How Did Occupational and Employee Health Services Maintain the Health Workforce During the COVID-19 Pandemic?

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This is the third in a series of articles using the World Health Organization (WHO) essential building blocks for health systems strengthening in Occupational/Employee Health (OEH). This article will focus on the second building block (Table 1) maintaining the health of the workforce. Historically, when health systems are challenged, like with COVID, “strengthening” the system is the way to success.1

When WHO declared the COVID-19 pandemic on March 11, 2020,2 the immediate vulnerability of healthcare workers (HCWs), globally, was launched into the forefront. Probably not since the Spanish Flu pandemic of the last century was this critical subpopulation of employees under such widespread threat and that COVID-19-related threat has remained very high since. Even one (1) year after it was first reported in Asia, quickly to be followed by virtually all of Europe and the whole of the United States (US), the incidence of this dreaded virus has not yet ebbed in the latter nation; on the contrary, the case count continues to rise there, with a concomitant, and very foreseeable, waning of the incidence of related fatalities. To date, COVID-19 remains a tremendous challenge for Occupational Health.4

The lives of healthcare professionals (HCP) suddenly became at heightened risk and in need of protection. The Occupational Safety and Health Act General Duty Clause for hazards with no established standards, which reads: “Each employer shall furnish to each of his employees, employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees,” would apply here. The International Labor Organization (ILO) through its C155—Occupational Safety and Health Convention (No. 155), Article 4, in 1981, which states, “The aim of the policy shall be to prevent accidents and injury to health arising out of, linked with, or occurring in the course of work by minimizing, so far as is reasonably practicable, the causes of hazards inherent in the working environment,” also made regulatory demands of the employer. While determined to minimize these hazards, US-based hospitals/healthcare systems were faced with a possible, rapidly impending, severe, staffing gap. As such, OEH staff carried an added burden of helping to maintain a healthy workforce that consisted of their fellow employees. This was addressed by minimizing hazards, tracking burden of infections and ensuring safe yet timely return to work (RTW). Helping to make determinations with supervisors and Human Resource (HR) to which employees could/should continue to work in “face-to-face,” patient-care roles, that decision tree being further modified by those employees who self-identified as having co-morbidities that may place them at increased risk of a severe outcome if they became infected with COVID.5

In order to respond to the many challenges thrust their way, health systems put forth a plan where disparate workforces coalesced, as massive teams, so as to protect their respective employees, provide optimum care to their respective patients, contain the disease, and otherwise mitigate the comprehensive effects of COVID-19 within their respective sites. Many previously untested, unanticipated alliances were forged as a result, and many have persisted, and flourished, since. Those alliances, although not unique to OEH, markedly enhanced efficiencies of many, various, but related, responses. Of necessity, the normal functions of virtually every, participating department were enhanced over normal, pre-existing standards, thereby creating significantly modified work environments, and plans, in short order. The critical foci became those of public, as well as of employee, health. The related, multiple plans demanded innovation, flexibility toward rapid change, and the need for ongoing, accurate communications—both internal and external—of them to critical, intent audiences. The internal relationships and work- ing liaisons had to be expanded, both for the good of the employees and of the respective organization. While the precise structures, responsibilities, and assignments for these various groups differed from healthcare system to healthcare system, as did the relative sizes, many liaisons involved the following departments/activities (Table 2). While there may have been other, more specialized groups “drafted” into their respective responses and roles, most healthcare institutions—especially the larger ones—incorporated this substantive cadre of their respective employees into their respective response plans.

OEH professionals had to go back to the basics of disease control, using the oft- denoted “hierarchy of control” principles. The levels in the risk hierarchy-of-control measures are, in order of decreasing effectiveness: Elimination/Substitution, Engineering controls, Administrative controls, and Personal protective equipment (PPE).

Table 1. WHO Building Blocks2 Adapted for Occupational/Employee Health (OEH).

| 1. Occupational/Employee Health service delivery; |
| 2. Maintaining the health of the workforce; |
| 3. Occupational Health information; |
| 4. Medical products, lack of vaccines, and technologies; |
| 5. Financing and others: Occupational Health financing and costing, privacy, information security, as well as support for families of HCWs; and |
| 6. Leadership and governance. |
TABLE 2. Departments in Partnership with Employee Health

| Occupational/Employee Health                          | Infection Prevention                      |
|-------------------------------------------------------|------------------------------------------|
| Administration                                        | Information Services (IS)                |
| Biomedical Services                                   | Medical Education                        |
| Cafeteria/Food Services                               | Nursing                                  |
| Central-Processing Department (CPD)                   | Pharmacy                                 |
| Clinical Laboratory                                   | Physicians and Advanced-Practice Providers (APPs) |
| Employee-Assistance Program (EAP)                     | Purchasing                               |
| Environmental Services/Housekeeping                   | Risk Management/Legal                    |
| Facilities and Maintenance                           | Safety and Security                      |
| Finance                                               | Strategic Planning and Marketing         |
| Human Resources                                       |                                         |
| Infectious Diseases                                   |                                         |

All of these were invoked. In this instance, COVID-19 virus didn’t lend itself to elimination or substitution. Though Engineering controls are often a tall dream in several developing countries, in the US, they are readily available. Negative-pressure rooms, recommended by CDC for aerosolizing procedures such as intubation, for instance, were available for COVID-19 patients except in cities like New York, at the peak of the COVID-19 surge. Other preventive practices, such as installing Plexiglas® at front desks, were also rapidly instituted.

