holistically, in the context of other actions taken or policies in force over the same period of time. Depending upon the context, actions and policies can yield positive or negative synergies, or place the interests of various groups more or less in conflict.

> For example: If self-quarantining carries a substantial risk to an individual's employment, this creates a difficult choice between cooperating with public health measures and supporting one's family economically. Such a conflict would likely diminish cooperation with public health measures, raising overall risk to public or personal health--a negative synergy. By contrast, an adequate system of security and support for those self-quarantining could reduce this conflict, increasing cooperation and lowering overall risk--a positive synergy.

Such positive and negative synergies make it clear why we should not frame our choices or explain actions and policies in falsely dichotomous terms. These false dichotomies notably include:

> *"Freedom vs. constraint"*: Individual freedom always depends upon some forms of constraint upon interference, so the question is, "Which constraints help secure the forms of freedom we most value?" Mandating physical distancing or mask-wearing can enhance freedom by making it possible for individuals to participate in educational, social, and public life with minimal threat to others' ability to do so safely.

> *"Privacy vs. security"* or *"privacy vs. public health"*: Violations of privacy are themselves a form of individual insecurity, e.g., against mistreatment. Thus, preventing symptom-tracking apps from gathering personal information not essential for public health purposes can protect individual security and privacy alike, and increase willing and reliable participation in our measures.

> *"The economy vs. public health"*: Economies are composed of people and their activities. Economic revival cannot be sustainably achieved by policies that inflict wide harm to people and their activities. Thus, reasonable public health measures are part of creating and maintaining a healthy economy.

A holistic approach to assessing potential University adaptations helps us to identify and promote positive synergies as far as possible while avoiding many of the negative synergies that arise when actions or policies are chosen without considering the larger context. Finally, it must be noted that well-intended policies can nevertheless produce perverse incentives for individuals to act in counter-productive ways.

Attitudes toward risk and "How much risk is acceptable?"

Every human activity carries risks, yet not all risks are alike. The question, "How much risk is acceptable?" is in reality a constellation of questions about kinds as well as levels of risk, and about who will bear these risks and what capacities they will have to decide whether and how to bear them. Moreover, social psychology tells us that not all risks are *perceived*, *thought about*, or *experienced* alike. Individuals differ, not only in their physical risk of illness or complications, but also in their attitudes toward different kinds and degrees of risk.

Normally, we believe that individuals should have substantial latitude when choosing to take on or avoid risk. This belief, however, presupposes a set of background conditions in which the consequences of these choices affect primarily the individuals themselves. An epidemic of a serious infectious disease increases the degree to which one individual's risk choices are likely to affect others as well. Normal notions of what is "up to the individual" must therefore shift. At the same time, there is a danger that this could lead to policies that preempt more of individual decision-making than is strictly necessary for public health or proportionate to the risks involved. Meanwhile, normal notions of what is "at stake" in these decisions must also shift—a request to be able to work, study, or teach remotely, even if coming from a person not belonging to a "high risk" group, might nonetheless merit accommodation because we are not in a position to say that such a request is unreasonable in the context of COVID-19.

The University has a substantial obligation to help students, students' families, faculty, and staff be aware of (i) the actual, evolving health risks posed by COVID-19 and the virus that causes it, (ii) the measures that the University is implementing to contend with these risks, and (iii) our actual and projected levels of success, as best we can gauge them. It is impossible to guarantee that individuals will not become ill with COVID-19 while studying or working at the University, just as no guarantee could exist for people who choose to stay at home. To the inevitable question, "How much risk is acceptable?", an ethically-defensible response could be:

> *We commit to taking feasible steps toward making the typical levels of risk to self and others faced by those participating in in-person instruction and on-campus residency similar to the typical levels of risk in a similar population of individuals engaged in an active life off-campus and learning, teaching, or working remotely.*

Given the inherent risks of assembling a large population from the U.S. and abroad, realizing this commitment will almost certainly involve requiring more stringent health and safety protocols on campus than are likely to prevail in the society as a whole--and this is something we would need to explain to all involved. However, to the extent that we can realize this commitment, students, faculty, and staff will not have to choose between health and taking part in an on-campus term at Michigan.

At the same time, we should realize that the University cannot--and should not--interpret such a commitment at the individual level. Differential personal, family, and community resources mean that individuals face quite different odds of infection in the wider society. It would be unjust for the

University to replicate these differentials in risk on campus--we should instead be striving to eliminate the effects of these differentials in background on student opportunities and prospects.

Decision-making and monitoring

Our approach is to attempt to identify ethical dimensions of policies and actions--dimensions that would be recognized by an array of approaches to ethics. We cast this discussion in terms of risks and benefits along these dimensions in order to highlight ethical concerns, but we are not advocating a standard "quantitative benefit-cost analysis".

First, the dimensions we identify, and with respect to which we discuss potential risks and benefits, are ethical considerations, not "utilities". There is no attempt to "reduce" these dimensions to some form of common magnitude.

Second, we do not seek to "aggregate" the ethical considerations into a single evaluative magnitude. Some of these considerations involve commitments and rights, which resist the kind of trade-offs and summation found in cost-benefit analysis. Thus, what we call a "significant risk to privacy" need not be a risk that a large number of individuals will have their privacy compromised—it could be a risk that very important privacy rights even of a few individuals could be infringed.

Third, while we attempt to indicate, for each proposed action or policy, our best judgment about which ethical considerations are most serious or most at risk for that case, we do not presuppose a univocal weighing of values or attempt to arrive at a single "expected value".

Fourth, we do not have the information needed to take into account financial considerations--not only the costs of various measures, such as widespread testing or providing facilities for quarantining, but also large-scale issues about the possible impact upon the financial health of the University of remote vs. on-campus instruction.

This last point is of some concern to us. Financial decisions may be highly constrained, yet they nonetheless both express and affect our commitments and values, and so they have ethical dimensions. At the same time, ethical analyses must take feasibility and opportunity costs into account, or risk being marginalized in actual decision-making. Our ethical analyses could be more realistic, and our recommendations of more use, if informed by a frank discussion of financial constraints. We would welcome such a dialogue.

Benchmarks and benefits

While our analyses are largely qualitative, we recognize the need for public health benchmarks if decision-making is to be informed and accountable. Setting benchmarks is itself an important part of a transparent decision process, and should involve multiple University and community perspectives. A successful on-campus fall term would depend upon the contributions and support of these various

constituencies, and so decision-making should model the kind of inclusive, mutually-respectful community we seek to be.

Benchmarks cannot, however, be viewed as simple "triggers", because actions alter the environment. Thus, continuous review of outcomes and updating of models for forward projection are just as much a part of a public-health-informed procedure for decision-making as are setting benchmarks.

> For example: Even if our best models project that R0 in Michigan will be stably below 1 for a number of weeks before the time fall term begins, we need to have confidence that concentrating in Ann Arbor a large number of students, faculty, staff, and visitors coming from around the country and the world would not create a substantial probability that R0 within the University community and/or the surrounding region would exceed 1 before the term is over.

More will be learned in the coming weeks and months about the health risks involved when large-scale social enterprises "open up", but uncertainty is likely to remain high at the time when a decision must be made about whether the default in the fall term will be on-campus or remote instruction.

