



Contact Tracing on Campus

Resources & Options

Prepared by the Team at TalentBoost



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Executive Summary

Academic institutions across the country are considering options for re-opening campuses in late summer/early fall. The most recent survey indicates that more than 76% of 960 institutions surveyed intend to open, either fully (67%) or with a hybrid on-campus/remote model.

Operating in a post-COVID-19 world will require measures to keep students, faculty and employees as safe as possible and mitigate the severity of an on-campus outbreak. Each of these measures implies a complex set of policy and practice elements necessary for re-opening

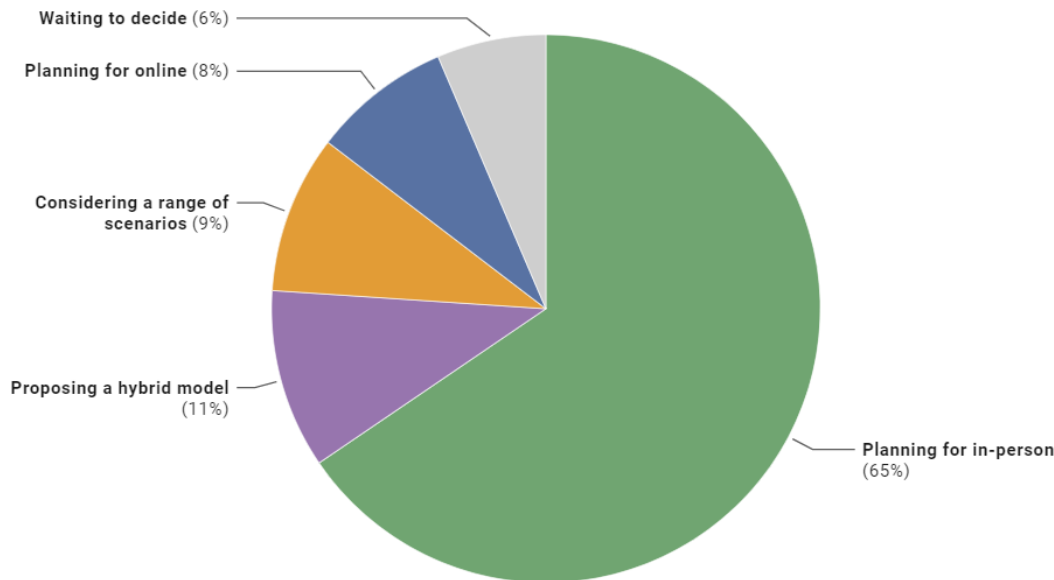
Given the lack of federal coordination on this critically important issue and the resource constraints state and local public health authorities face, many academic institutions will be on their own.

While state and local authorities may lack the resources to support the contact tracing needs of academic institutions in their jurisdictions, their first priority remains the preservation of the public's health. If higher incidence rates are attributed to campus facilities, and if effective on-campus contact tracing measure are not in place, public health authorities' reactions to a resurgence of the virus may be to shut down campuses.

Based on our Firm's experience with organizational design, staffing and training, and workforce technology, we have been engaged to provide technical advice and to build and run some of the largest contact tracing organizations in the US. In our experience, the most successful ones are complex, public/private partnerships, where public health authorities, not-for-profit public health institutions, and private institutions have come together to build effective – and cost effective – contact tracing organizations. As academic institutions plan their re-opening, we hope to be a resource to help ensure that the success of these operations can be replicated on-campus.

Re-Opening Challenges

Academic institutions across the country are considering their options for re-opening their campuses in late summer/early fall. The most recent survey indicates that 76% of the 60 institutions surveyed intend to open, either fully (67%) or with a hybrid on-campus/remote model.



Source: Chronicle of Higher Education

Operating in a post-COVID-19 world will require every institution to implement measures to keep their students, faculty and employees as safe as possible and mitigate the possibility or severity of an on-campus outbreak. These measures fall into 4 broad areas:

- Quarantine
- Social Distancing
- Infection Control
- Contact Tracing.

Each of these measures implies a complex set of policy and practice elements that will need to be fully implemented prior to re-opening, such as:

- Backup living facilities to accommodate case- or contact-students
- Smaller class sizes & remote learning integration
- Limits on student activities
- Masking & social distancing
- Deep cleaning protocols
- Grab & Go food service
- Spectator-free sporting events

Contact Tracing capacity will also be an essential element of a successful and sustained re-opening. Given the lack of federal coordination on this critically important issue and the resource constraints that state and local public health authorities are facing, we anticipate that academic institutions, particularly private institutions, may receive technical advice from these resources on public health matters. However, these institutions will be on their own when it comes to the human, technological and logistical resources required to run an effective contact tracing operation.