Similarly, benchmarks cannot be discussed without asking about what purposes might be achieved and what lies within our power to accomplish. The potential benefit to individuals and to the University of an on-campus semester might be substantially greater than those of a remote-learning semester. But this educational and social purpose would not be fully realized (and the end result could well be substantially worse) if we were to initiate on-campus instruction only to be forced by rising infection rates to shut down and once again disperse our students, raising infection risks to their families and home communities, and adversely affecting the medical and financial well-being of our staff and faculty. By contrast, we can by our efforts make it fairly certain that we can provide the benefits of a semester of high-quality remote-learning for our students, enabling them to make regular academic progress and meet degree and certification requirements. This asymmetry in what lies within our power should factor into our thinking about risks and benefits of the two default options. Neither should we be trapped by the idea that the University has only two options--by its actions, it could create intermediate options that realize many of the same benefits while reducing corresponding risks.

Pitfalls, perverse incentives, and unintended consequences

Our proposed framework can also be thought of as a set of reminders about ethical issues, especially those that might be overlooked. To this end, and to emphasize that many ethical issues cut across the different policies examined below, we offer the following broad cautions about the pitfalls, perverse incentives, and unintended consequences that these policies may potentially generate.

(1) **Avoid creating perverse health incentives.** For example, if students who test positive on an antibody test are not required to observe the same health and safety protocols as others, then healthy individuals may seek to expose themselves to infection to release themselves from these protocols, even if by doing so they pose a threat to others.

(2) **Avoid creating incentives to conceal information.** For example, if those declaring symptoms on a symptom-tracking app are not afforded protection from negative consequences for their employment status or income, this will create an incentive not to report symptoms. This will be especially difficult to resist for those who are least advantaged.

(3) **Avoid policies that require burdensome or unmeasured economic investment by students, faculty, and staff.** For example, some students with restricted financial means live in crowded housing to defray costs and may not be able to afford isolation or quarantine. If there are not resources to help such students afford the housing options mandated by the University, this will generate inequities and impair the sense that "we are all in this together".

(4) **In seeking to protect particular groups, avoid policies that can marginalize them, preempt their choice about personal matters, or place them under new burdens or risks.** Individuals should have some choice about which special needs they report and how these needs might be accommodated. For example, some individuals may have insufficient financial means to be adequately insured, suffer housing instability, lack documentation, or have been treated poorly by law enforcement. Accommodation in order to assure equity is a concern for the community as a whole. For example, individuals with reduced hearing and non-native English speakers may find it especially difficult to understand what is said by those wearing masks. This sort of marginalization can only be effectively addressed by greater awareness and proactive efforts on the part of all of us, whether in classrooms, dorms, or offices.

(5) **Avoid framing discussions about the risk posed by COVID-19 in ways that may encourage or intensify the stigmatization, marginalization, or undervaluing of certain groups, as well as underestimating the harms they might suffer.** For example, some recent public statements about the potential harm of COVID-19 when reopening campuses to residential study, research, and work echo the idea that only "older people and people with pre-existing conditions" are at significant risk of death. This framing sets up a false dichotomy between categories such as "old" and "young" or "weak" and "healthy," and it fails to consider that our understanding of predisposing conditions for COVID-19 morbidity, mortality, and long-term health effects remains incomplete. Thus, while categories such as "the most vulnerable" may be useful for some purposes, they can be highly misleading and prejudicial in other settings. They can easily seem to attribute constitutional weakness or frailty, or responsibility for illness to these individuals when it occurs, and terms like "obese" and "diabetic" and "older" or "elderly" are sometimes used in ways that stigmatize, blame, or marginalize certain groups. A discourse that focuses on mortality rates as the main measure of vulnerability also fails to take into account the harm of experiencing the COVID-19 illness and the potentially serious longer-term health consequences among those who survive it. Moreover, vulnerability to serious health consequences is not just a feature of individuals—it is also a matter of the circles within which individuals live. For example, a younger staff member might have a child with severe asthma, a middle-aged faculty member might have responsibility for an older parent, or a student might have contact with peers, townspeople, or visitors who are immunocompromised. Focusing mainly upon the limited mortality risk for students that could result from reopening the University for on-campus instruction may underestimate the broader public health impact of this important decision, devaluing other harms that

might arise within the whole affected community, including the student body. Such a focus may also symbolically marginalize those who might suffer such harms as having been "vulnerable" instead of recognizing that everyone has an equal right to have their health taken into account.

(6) **Avoid the "iron cage of rationality."** One-size-fits-all structures and policies lack the flexibility to respond to unforeseen circumstances. Well-established public health solutions to this pitfall are case management and incident-report systems, which can involve all community members as "people on the ground" reporting on whether policies are working from their point of view.

(7) **Recognize that issues of "framing" are not simply about how we talk.** The words and metaphors that we use directly shape how we think and feel, affecting what we consider and what decisions we make. For example, the framing: "school will be online by default; we invite students to participate in a public-health oriented in-person semester by signing onto a safety program that will make it possible for the whole community to participate" makes it clear that a public health-oriented in-person semester would be a joint accomplishment in which all can play a role for the benefit of all, not a system of control that can be imposed from the top upon individuals treated as "to be disciplined" rather than "able to join in and make a difference."

(8) **Recognize that students, faculty, and staff may have multiple personal and ethical commitments**—to family and friends, to meet certain economic obligations, to care for their own or another's medical or ability needs—and that University policies must find a way to accommodate these in order to sustain people's cooperation with public health measures. Conflicts of individual commitments cannot be eliminated, but they can be reduced by assigning to members of the community public-health "point people" who are not in direct supervisory roles with respect to them, and who can receive information about their special situation and initiate or facilitate an accommodation process. Proactively integrating effective procedures for dealing with potential conflicts of commitment into the University's overall response can enable those with special concerns or needs to see themselves, and be seen by others, as fully cooperating members of the community.

(9) **Recognize that inclusive decision-making processes are essential for expressing respect, promoting shared responsibility, and maximizing effectiveness.** It is often tempting to conceive of public health measures in terms of targets and mandates, but whether important public health goals will actually be achieved depends upon whether people believe that what they are being asked to do is reasonable, and whether they are motivated to follow often burdensome public health measures in countless unsupervised settings. Processes that give students, instructors, and staff a voice in making and evaluating decisions—including decisions about whether or when to study, teach, or work remotely rather than in-person—show respect for their experience and judgment, give them a share of responsibility for public health goals, and promote autonomous motivation that can increase the overall effectiveness of public health measures. And we already have highly effective, autonomous motivation to draw upon: students, faculty, and staff have proven their commitment by rapidly innovating and following public health guidance during the past term to do what was needed to pursue the University's core academic missions.

4) A risk matrix to evaluate ethical issues in decision-making, implementation, and assessment

Six public health objectives

In assessing a particular proposed policy, it is important to keep in mind not only the various ethical issues that it might give rise to, but the policy-level *purposes* or *objectives* that it is meant to achieve. We identified six primary objectives under which we can group together the proposed policies we were asked to consider. In the President's charge to the Committee, these policies were identified as potentially "required as a condition on participation in the University community." These six objectives are: (1) to identify and protect individuals at increased risk of harm from COVID-19 infection; (2) to use symptom assessment to identify individuals with possible COVID-19 infection; (3) to use viral testing to identify currently infected individuals, whether symptomatic or asymptomatic; (4) to use antibody testing to identify previously infected individuals who recovered and might be at reduced risk of COVID-19 re-infection and transmission; (5) to isolate symptomatic and asymptomatic individuals with COVID-19 and quarantine their contacts; and (6) to reduce transmission of COVID-19 on campus via a combination of universal masking, physical distancing, and limits on gatherings.

A matrix-based approach

Ethical issues seldom arise in isolation from one another, and responses to a given ethical concern may raise further ethical concerns. In order to understand the salient operative factors, we analyze each proposed action or policy using an "ethical risk matrix", the dimensions of which correspond to areas of potential ethical concern. This enables us to keep in view a diverse array of ethical risks, to indicate possible interactions among them, and to say something qualitative about their relative strength or importance in each case.