If we draw an analogy from other congregate living communities, notably assisted living residences, nursing homes and even prisons, on-campus infection rates could be significantly higher than the surrounding community. While state and local authorities may lack the resources to support the contact tracing needs of academic institutions in their jurisdictions, their first priority remains the preservation of the public's health. If higher incidence rates are attributed to campus facilities, and if effective contact tracing measure are not in place, public health authorities' reactions to a resurgence of the virus may be to shut down campuses.

Based on our Firm's experience with organizational design, staffing and training, and workforce technology, we have been engaged to provide technical advice and to build and run some of the largest contact tracing organizations in the US. These are complex, public/private partnerships, where public health authorities, not-for-profit public health institutions, and private companies have come together to build the most effective – and cost effective – contact tracing organizations possible. As academic institutions plan their re-opening, we hope to be a resource to help ensure that the success of these operations can be replicated on-campus.

While local public health authorities are fully engaged on the overall challenges of their region, we firmly believe that is strongly in academic institutions' interests to address the contact tracing challenge proactively, *and* we believe that institutions have certain advantages with respect to standing up and running a contact tracing organization. This includes at least 6 staffing/funding resources that are otherwise unavailable to public health authorities, including:

- Student Work/Study Programs
- For-credit Practicum Programs for Nursing, Allied Health, Public Health, Social Work and other majors
- Graduate Assistantships
- Tuition Surcharges
- Inter-institutional Collaboration

Contact Tracing

Contact Tracing Organizations

Contact tracing operations are “instant” organizations. At the outset, there is no culture, no shared ways of operating, and no shared values beyond a shared mission. Given the urgency of standing up the organization, it's easy to pay *too* little attention to the policies, practices and infrastructure necessary to sustain it. The organization has no muscle-memory because every single person is new.

In most cases, contact tracing organizations is fully remote. On-boarding, training, establishing relationships with supervisors and colleagues must all be accomplished over Teams or Zoom.

There is also a fundamental problem with the organizational design. Speed leads to simplicity, and that means many tracing organizations are designed with traditional, hierarchical, job-function and credentialing principles in mind. Despite the remote nature of the organization, contact tracing is a team sport. However in many cases, this work is done by rigid hierarchically organized groups that fail to create the potential synergies associated with team-based structures -- collective memory, shared meaning, prosocial motivation, communal purpose. This also limits the speed with which resources can be allocated – an essential capability when the objective when contact vectors suddenly appear.

That sense of urgency also leads to what we refer to as the call-center fallacy – using traditional call centers as the model for building a tracing operation. This leads to suboptimal decisions like

- Using call center supervisory ratios of up to 50:1
- Deploying traditional *customer* relationship management (CRM) software like Salesforce
- Establishing call performance standards and expectations in excess of 20 calls an hour

Although there are similarities, a contact tracing organization is not a call center. The job is complex, requiring supervisory ratios closer to 10:1. These are patients, not customers. We are not selling them anything. We are trying to modify behavior in ways that are stressful, inconvenient and difficult. These conversations take time and that means managing the relationship as a case, not a sale, and expecting that call outreach standards that are more like 4 calls an hour.

To be effective, contact tracing operations need to be built with deeper, more nuanced attention to organizational design. Process automation, messaging and communications platforms, policy and support structures and on-going training are essential to a positive, operational, and effective work environment

The Job

A shared sense of mission is a powerful draw. Reviewing thousands of resumes, 1 theme stands out. When reading through candidates' applications, it is not because they need a job—it is because they just feel like they have to do something to help knock this down. However, that is a necessary but insufficient condition for success.