Our risk matrix is not meant to include all possible ethical concerns, though it does include what we believe to be the most pressing concerns. It is guided as much by questions of individual health and personal privacy as by questions of fairness, equity, and public health, because we view all these questions as deeply connected.

For each proposed action or policy, we ask:

- *Objectives:* What are the intended purposes or goals?

- *Health and safety aims:* How would the action or policy affect health and safety?

- *Whose health and safety?* Who would, or would not, be protected—against what, and with what potential benefits?

- *Comparative risk reduction:* How effective might the policy be reducing risk compared to other policies that might accomplish similar purposes?

- *Privacy risk:* What are the privacy concerns, especially about consent, misuse, or inadvertent disclosure? How are the data to be secured, and with whom would they be shared?

- *Equity & discrimination risk:* Might specific individuals or groups be stigmatized, bear disproportionate burdens, or lose educational or employment opportunities (e.g. low-income students, low-wage workers, older staff and faculty members, international students)?

- *Trust & reliability risk:* How transparent is the policy and how might it undermine trust, thereby threatening reliability, cooperation, and adherence?

- *Conflict risk*: Could the policy lead to verbal or physical conflict or violence?

- *Principal values risk:* Might the policy undermine important community values of mutual respect, diversity, equity, and inclusion, or prove adverse to core educational and research goals in the short- or long-term?

- *Compliance risk:* Could implementation or compliance prove unduly or unfairly burdensome? To whom, and how appropriately?

- *Overall assessment:* What is the committee's view of the relative ethical benefits and risks of the action or policy? [See Summary of overall assessments in the Executive Summary]

Assessing proposed policies and actions

Objective 1: To protect individuals at increased risk from COVID-19

Potential policy: **Requiring narrow personal health history of cogent predisposing conditions**

Health and safety aims: Decrease adverse outcomes from COVID-19 infection by taking into account the greater risk of serious illness, complications, or death for those of older age or with predisposing conditions.

Whose health and safety? Primarily the health and safety of the individual and the individual's family or associates; if health history information is used to encourage or mandate lessened exposure for those with potentially high risk of complications, this could lead to a lower overall burden on the health system, indirectly helping others who need care.

Comparative risk reduction: [Variable] *Required* reporting might not provide significant marginal benefit in comparison with a policy that promotes general awareness of likely predisposing conditions and allows individuals choice concerning whether to report their predisposing conditions and request accommodation (a process similar to that used by Disability Services). If health history information is used to *mandate* restrictions for those with predisposing conditions, risk reduction might be greater, but an incentive would be created to under-report predisposing conditions--especially if there isn't

adequate assurance that mandated restrictions won't affect the individual's employment, income, or academic progress.

Risks to privacy: [Significant] Personal health history, even if narrow, can give evidence of other, more personal matters (e.g., some predisposing conditions may be linked to a history of substance abuse like cirrhosis or chronic hepatitis). If differential limits are placed upon individuals designated "high risk" vs. "low risk", this would make it difficult to keep such health information confidential. Individuals might legitimately expect that they should be able to decide whether to place such personal health information at this risk of exposure. What records would be kept, for how long, with what level of security? With whom would these records be shared, and at what level of anonymization? If the primary benefit of requiring disclosure would be to the health of the individual rather than public health, it is unclear how a departure from voluntary consent in the provision of one's personal health information could be justified.

Inequity & discrimination risk: [Potentially significant] Depends upon how the required self-reported information is used. Predisposing conditions characterized as "high risk" vs. "low risk" are risks of complications *to oneself* should one contract COVID-19, and are not related to any elevated vs. reduced risk one might pose *to others.* Therefore, any effects on equal opportunity arising from restricting the access of "high risk" individuals to classrooms, libraries, dorms, workplaces, or events could not be justified on public health grounds, and arguably would constitute unwarranted discrimination. Among those designated "high risk" and restricted in access to spaces and facilities at the University, individuals with fewer resources of their own may be placed at a special disadvantage, since they might lack alternative access to the space and technology needed for greatest effectiveness in studying or working remotely. Moreover, given the statistical correlations between currently-identified predisposing conditions and such factors as age, disability, income, and ethnicity, restricting the access of individuals identified as "high risk" could lead to stigmatization and marginalization. These concerns can be somewhat mitigated if the University provides strong guarantees of support for employment and education to those who would be restricted as "high risk".

Trust & reliability risk: [Variable] The strength of the incentive for individuals not to disclose predisposing conditions will depend upon whether individuals have discretion about whether the information will be used to restrict their access to public areas at the University, the quality of the support provided to students, faculty, and staff who report such conditions, individuals' own financial or educational resources for adapting to restricted access, and whether reporting such conditions will conduce to stigmatization or marginalization. A foundation of trust and understanding--whether among individuals with predisposing conditions or across the University community--can lead to a more reliable scheme of self-reporting, a stronger cooperative spirit, less stigmatization, and greater effectiveness in protecting health and well-being. Lack of trust will tend to generate further distrust, less cooperation, failure to protect health and well-being, and an atmosphere of coercion and alienation. Any self-reporting and self-restricting scheme relies upon trusting the individuals queried. Why not allow individuals greater autonomy in deciding what predisposing conditions they will declare and what protections they will request, so long as this poses no greater risk to others?

Conflict risk: [Moderate] Could be significant if reporting is required and individuals lack trust in how the information they provide will be used or kept confidential. Individuals may balk at being required to give information they might willingly provide voluntarily, creating potential verbal or physical conflicts in workplaces, dorms, and classrooms. Would there be enforcement, penalties, recourse? How would that be decided?

Principal values risk: [Variable] Becoming infected and seriously ill can interfere with education, research, and work for a significant period. For those with conditions that predispose toward complications or death, such risks are higher. However, typing individuals as "high risk" and limiting their engagement in the life of the University can reduce their educational, research, or occupational opportunities. Especially if the import of "high risk" is poorly understood, solidarity, diversity, equity, and inclusion could be undermined.

Compliance burden: [Variable] Might be low for most individuals if documentation of self-reports is not required and reporting is made easy. For those designated as "high risk", compliance with restrictions on access to public spaces at the University could be onerous, as could be a system enforcing such restrictions. Re-reporting would be necessary as health conditions change. Documentation may trigger medical costs or religious objections.

Overall assessment: Required reporting of personal health history, even when narrow, and mandated restrictions on potentially "high risk" individuals, would raise serious concerns of privacy and equity that voluntary reporting and discretion in requesting accommodation would not. If the principal beneficiary is intended to be the "high risk" individual, there would be no strong public health rationale for overriding personal discretion. There are risks of unequal opportunity, stigmatization, and under-reporting unless a strong, trusted, and well-understood system of employment or academic support is in place.
(click to return to top)

Objective 2: To identify symptomatic individuals potentially infected with COVID-19 via (A) symptom screening, (B) symptom-tracking apps, or (C) thermal scans at entryways

Health and safety aims: Reduce the rate of transmission of the COVID-19 virus, and ultimately the rate of serious illness; encourage wide awareness of up-to-date information about symptoms; collect information that might be of use for tracking and tracing infection or monitoring public health.

Whose health and safety? Others' risk of infection could be reduced if individuals exhibiting COVID-19-like symptoms are screened from populated interior spaces that can facilitate transmission, and are encouraged to seek further medical evaluation and possible isolation. Screened individuals' health could benefit from detection of their symptoms if screening triggers testing and subsequent medical care through Occupational Medicine and Safety.

Comparative risk reduction: [Potentially significant] Reducing exposure to contagious individuals, especially in confined spaces, can lower the overall risk of infection. However, pre-symptomatic and

asymptomatic individuals--who may represent 25-40% of those infected and may have high viral loads--can be contagious, and would pass through entryway symptom-screening. Moreover, the fact that screening would occur in a semi-public way, after individuals have already come to buildings, and in a setting of frequent congestion and time-pressure, may create relatively strong incentives to under-report symptoms and increase the risk of transmission. Still, symptom-screening at entryways might be useful in the case of visitors or vendors not participating in any alternative screening or tracking system.

A mobile app with a "green code" required for entry could convey up-to-date information about symptoms and permit a private and thorough self-assessment and report, raising fewer problems of privacy, stigmatization, and crowding at building entries, and lowering the incentive not to disclose symptoms in order to avoid awkwardness, delays, or conflict at entryways. Some provision would be needed for those without access to the mobile app or to a suitable cell phone.

Another tool is thermal scanning. Michigan Medicine recently determined that thermal scans to detect fever as a symptom of COVID-19 viral infection will not be required at entrances of Michigan Medicine buildings, for the following reasons described in a May 13 email to staff: "There is a lack of availability for non-contact thermometers, and the accuracy of these devices remains questionable. Doing so would require staff to have unnecessarily close contact with people entering the facility and may cause lines to form at clinic entrances, causing unnecessary delays and crowding. The number of fevers potentially identified through this method is small." Therefore, our Committee opted not to analyze this potential policy for the UM campus. However, UMOR has decided to include thermal scans for temperature $\geq$100.4F in the opening phase of re-entering research buildings, such as BSRB, as has the Governor's Executive Order of 5 June 2020. The considerations for other entry screening methods apply here, as well.

Risks to privacy: [Significant] It would be difficult to protect the privacy of individuals being interviewed and screened through or denied entry at public entrances. Interviews conducted by security personnel, especially if used to collect information about previous contacts, could lead to individuals feeling forced to reveal personal information they may regard as private. Would security personnel have adequate training? Would they be expected to override individual self-reports of no symptoms on the basis of their own observations? What records would be kept of the interviews, how would they be used, and with whom would they be shared?

Risks are potentially significant also with mobile symptom apps, depending upon the nature of the data collected and its use and security. Cell phones contain or give access to personal information concerning the individual and others, well beyond what would be necessary for public health purposes. So any mobile app would need to be transparent, verified, secure, auditable, and subject to overall review of its use. Some are designed to collect location data, which might be useful for contact tracing or identifying hot spots, but reveals private information. Google and Apple recently announced that their phones' operating systems would not support location-tracking software, though the predominant alternative approach, Bluetooth-based proximity-tracking, apparently would be supported. If the app functions for tracking and tracing infection as well as symptom-based screening, the data it collects cannot be fully anonymized and may be shared with local or state governments.

Inequity & discrimination risk: [Significant] If individuals are prevented from entering buildings or events, they can experience stigma. Interviewers' ideas about which individuals or sub-communities

are "at greater risk" or are more likely to have symptoms or conceal them could result in prejudicial forms of profiling.

Mobile symptom-reporting and code generation could reduce the chance of some forms of discrimination, especially subjective profiling, associated with symptom-screening by security personnel at entryways. However, individuals will differ in their degree of access to, and facility with, suitable mobile phones or internet connections. Groups with fewer resources would tend to be underrepresented in the data, possibly prejudicing public health decision-making and distorting tracking and tracing. If information about symptom-reporting, location, or proximity must be shared with government departments of public health, undocumented students, staff, or visitors would be at special risk. Those with religious objections to involvement with the health system or the use of certain technologies throughout the week would need to be accommodated in a way consistent with equal educational opportunity.

Trust & reliability risk: [Potentially significant] If adequate support or alternatives for work and study are not available for those who are screened from entering University buildings, individuals--and especially those with limited resources--may have a strong incentive not to report symptoms that could lead to restrictions on their access to offices, classrooms, libraries, or labs. This could undermine trust in the screening system, which in turn could erode willingness to participate fully and candidly.

Mobile symptom-tracking apps need to be adopted by a majority of the population in order to be effective for tracking and tracing infection. Apps must be accurate and provide strong assurance of privacy and security if they are to gain widespread trust and use. The incentive to under-report symptoms in order to obtain an entry code, or to obtain a code by borrowing a phone, will be great unless individuals receive adequate support and assurance that they will not be penalized in their work opportunities, job security, academic progress, or learning by being screened out of buildings.

Conflict risk: [Significant] Interviewing and excluding individuals at public entrances creates a situation where conflicts can easily arise. Individuals may balk at being required to give health information in a semi-public setting, or resist a screening decision that keeps them away from their office or classrooms, and these potential sources of conflict could be exacerbated by time-pressure and crowding at rush-hour or class-change time. Conflict can also arise if interviewers use their own judgment to override individual self-reports, or if someone inside a building claims to know that an individual who has passed through screening nonetheless has symptoms and should be removed. Who will have the authority to deal with such situations, and what recourse will individuals have when they believe authorities, or fellow workers or students, have made a mistake?

These risks of conflict are likely to be lower with mobile apps than in-person interviewing for symptoms at entryways. However, security personnel will probably still be needed at entrances to heavily populated buildings at "rush" times, because code-readers can malfunction, individuals can forget or lose their phones, individuals may dispute the accuracy of the code, and visitors may lack codes.

Principal values risk: [Potentially significant] Becoming infected and seriously ill can interfere with education, research, and work, and so it is of the first importance to try to limit the spread of infection. Providing an atmosphere of confidence in classrooms and workplaces is important for their well-functioning, although symptom-based screening, especially at entryways, might not be a reliable

way of accomplishing this. The process used for collecting information about symptoms and using it for screening can be more or less respectful of individual autonomy and privacy, and interfere more or less with core community, educational, and employment purposes. By involving a wide range of affected groups or their representatives in decisions about how to manage screening, the University can help build reliability and trust in a spirit consistent with a community of mutual respect. These considerations are basically similar for screening at entries with mobile apps, as exclusion from work, study, or events can be adverse to goals of equal access to employment and educational opportunities.

Compliance burden: [Potentially significant] Interviewers and interviewees would be placed in a challenging, semi-public situation, often under time pressure, making decisions with potentially serious health consequences for the population as a whole as well as potentially serious consequences for individuals screened aside. Some additional monitoring inside buildings might be required.

   Compliance should be much better using mobile apps. Individuals would be able to enter symptom information in a setting of their choosing, and fewer personnel would be needed to carry out screening. A poorly-designed, inadequately tested app, however, could generate substantial disruption and discourage use. Protecting potentially sensitive data gained from such an app would require active monitoring and regular auditing.

Overall assessment: Symptom-screening for entry into buildings has a role to play in preventing contagion, but it must not be seen as creating "safe" spaces, owing to the high rate asymptomatic infection. Thus, the importance of other transmission-reducing measures inside buildings would remain high. Symptom-screening at entryways based on in-person interviews raises a number of serious concerns about privacy, stigmatization, conflict, and reliability. In these respects, it would be preferable for students, faculty, staff, vendors, and visitors to be able to report symptoms and receive permission to enter buildings remotely, prior to showing up at doorways.

   Compared with entryway interviewing, a mobile symptom-tracking app code to enter approved buildings should yield greater privacy and reliability, with less risk of stigmatization and conflict. Much depends upon the design of the app, which potentially leads to much more serious threats to privacy. Use of an app would need to be transparent, verified, auditable, secure, and subject to review. Those with limited means may need help to gain equal access to the permission system, and some form of backstop at entryways would still be required. Since many with COVID-19 infection are asymptomatic, a symptom-based permission system could create an illusion of "safety" that lowers compliance with other public health measures.