Contact tracing is a specialized skill. To be done effectively, it requires people with the training, supervision and access to social and medical support for patients and contacts. Requisite knowledge and skills for contact tracers include but are not limited to:

- An understanding of patient confidentiality, including the ability to conduct interviews without violating confidentiality (e.g., to those who might overhear their conversations)
- Understanding of the medical terms and principles of exposure, infection, infectious period, potentially infectious interactions, symptoms of disease, pre-symptomatic and asymptomatic infection
- Excellent and sensitive interpersonal, cultural sensitivity, and interviewing skills such that they can build and maintain trust with patients and contacts
- Basic skills of crisis counseling, and the ability to confidently refer patients and contacts for further care if needed
- Resourcefulness in locating patients and contacts who may be difficult to reach or reluctant to engage in conversation
- Understanding of when to refer individuals or situations to medical, social, or supervisory resources
- Cultural competency appropriate to the local community

In our experience, the technical skillset can be acquired quickly. The more difficult challenge lies in personal attributes that are hard to acquire quickly:

- Perseverance
- Empathy
- Attention to detail
- Investigative skills
- Overcoming resistance
- Resilience

Also important, and often overlooked, is the fact that contact tracing is not 1 job. Case investigation to contact tracing to care coordination is a value chain comprised of at least 3 distinct roles. Each one requires similar skills but with very different levels of emphasis and expertise.

It is essential to recruit for these capabilities and enhance them with continuous training and support.

Performance & Effectiveness

The job of contract tracers is a new form of work where speed and accuracy are demanded in a context that is interpersonally complex and nuanced. Contact tracing has a long and storied history in public health, but the breadth and complexity of this pandemic has created a profession that bears little resemblance to its public health predecessors. We have a strong sense of what makes a great contact tracer, but the more we can learn along the way, the more effective we are going to be. We don't have the luxury of time, so we have to learn as we go.

This requires performance feedback systems that operate at three levels of analysis:

- **Individual.** With a focus on continuous improvement, barrier elimination, an integrated learning environment, rapid identification and of performance gaps and success profiling.
- **Team.** With fluid horizontal and vertical communications and an environment for rapidly sharing success strategies improving outcomes, and taking advantage of unique and scarce team assets, like language skills and cultural competencies.
- **Organization.** Delivering actionable insights with social network analysis, data visualization and other tools necessary to understand where tracing is having an impact, where contact vectors are converging and diverging, and where hot spots might be anticipated.

Advanced performance & communication tools are necessary to monitor and enhance performance at all three levels

What We Believe

As large organizations and academic institutions re-open, close-in, full-cycle contact tracing will be essential – case investigation, contact tracing and care coordination. Infection rates in the general population (1-4%) will not be a good guide to what academic institutions can anticipate. Other congregate living environments – nursing homes, assisted living residences, and even prisons – present a better analogy with much higher infection rates (25-33%), and comprehensive contact tracing, used in combination with social distancing, infection control, and quarantine practices, provides the only viable solution for initiating and sustaining campus re-openings.

Two workforce models work well – one focused on seasoned healthcare professionals, or one that is somewhat more training-intensive and focuses on students and early-career professionals. There are trade-offs, especially when it comes to balancing seasoned healthcare sensibilities with technological savvy. This is why we believe hybrid workforce models work best, building on the strengths of both cohorts.

An equally important workforce consideration is to avoid confusing contact tracing operations with call centers. While it’s true that contact tracing deploys call center technology, the actual work bears very little resemblance to a call center. The objective here is behavioral change, not an impulse purchase. That takes deliberate, intentional, supportive strategies, where teamwork, supervision, and most of all, patience are critical ingredients.

Innovative organizational models are also necessary. Traditional “org-chart” hierarchies create silos that are inconsistent with the decidedly non-hierarchical, unpredictable nature of the adversary. Flexible, responsive hierarchies, and tech-supported, dynamic teams guided by well-analyzed data are essential.

Infection Rate Scenarios

The epidemiological characteristics of COVID-19 limit the utility of traditional mathematical models of infection rates, due to such factors as asymptomatic spread and the level of undetected infection (Ivorra, et al 2020). However, there is a series of reasonable assumptions that can be applied to understand alternative scenarios.

- It is reasonable to expect that the very low local core infection rate (0.152% as of this writing) is probably not sustainable when students and faculty return from the broader community.
- It is also reasonable to expect that some level of infection between the state-wide rate of 0.332% and the county rate is probably more reasonable as an *initial* disease prevalence rate.
- Taking a simple average of these rates, and applying it to the community census, presumes that campus will open with 6-7 infected community members initially.
- Taking congregate living conditions into account, it’s also reasonable to expect a transmission factor of 5-8 people per infected community member, rather than the more typical 2-3. The consequence is an exponential progression that quickly arrives at infection rates that are comparable to those of other congregate living communities (25%-33%).