(click to return to top)

Objective 3: To identify currently infected individuals (symptomatic or asymptomatic) via testing for viral RNA or viral antigens (proteins)

Potential policies: **Symptom-directed coronavirus testing, random coronavirus testing, mass coronavirus testing, and contact-directed coronavirus testing--to estimate transmission and guide self-isolation and quarantine recommendations and behaviors.**

Health and safety aims: Viral testing is performed to identify and inform individuals of their status as infected or asymptomatic carriers of the virus; to encourage isolation and quarantine as appropriate; to inform public health officials of the status of individuals and the population prevalence of the epidemic; and to provide denominators for estimation of infection rates, hospitalization rates, and fatality rates. Viral load and contagiousness may be highest in the days immediately preceding symptoms.

Effectiveness and unintended negative consequences depend heavily on the quality of the collected samples and the proportions of false-positives (safety concerns for the individual), false-negatives (safety concerns for everyone in contact), and indeterminate results, in relation to true prevalence in the population tested. Scientific and technical progress may (1) overcome the considerable discomfort of nasopharyngeal swab sample collection by moving to saliva or cheek swab, (2) achieve more reliable results with organized sampling, (3) expedite time to results through home sampling and point-of-care assays, and (4) move to viral RNA assays which may give results in 15-60 minutes instead of days. As viral tests improve in speed and accuracy and become less intrusive (e.g., saliva or nasal swab vs. nasopharyngeal swab), the feasibility of widespread viral testing will be improved.

Whose health and safety? Symptomatic individuals diagnosed with positive tests could be directed toward (further) care. Both symptomatic and asymptomatic individuals with positive tests could be isolated to reduce transmission to other individuals. Random testing, mass testing, and contact-directed testing aim to protecting the community, as well as close contacts of infected individuals.

Estimates of the proportion of individuals with SARS-CoV-2 virus infection who do not display identifiable symptoms vary from 25% to 40% or higher, and transmission by pre-symptomatic and asymptomatic individuals is well established. False negatives are especially worrisome because they might encourage individuals who are infected to believe that they are not themselves at risk, and do not pose a contagion risk to others. Viral loads may be highest on the day or two preceding symptoms.

Comparative risk reduction: [Significant] Knowing whether individuals are infected is important. The magnitude of risk reduction associated with each purpose of testing will depend on the ability to isolate infected individuals and quarantine their close contacts based on effective contact tracing.

Risks to privacy: [Variable] State and county health officials are legally empowered to obtain, analyze, utilize, and protect individually-identified test results. Many individuals are wary about misuse or inadvertent disclosure of their personal medical test results. Once contact tracing is initiated, the initial person tested may be put at risk of negative comments or angry behavior from individuals contacted, who may be informed or may surmise whose test triggered the contact. Alternatively, contacts may be grateful to be notified and tested.

Inequity & discrimination risk: [Variable] If individuals are initially screened for symptoms upon returning to campus and either "cleared" or subjected to viral testing, where a positive test could lead to exclusion from classroom and laboratory buildings, residence buildings, and events, this could result in inequities in educational opportunity unless suitable alternatives are provided. Such testing could also contribute to stigmatization, especially if it becomes statistically associated with certain sub-groups and appropriate public health information is not conveyed to the community as a whole. Students with limited means may be less able to find suitable space for self-quarantining or

self-isolating in their existing lodging; the University may need to provide suitable alternatives. Individuals and groups living in dense environments or unable to stay at home due to essential work responsibilities or hourly wage may suffer disproportionate burdens. The CARES Act is designed to cover the cost of testing for individuals, but may be applied inequitably. Accommodations may also be needed for those with religious objections to medical testing.

Trust & reliability risk: [Variable] Distrust of government and medical authorities is common in some populations for many different reasons, thus impairing cooperation, adherence, and data reliability. Specific incidents of release or misuse of test results could precipitate further distrust.

Conflict risk: [Variable] Depending upon how the viral testing is used, or the corresponding "screening" is enforced, testing could be less conflict-prone than screening at entryways, for example. However, the same conflicts can arise if individuals resist being tested or isolated and nonetheless seek to attend work, classes, or other events. Would there be some form of enforcement at these locations; if so, with what consequences? Or would that responsibility be laid on instructors?

Principal values risk: [Potentially significant] Mutual respect, diversity, equity, inclusion, and adherence to U-M educational and research values are extremely important. By involving a wide range of affected groups or their representatives in decisions about how to manage testing, the University can help build reliability and trust in a spirit consistent with a community of mutual respect. Becoming infected and seriously ill can interfere with education, research, and work, so it is very important to try to limit the spread of infection; however, exclusion from work, study, or events can be adverse to goals of equal access to employment and educational opportunities. Thus, it is important that viral testing be based upon reliable means and trusted processes. Random or mass testing of asymptomatic individuals may trigger disagreements. The more intrusive the actions judged to be necessary, the greater the likelihood of disparities, inequities, and feelings of being disrespected.

Compliance burden: [Potentially significant] Widespread testing and contact tracing require a highly organized program, with well-trained, empathetic staff, and effective oversight for mutual respect, diversity, equity, and inclusion. The implementation of isolation and quarantine policies can trigger difficult economic and social burdens. Cooperation with contact tracing and mitigation must be sought with sensitivity.

Overall assessment: Viral testing to determine prevalence of the infection, identify infected individuals who are symptomatic or asymptomatic carriers, identify contacts, and inform necessary mitigation is essential to an organized response to the COVID-19 pandemic. With predictions of additional waves of COVID-19 infection during re-opening of the economy and society, viral testing must be implemented with effective and sensitive approaches to storing and using test result data for contact tracing and to isolation of infected individuals and quarantining of their close contacts in an equitable and supportive manner with appropriate attention to data privacy.

***Objective 4*: To identify previously infected individuals at potentially reduced risk of COVID-19 re-infection & transmission**

***Potential policy*: Coronavirus antibody testing**

***Health and safety aims*:** Testing for IgG antibodies to SARS-CoV-2 is performed to identify individuals who may have protective immunity against COVID-19 due to prior infection. These antibodies typically develop within 1 to 3 weeks after infection. This immune response may provide individuals partial or full protection against future re-infection and transmission. The accuracy varies widely for currently available antibody tests, with the best available tests having ~90% sensitivity (10% false-negative rate) and 99% specificity (1% false-positive rate). For the test results to be useful, the false-positive rate must be much lower than the local prevalence of individuals with antibodies (i.e., false-positives must be much less common than true positives). The FDA has posted information on their assessment of antibody test reliability.

Whose health and safety? The safety of the individual who has been previously infected, and with moderate-to-substantial effect on safety of others if antibodies are protective against reinfection and transmission.

***Comparative risk reduction*:** [Potentially significant] Studies of how well antibodies protect against reinfection and transmission to others are underway, but results may not be available for months. The degree of protective immunity associated with positive antibody tests is not yet known and may only be short-term in duration (e.g., <6 months).

***Risks to privacy*:** [Moderate] Involuntary disclosure of positive or negative antibody status may affect opportunities related to work, education, or social interactions. For example, staff and faculty with positive antibody status may be expected by supervisors or peers to take on added on-site work responsibilities, whereas students, staff or faculty with negative antibody status may be excluded from some activities.

***Inequity & discrimination risk*:** [Potentially significant] If individuals are treated differently by the University or by peers based upon antibody status, inequity and discrimination may result. For example, housing decisions and opportunities may be based on antibody results.