Table 1 below outlines the kind of exponential progression that a sample institution might expect:

Table 1		
Students		1,800
Faculty & Staff		800
Total Community Census		2,600
Infection Cycle	Infection Rate	COVID-19+
Baseline	0.242%	6.3
1	0.484%	12.6
2	0.968%	25.2
3	1.936%	50.3
4	3.872%	100.7
5	7.745%	201.4
6	15.489%	402.7
7	30.979%	805.4

The objective of contact tracing in a congregate living environment would be to (at least) bring transmission rates down to a more “normal” (but still undesirable) rate of 2-3. Table 2 below outlines the more reserved progression that this would imply:

Table 2		
Students		1,800
Faculty & Staff		800
Total Community Census		2,600
Infection Cycle	Infection Rate	COVID-19+
Baseline	0.242%	6.3
1	0.363%	9.4
2	0.545%	14.2
3	0.817%	21.2
4	1.225%	31.9
5	1.838%	47.8
6	2.757%	71.7
7	4.135%	107.5

- Manage the staffing process, including sourcing, applicant tracking, assessment and required vetting procedures like criminal background checking and reference collection
- Hosting and providing pre- and post- employment training content
- Onboarding selected candidates, including interfaces to systems of record and required reporting and staff analytics to IPHI, FCPH, or other constituencies
- Providing the infrastructure for or assisting IPHI with implementation of systems and processes for (as examples) HR record-keeping, time-keeping, scheduling, payroll execution and on-going performance management

Our objective is to ensure that these objectives are fulfilled in the shortest time possible, that candidate flow and applicant decisions are mapped to the ramping-up cycle at the Institute for Public Health Innovation (IPHI), and that a sustainable, high-integrity organization with a positive and productive culture is ensured.

Finally there’s what we know. This is a service, and there is work to be done. Contact tracing that gets politicized makes for great theater, and bad public health. The instant organizations that do it need world-class technology and committed, well-trained staff. That is why we’ve assembled a formidable group of partners who have contributed their expertise and technology to this cause, including:

- The Institute for Public Health Innovation (Instructional Design)
- EJ4 (Instructional Content)
- Rippling (HRIS)
- The Predictive Index (Talent Optimization)
- 15Five (Performance Management)
- On-Task (Workflow Design)
- Survey Sparrow (Employee Experience)
- Polinode (Social Network Analysis)
- PowerBI (Data Visualization)

How We Can Help

There are 5 ways that we believe we can contribute to solutions for academic institutions at all levels

1. **Technical Advice.** This is free. We will participate in any conversation, with any institution, that is working through the design/build phase of their contact tracing strategy.
2. **Build-and-Support.** We have the platform and staff to recruit, train and sustain a contact tracing organization on an institution's behalf.
3. **Outsource.** We can deliver a completely outsourced solution that includes payroll administration, serving as employer of record, etc., delivering a remote organization that is staffed with local teams.
4. **Organize and support a collaborative.** The most effective state-based initiatives to-date (including the ones we have participated in) have been established as community collaboratives. The ebb-and-flow nature of COVID19 to-date suggests to us that a collaborative of geographically dispersed institutions, all committed to sharing a comprehensively trained workforce, presents the most attractive option, and the most cost-effective one.
5. **Research Opportunities.** Building out contact tracing organizations generates volumes of important data about organizational formation, social networks, team effectiveness, human/technology integration and public health outcomes. We will work with any institution's faculty and research teams to fully exploit these data, hopefully in ways that will produce insights that are generalizable to other, non-COVID-19 challenges.

Contacts

Tom Connolly, CEO

TConnolly@GattiHR.com

508-906-2030

860-685-1997 (m)

J.L. Baker, Managing Director

JLBaker@GattiHR.com

312-667-8801

978-580-1852 (m)

Diana Lavery, Director of Marketing & Communications

DLavery@GattiHR.com

617-934-8143

717-658-3177 (m)

References

Barry, E (2020). An Army of Virus Tracers Takes Shape in Massachusetts. New York Times. Retrieved from <https://www.nytimes.com/2020/04/16/us/coronavirus-massachusetts-contact-tracing.html>

Chronical Staff (2020). Here's a List of Colleges' Plans for Reopening in the Fall. Chronical of Higher Education. Retrieved from <https://www.chronicle.com/article/Here-s-a-List-of-Colleges-/248626>

Davison, R, Hollenbeck, J., Barnes, C., Slesman, D., & Ilgen, D. (2012) Coordinated Action in Multi-Team Systems. Journal of Applied Psychology. Vol. 94(4) 808-824.

Holmdahl, I. & Buckee, C. (2020) Wrong but Useful -- What Covid-19 Epidemiologic Models Can and Cannot Tell Us. The New England Journal of Medicine. Retrieved from <https://www.nejm.org/doi/full/10.1056/NEJMp2016822>

Ivorra, B., Ferrandez, M., Vela-Perez, M., & Ramos, A. (2020) Mathematical modeling of the spread of the coronavirus disease 2019 (COVID-19) taking into account the undetected infections. The case of China. Communications in Non-linear Science & Numerical Simulation. Vol 88. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7190554/>

Predictive Index (2020). GattiHR and Partners-in-Health Build Culture from the Ground Up. Predictive Index Customer Profiles. Retrieved from https://www.predictiveindex.com/content/customer-story/gattihhr/?utm_source=linkedin&utm_medium=social-organic

Shuffler, M., DiazGranados, D., & Salas, E. There's a Science for That: Team Development Interventions in Organizations. Current Direction in Psychological Science Vol 20(6). 365-372.

Stevens, H. (2020) Why outbreaks like coronavirus spread exponentially, and how to "flatten the curve". The Washington Post. Retrieved from https://www.washingtonpost.com/graphics/2020/world/corona-simulator/?nid=top_pb_signin

About Our Firm

GattiHR (www.GattiHR.com)

GattiHR is a provider of search, workforce analytics and HR technology solutions. Our search teams have extensive HR experience and follow an approach that is research-based, collaborative and customized to specific client needs. We value authenticity, hard work, and the constant pursuit of excellence on behalf of clients and candidates.

The GattiHR search practice focuses exclusively on HR executives and professionals. GattiHR Industrial focuses on Supply Chain, Engineering and Manufacturing. Both practices were founded in 1985.

We have a simple mission: Recruit the best teams and then help those teams succeed. We build better workplaces with exceptional talent, actionable insights, and tech-supported solutions. Our search teams work hard to understand clients' culture and business objectives and find innovative and agile leaders. Our data science team provides comprehensive workforce analytics and organizational improvement advisory services across the employee lifecycle. Our technology team delivers high velocity, high volume recruiting and employee engagement solutions.

TalentBoost™ (www.TalentBoost.cloud)

TalentBoost™ is a platform developed by GattiHR for high-velocity staffing, training and engagement. It was built by a team with extensive experience in standing up new organizations after major M&A transactions, corporate bankruptcies, and infrastructure hits. The concept was further developed when the team worked with Save the Children on a rapid response infrastructure for crisis response. Today, TalentBoost helps retail companies like Hunter Douglas and Benjamin Moore attract, motivate and engage staff in independent dealer networks across the US and Canada, helps industrial companies like Trussway and Canidae Pet Foods build out their production workforces, and helps respond to the Covid-19 pandemic crisis by partnering with public health organizations and state governments across the US to build contact tracing and testing capabilities. The team that developed TalentBoost has more than 20 year of direct experience with rapid organizational builds.

TalentBoost™ is our integrated HR Operations platform, combining the people, processes and technologies for recruiting, training, on-boarding and on-going workforce management. The platform was developed based on our team's extensive experience with standing up "instant" organizations following major M&A transactions, corporate bankruptcies, and infrastructure hits. We have integrated our own in-house software with best available applicant tracking, learning management, workforce management and workflow management technologies available. This is combined with an experienced team of recruiters, instructional designers and HR professionals.

- In the commercial space, we serve franchise networks, supporting thousands of independent dealers across the US and Canada with "big company" HR support.
- We've deployed the platform to give private-equity firms a common HR "backbone" that is uniquely branded to each of their operating companies.

- We are the team that recruited, assessed, trained, and onboarded the (now) 1,800-strong contact tracing organization for the Commonwealth of Massachusetts and Partners In Health – in just 30 days. We think it’s important to note that the proposal for this effort was initially to hire 200. That’s how scalable the platform is.
- Most recently, we took the 50,000-strong national applicant pool developed for Massachusetts contact tracing and re-directed it to address the acute nursing shortage in elderly congregate care facilities. We are assisting the Commonwealth in managing a triage force of 1,000+ RN’s, LPN’s and CNA’s. They are stepping in to deal with the sudden labor shortage that is anticipated when mandatory testing of all employees in these facilities results in a segment of the workforce being forced into quarantine.