***Trust & reliability risk*:** [Variable] The level of this risk is difficult to predict. If antibody tests are not highly accurate and predictive of markedly reduced risk of re-infection, individuals may be unwilling to submit to widespread testing or to share outside test results with the University. Even if tests are highly accurate and antibodies are protective, trust may be undermined if individuals feign positive antibody status to avoid complying with other risk-reduction measures, such as physical distancing and use of masks.

***Conflict risk*:** [Minimal to moderate] If individuals with positive antibody status undermine other risk reduction measures, such as physical distancing or use of masks, or if individuals feign positive antibody status to avoid complying with these measures, conflicts could arise.

***Principal values risk*:** [Moderate] There will risks if antibody status influences individuals' educational, research, or occupational opportunities. This may create a "stratified" community that would undermine key values of inclusion and diversity.

***Compliance burden*:** [Moderate] Individuals must be willing to submit to antibody testing and to University recording of test results. Verification of outside test results would impose an administrative burden. The cost of antibody testing and test result tracking systems for all students, staff, and faculty members could be substantial.

***Overall assessment*:** If the accuracy of antibody testing proves to be high (especially with a false-positive rate close to zero) and the presence of antibodies confers substantial and lasting protective immunity to re-infection (e.g., for at least 12-18 months, until an effective vaccine becomes widely available), then antibody testing could be an important component of a public health-informed fall semester, particularly for assessing herd immunity and for reducing or eliminating the burden of ongoing viral testing for antibody-positive individuals. However, even with accurate antibody testing and effective immunity, concerns could arise about the privacy of test results and unequal employment and educational opportunities and/or burdens related to antibody status. The cost of university-wide antibody testing and test result tracking could be substantial.

Objective 5: **To isolate symptomatic and asymptomatic individuals with COVID-19 and quarantine their contacts**

***Potential policy*: Develop and implement clearly articulated rules and expectations for members of the university community with regard to cooperation with isolation during infection with COVID-19 and quarantine after exposure to COVID-19**

***Health and safety aims*:** Reduce the rate of transmission of COVID-19 virus, and ultimately the rate of serious illness, by requiring individuals with presumed or confirmed infection (via testing) to self-isolate or be placed in isolation, and by requiring individuals with presumed or confirmed exposure (via contact tracing) to place themselves in self-quarantine to see if they become sick. Infected students could return to their primary place of residence or be moved to appropriate housing for a specified amount of time. Time periods of isolation and quarantine will be determined by evidence-based public health guidance, estimated at two weeks.

Whose health and safety? Cooperation with isolation and quarantine would benefit individuals who are infected or exposed, as well as the extended community. These measures are particularly important for the protection of vulnerable individuals at higher risk for COVID-19 complications.

Comparative risk reduction: [Significant] Since the start of the COVID-19 pandemic, isolation and quarantine have been standard tools of mitigation, as emphasized in the Mitigation Report from the UM Public Health Committee. There are no clear alternatives that would achieve the goal of physically preventing individuals who are infected or exposed from interacting freely with others. However, the effective use of isolation and quarantine may be difficult without a significant institutional or governmental control over individuals.

Risks to privacy: [Significant] Isolation and quarantine are not anonymizable health facts. Those who are relocated or restricted to certain areas, and who now need special accommodations to continue studying or working, may be easily identifiable to others. Furthermore, members of the campus community who voluntarily self-isolate or self-quarantine would need to be registered or recorded in a tracking system with identifiable information, as would members who are placed in isolation or quarantine by campus or health authorities. This is more complicated if individuals seek medical care and/or hospitalization. The parameters of this information and its storage are important ethical questions. In addition, any mandated monitoring of those self-isolating or self-quarantining could raise questions of privacy, especially because Michigan state law does not currently contain explicit provisions for mandating isolation or quarantine (although local and federal law may).

Inequity & discrimination risk: [Significant] Historical and contemporary examples abound, both of fallacious associations between particular groups and individuals and disease, and of the scapegoating of individuals and groups with novel diseases. These patterns have been on ugly display with COVID-19 with the contagion-related xenophobia directed at Asian-Americans. In addition, there are anecdotal reports of individuals with COVID-19 feeling shunned and shamed. Thus, mental health is a significant issue, intertwined with the psychosocial dynamics of quarantine. The ability of people to successfully continue their studies and/or work during isolation and quarantine will also vary widely depending on their socio-economic resources. Isolation and quarantine can thus be expected to exacerbate existing inequities and mental health burdens unless countervailing measures are taken.

Trust & reliability risk: [Significant] The very high real and potential personal costs of quarantine mean that individuals have significant motivation to conceal their condition. This can lessen general trust that the system of isolation and quarantine is working fairly, and erode trust and cooperation.

Conflict risk: [Could be significant] One potential conflict risk is the shaming of those in isolation or under quarantine. Another potential source of conflict is people reporting on others whom they believe to be sick or infected and who thus should be isolated or quarantined. One should also expect that some people will lack trust in university or public health authorities, or view COVID-19 risks less seriously, so that voluntary self-enforcement is insufficient to achieve public health goals. In such instances, university attempts to enforce isolation or quarantine measures (especially in residence halls) could generate serious conflict.

Principal values risk: [Variable] If successful, adherence to self-isolation and self-quarantine, especially if voluntary, would demonstrate a community committed to necessary public health measures. If unsuccessful, the University's ability to carry out in-person instruction could be seriously compromised.

Compliance burden: [Significant] Questions arise about the slippery slope between "voluntary" and "coerced" when it comes to isolation and quarantine, even when seemingly "voluntary" or self-initiated. Also, there is possible resistance to compliance based on religious, legal, and other reasons.

Overall assessment: Isolation and quarantine are likely necessary components of COVID-19 mitigation on campus. However, they are fraught with many logistical, legal, and social complexities. Adequate support for those in isolation or quarantine will be needed both to make cooperation feasible and to avoid unfairness to those with lesser or limited personal resources.

Objective 6: **To reduce transmission of COVID-19 on campus via: (A) universal masking, and/or (B) require or encourage physical distancing and limits on gatherings to reduce transmission of COVID-19.**
(A) *Potential policy:* Require or encourage all individuals on campus to wear a mask or other face covering that covers the nose and mouth whenever they may encounter others.

Health and safety aims: To minimize the possibility that individuals who are infected with COVID-19 virus (especially the pre-symptomatic, asymptomatic, or non-diagnosed) will transmit virus-laden droplets into the air and onto surrounding surfaces.

Whose health and safety? The health and safety of non-infected individuals.

Comparative risk reduction: [Potentially significant] The CDC advisory dated May 23, 2020 recommends the routine use of non-medical-grade cloth face coverings where social distancing is not possible. It describes masks as a measure that may slow transmission of the virus by blocking the discharge into the air of virus-laden droplets from the mouths and noses of infected people. Many governments, including the State of Michigan, have adopted policies that call for universal masking in specific settings. The broader goal of masking, to prevent non-infected individuals from becoming infected, is also pursued via measures such as physical distancing, quarantine, isolation, disinfection, and frequent hand washing. It is impossible to ensure that these can always be carried out consistently, adequately, or long enough. Thus, masks are an important adjunct measure.

Risks to privacy: [Moderate to potentially significant] Individuals who are medically unable to wear masks may feel compelled to divulge personal medical information to others who ask why they are not wearing a mask.

Inequity & discrimination risk: [Moderate to potentially significant] Masking can significantly increase the vulnerability of minorities, particularly African Americans, to racial profiling by law enforcement and others, who may perceive them as threatening when they wear a mask, or single them out for mask enforcement. The cost of purchasing and maintaining masks will be more burdensome for those with fewer socio-economic resources.

Trust & reliability risk: [Potentially significant] Modeling studies suggest that a threshold of 80% compliance is needed to reap the putative benefits of masking. However, in the U.S., willingness to cooperate with existing masking regulations is uneven, with some people actively defying them. Many people also wear masks incorrectly. The university thus needs to make a compelling case for cooperation while educating people about proper mask use and care.

Conflict risk: [Potentially significant] The mask has become a fraught symbol in the U.S., associated with certain views on science and politics. In social and political rhetoric, masking advocates depict non-mask wearers as selfish and stupid, while mask opponents may depict mask-wearers as fearful dupes and victims of government control. Mask-wearing regulations have already provoked "mask shaming" and interpersonal violence, including murder.

Principal values risk: [Variable] If universal masking makes it possible to hold in-person classes, it will enhance the university's educational mission. However, to the extent that people find it awkward to talk and read faces while wearing masks, it may impair interpersonal communication. It may also disadvantage students with limited hearing who use a speaker's mouth movements as comprehension cues. To foster a climate conducive to masking, it may be helpful to have some standard orientation or training for university members. Other measures include providing closed captioning during live and recorded class sessions.

Compliance burden: [Variable] Someone must bear the burden of ensuring that people wear masks properly and managing potential conflicts if people refuse. This will be particularly fraught for those with less job security or little sanction power. Furthermore, people with lesser resources may have difficulty replacing masks that get dirty, damaged, or lost. Because some people may be unwilling to wear masks consistently or properly, the burden of compliance will fall most heavily on the earnest and the conscientious, whose mental and physical well-being will potentially be at the mercy of the least-cooperative person in the room.

Overall assessment: The CDC recommends the routine wearing of cloth masks to reduce the possibility that infected people will discharge virus-laden particles into the air. Masking has also become a standard strategy used by many nations and regions seeking to curtail the transmission of COVID-19. However, the anticipated benefits of masking require achieving a reasonable rate of cooperation. The university thus needs to prepare appropriate strategies to manage the conflicts that are expected to ensue if individuals refuse to cooperate with masking policies. One should also anticipate and mitigate the potential economic costs of obtaining and caring for masks. Risks to individual privacy may arise if people are required to offer medical rationales for not wearing a mask.

(B) *Potential policy:* Require or encourage physical distancing and limits on gatherings to reduce transmission of COVID-19

Health and safety aims: Reduce the rate of transmission of COVID-19 virus, and ultimately the rate of serious illness, by setting limits on the numbers of people who can gather in particular spaces (classrooms, auditoria, cafeterias) and requiring individuals to adhere to physical distancing norms. Physical distancing entails both maintenance of ~6-foot distance between individuals and

numerical limits on gatherings. Maximal capacity could potentially be mandated by the state, county, and/or the university, and could be set anywhere in the range of 10 to 250 people. Mandates could include adherence to a square foot per person rule in place for laboratory settings.

Whose health and safety? Comprehensive limitations on gatherings would benefit the extended community, and is particularly important for the protection of vulnerable individuals at higher risk for COVID-19 complications. Given that infected individuals shedding virus can be asymptomatic for the entire or partial course of infection, physical distancing is a way for everyone to participate in norms and behavior that lessen the possibility of transmission.

Comparative risk reduction: [Potentially significant] Historical studies and recent studies have shown that social distancing, including limitations on physical interaction in time and space, is a powerful tool in the advent of novel infectious diseases. Without the existence of vaccines or proven clinical therapies, it is one of the few viable, if blunt, responses available. To be effective, it requires comprehensive collective participation.
Risk to privacy: [Minimal] Physical distancing does not involve sharing sensitive or individualized medical information or data.

Inequity & discrimination risk: [Potentially significant] In many environments, physical distancing is a luxury for those with greater resources and not feasible for those who reside in higher density situations, travel by public transportation, and/or have jobs that make physical distancing challenging. In the context of the university, some of these disparities could be partially equalized; at the same time, there should be sensitivity to people's differing backgrounds and knowledge about social distancing. Physical distancing could pose specific challenges to people with disabilities or limited mobility who need to navigate campus with assistance.

Trust & reliability risk: [Potentially significant] Successful physical distancing involves a markedly different behavioral pattern in everyday life and interaction, which presumes and relies upon a high level of collective trust and the harmonious interdependence of groups. Achieving effective physical distancing requires awareness of and adherence to strict parameters of bodies in time and space. This is a dimension of campus culture for which positive public health messaging should be developed and disseminated widely.

Conflict risk: [Potentially significant] One potential source of conflict is the shaming of those not participating in physical distancing, for reasons that could include ignorance, inability, or willful non-compliance. These individuals could be subjected to harassment on social media or otherwise ostracized. Another potential risk is to those charged with enforcing physical distancing rules who could face resistance, including physical assault, from individuals refusing to participate. Low-intensity conflict and tensions among members of the university community might arise among those who take physical distancing more or less seriously.

Principal values risk: [Variable] If successful, adherence to physical distancing could serve as a form of collective glue that would reflect principal values and allow them to remain intact. In contrast,

dissension and unevenness in adherence would threaten these values, and cause some members of the community to feel vulnerable.

Compliance burden: [Variable] Effective physical distancing requires a high level of buy-in from all members of the community. Maintaining steady compliance over the 15 weeks of an academic semester could be interpreted by many as difficult to sustain. There also is the question of who (faculty or staff) will manage physical distancing if community members decline or refuse to participate.

Overall assessment: Physical distancing and limits on gatherings could be essential elements of collective participation in a public health-informed semester. However, the expectation of sustained and consistent participation could be viewed by some as difficult and burdensome. The University will need to address who will enforce these limits, and how inevitable conflicts will be managed.
(click to return to top)

5) Additional Considerations

Liability, responsibility, accountability, and fairness

Given the current state of medicine, even the most diligent public health measures cannot guarantee that there will be no incidents of COVID-19 viral transmission traceable to on-campus activities at the University or to interactions between individuals brought to Ann Arbor, Flint, and Dearborn and members of the surrounding community by reopening the University. Thus, it is foreseeable that the University will face issues of liability and compensation.

It is vitally important, however, to distinguish *legal* vs. *ethical* questions of liability. Recently, many colleges, universities, and higher-education organizations have appealed to federal and state governments to provide some form of reduced liability or indemnification for colleges and universities for the duration of the COVID-19 crisis. Whatever the status of such government action on legal liability, and however much it might be necessary to protect the financial future of many colleges and universities, it is clear that no government action of this kind could alter the fundamental *ethical responsibility and accountability* that institutions and their leaders owe to students, faculty, staff, visitors, and townspeople. As we noted at the outset, doing what is feasible to protect the safety and health of these populations is a basic commitment of the University, not an optional goal that can be negotiated away.

A successful public health-informed reopening of the University necessarily involves asking students, faculty, and staff to act responsibly even when this is burdensome—to work together as a community of individuals to share responsibility for the health of all and to play their part in the public health measures needed. Experience suggests that willing participation in such public health measures is more likely when individuals have trust in the institutions calling for cooperation and a sense that others are doing their part as well.

Yet trust in the college or university, and a sense of shared responsibility and fairness in bearing risks and burdens, are potentially undermined if institutions seek immunity from ordinary legal liability or require waivers of liability from students, without at the same time taking positive steps to assume ethical responsibility and make the institution accountable. Among these steps would be:

> Committing the college or university to frank, open discussion with its various constituencies of actual and projected risks, along with setting public health criteria for decision-making and providing transparent, reliable, and public reporting of public health outcomes.

> Developing inclusive procedures for the adjudication and resolution of the many non-legal disputes that can arise in connection with COVID-19-directed measures and their enforcement.

> Contemplating forms of redress or compensation for harm, not as a legal matter, but as part of living up to ethical commitments to one another and expressing how we value one another.

If future government actions were to restrict legal recourse when harm occurs, this would reinforce an already asymmetric balance of power among the various constituencies that make up the University and its surrounding community. Fairness and a commitment to creating and maintaining the conditions for successful public health measures require that institutions not allow this to happen without some countervailing response on their part to provide other forms of recourse.

Adjudicating disputes

All institutions of higher education are entering new terrain during the COVID-19 pandemic, calling for new norms and patterns of behavior. This is bound to lead to disputes at the ground level, as students, faculty, and staff sort out their new roles and seek to assert their autonomy or authority. The University will need robust and legitimate internal processes for adjudicating the many forms and sizes of disputes that can arise, and for taking appropriate actions to implement the judgments made or settlements reached.

Existing models of grievance, legal action, settlement, and mediation will likely be strained in scenarios that could involve illness, death, disability, emotional and mental health distress, and loss of livelihood. Many of the problems that will arise cannot be foreseen, and institutional forums must have the capacity to learn about and contend with these problems as they emerge. Such institutional forums can gain legitimacy and community support if they are broadly participatory and representative, with shared decision-making powers. We need institutions that model the kind of community of reciprocal responsibility and trust we seek to be.

Some examples of systems that have resulted in successful garnering of community support include student-led honor councils or behavior-code-based adjudication systems and representative oversight committees (such as those for community participation in the regulation of campus security forces). The use of professional mediators and a COVID-19-focused ombuds reporting system could also help process disputes and protect privacy.

Crises are also opportunities, and this can be true in the creation of effective and legitimate processes for adjudicating disputes. These might initially be instituted as temporary but, should they prove successful, they could be extended into the future. Once again, public health measures can achieve wider acceptance if they are embedded in a community of mutual trust and shared burdens. Creating effective and legitimate means for adjudicating the disputes that inevitably will arise is part of building such a community despite the many interpersonal challenges of living together with the potential for outbreaks of infection. Disputes are bound to involve many different combinations of students, faculty, and/or staff, and forms of adjudication that bring together students, faculty, and staff can enable them to listen to one another, see things from others' perspectives, and share the burden of hard decisions, helping to repair ruptures in community and providing means for asking how to avoid such disputes in the future.

Redress, recognition, and compensation

The University could also explore new models for redress, recognition, and compensation when COVID-19-related harms occur. For example, harm to individuals can be recognized and compensated through a no-fault compensation fund. Such a fund would best be established with the broadest possible population basis, for example, by the state or federal government. In the absence of such a fund, the University could signal its value for students, faculty, and staff that the many benefits of on-campus instruction, research, and work bring with them risks that by their nature will not fall upon everyone equally, by creating an internal fund of this kind, to which everyone makes some contribution. Payments need not be large in order to affirm the value that a harm to one of us—wherever fault might lie—is a harm to us all. Payments could help support physical or mental health care for those who are harmed, or provide death benefits to help support families who may face straitened financial circumstances as well as grievous personal loss.

Another structure for compensation is insurance. If life insurance benefits are not part of all employee plans, some form of short term life and disability insurance could be guaranteed to everyone who starts up with us in the fall. For many people who cannot buy a reasonably priced policy on the open market, university extension and subsidy might be the only way to provide it (perhaps for one year or a limited time).

These forms of compensation would involve a level of frankness about the possibilities of disability or death from COVID-19 upon opening the university that will be difficult. But if we consider these empirically likely and unavoidable at some level, it would be unethical not to confront them and to ask how the community can jointly accept its responsibilities and jointly recognize and mourn its losses. This, too, would be part of making real the idea that "We are all in this together".

COVID-19 risk mitigation off-campus

Influencing the behavior of students and employees off campus

It may seem beyond the practical and legal reach of the university to control social distancing and isolation or quarantine behaviors off campus. Yet, it is clear that personal choices and private behaviors affect the health of everyone on campus and in the wider area and that they matter just as

much for disease transmission as do on-campus behaviors. City and county residents may be endangered by the opening of the university or see it as a threat; thus, it is ethically required for the university to collaborate with them to reduce this risk of disease transmission. We should consider how to mitigate the practical and jurisdictional challenges posed by off-campus behavior. We are aware that university public health leaders are already working closely with county and state health leaders to coordinate policies and practices.

Options include:

1. Robust messaging that personal behaviors matter and that we need students and employees to abide by similar physical distancing practices as on campus. We can assume close contact with co-residents but ask that they not have parties or go on leisure travel during the term. Such behavioral expectations could be included in a code of conduct. Other examples: video messages by leadership and vulnerable individuals, asking for cooperation in strong terms; a "sidewalk tour with distancing" by President Schlissel, Coach Harbaugh, and other high profile leaders to visit student rentals on nearby streets (perhaps with media) with a door-to-door ask and discussion about what we need to protect public health; continued affirmation of social norms against crowding in close spaces, talking closely without masks, and how drinking will lower inhibitions and cause more spread.

2. Working closely with the cities of Ann Arbor, Flint, and Dearborn and Washtenaw, Genesee, and Wayne Counties with regard to questions of police response to complaints and the possibility of new local regulations could be helpful. Could there be new forms of authority sharing, for example, between Ann Arbor police and campus police that would reflect a priority for student safety, such as walking patrols by campus police in student areas? How will police interact with minority students compared to white students, given that evidence on our own campus and nationally is that enforcement may be highly unequal? If new local laws or regulations limiting the number of patrons in bars, opening hours, alcohol sales, keg sales, etc., would be helpful to reduce the risk of disease transmission, the University can recommend that local officials implement them. Closing streets around campus and in student neighborhoods to traffic could help distancing but also may encourage large gatherings. A coordinated effort on norm adherence and formal legal responses could turn these points of conflict into community benefits.

3. Testing outposts and geographic interventions related to outbreak clusters are likely to be needed in off-campus student residential areas, so we should prepare the community for a new reality that the borders of their lives are not neatly separable into on-campus and off-campus domains.

The public on campus

Public access to university property is a value for everyone, but under pandemic conditions it is less important than the duty to provide for the safety of students and employees and those who are required to come onto campus for their work (deliveries, construction, fire and rescue, etc). Therefore,

the University should consider closing to the public generally, including performances, athletics, demonstrations, rallies, and museum attendance, at least for the fall term, if indicated by the parameters of the pandemic. This prohibition would reflect our limited resources for contact tracing, cleaning and disinfecting, and enforcement. It is also a content-neutral prohibition that will protect the University from having to entertain crowds of the public during the October 15 presidential debate or for election-related events or protests, all of which could be dangerous to public health.

Communication and messaging

Effective public health messaging needs to be widely legitimate, sustainable, and equitable, and will be a critical component for building and sustaining community during a semester like no other in our lifetimes. The prospect of an effective public health-informed fall semester will be undermined if strong social norms for expected public health community behavior are not widely disseminated and ubiquitous on campus.

Leadership needs to embody and exemplify these norms. Ideally, they will be embraced with enthusiasm and a collectivist spirit, not seen as a top-down imposition. This is an area where community participation can be engaging and even fun. For example, contests could be held for logos or slogans around a "public health informed" semester. Messages need to be legible and meaningful and perhaps targeted to subcommunities even as they have an overarching Michigan theme:

> Wolverines keep their 6-foot distance
> Go Blue means masking as a team
> Hail to the Masked Victors
> 20 seconds of hand washing is the Michigan Difference

(click to return to top)