Administrative controls, such as establishing policies/procedures/protocols and Standard Operating Procedures (SOPs), were quickly instituted, though they changed often as additional, related evidence became available. OEH providers worked with leadership of facilities to disseminate Information, Education, and Communication (IEC) materials regarding COVID-19. Signs, promoting social distancing of at least six feet, were widely posted, and formerly packed elevators were limited to four persons, maximum, with “X” signs on elevator floors, directing the four occupants to the four corners of those elevators. Screenings were done prior to entrance to facilities, using non-invasive temperature checks/scanners, combined with symptom-based, verbal questions, at entry points to many facilities. Other, less critical entry/exit points were temporarily sealed to prevent surreptitious bypass of temperature/symptom screenings. Physical meetings became almost non-existent and were replaced by tele-, and web-based meetings. Again, both the popularity of, and the success with, such technology persists.

Use of PPE was promoted, and, in keeping with science and CDC recommendations, all-staff, all-patient, and all-visitors, mandatory masking policies were put into place. In addition, employees with identified, potential, occupational exposure(s) to COVID-19 patients had to be fit tested for N95 respirators. In facilities where medical clearances for fit testing were not previously, routinely done for all staff, suddenly OEH had large numbers of medical clearances to complete for respirator-fit testing. Industrial Hygienists also became very busy with “just-in-time” respirator-fit tests.

Besides the mandated masks and respirators, employees were encouraged to wear gowns, gloves, and appropriate shoe coverings, as needed. That approach was readily embraced, with relief, by at-risk employees as it gave them a sense of personal control in minimizing their related, respective health risks.

OEH is a discipline that routinely promotes teamwork, and this, too, was enhanced by COVID-19. Clinical departments, like Infectious Disease (ID), and non-clinical departments, like Industrial Hygiene, Safety, Human Resources, and Workers’ Compensation, became even closer allies. COVID-19, more than any other illness in this century, highlighted the need for these partnerships to be nurtured and strengthened, as well as rendered effective very rapidly. ID providers became closer colleagues and helped interpret the often quickly changing CDC recommendations. They also had to recommend specific implementation guidance for facilities based on their knowledge of the respective, local situation. Some guidance was also rather broad and general, and, again, ID helped to recommend a more appropriate, local, implementation plan under those circumstances.

OEH was also called upon by supervisors and leadership to advise on safe work practices and to help designate employees at “high risk” for serious complications and outcomes if they become infected with COVID-19. OEH, using available information from employees and their PCPs, worked closely with HR, as part of a “reasonable-accommodation” committee, to provide guidance to supervisors about specific duties, and assignments, for “high-risk” employees. Supervisors were asked to lean toward telework, where feasible, and did so. In some instances, where feasible, staff office space was adjusted to promote social distancing of at least 6 feet, but this proved a challenge to accomplish in many instances. COVID-19 brought with it much fear and resulted in several staff, who had reached retirement age and previously wanted to continue working somewhat longer, but who abruptly decided to retire rather than risk working with COVID-19-positive patients and/or co-workers and potentially contract the virus.

Leaves and Workers’ Compensation were also other, controversial areas, especially at the onset of the pandemic, when test results took 1 to 2 weeks to report. Employees were quarantined at home, and, very often, the test results returned as negative, leaving managers questioning the type of leave that was then appropriate. Was the special Families First Coronavirus Response Act (FFCRA)® appropriate? Or, would the employee have to use sick leave or, worse still, be marked AWOL? It took time, as well as several disgruntled employees, to get this matter resolved. If, for example, an employee tested positive for COVID-19, then the FFCRA was easier to justify and grant. Employees who tested positive were not given a difficult time by the Workers’ Compensation staff and, at some locations, did not have to prove that the infection was acquired in the hospital rather than the community. (At other sites, this was managed more aggressively, and a precise, detailed, report of an occupational-exposure path to COVID-19 disease was necessary to establish, “to a reasonable degree of medical certainty,” that the disease was, indeed, contracted in the workplace.) OEH also worked with Safety Officers to report all COVID-19-positive cases to OSHA, especially hospitalized employees, within 24 hours. Additional reporting requirements of such results, to various state Departments of Health, were also announced and promulgated. Once again, those rules frequently changed over time.

It is not possible, in this simple work, to outline/detail all of the possible combinations of, or permutations to, the interchanges and teams—and the results generated by the interaction of the various departments of most, “typical” healthcare systems (see Table 2, above) during the COVID-19 crisis, which continues to date. Some were successful; some were not. Some were supreme models of thought, design, and implementation; some were not. All, though, were meant to stem the scourge of this new disease, and all truly were opportune times for OEH to “shine.” It did so, spectacularly well.

REFERENCES

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3. Gregory Twachtman G. WHO declares COVID19 a pandemic; April 30, 2020. Available at: https://www.medscape.com/viewarticle/926666. Accessed December 27, 2020.

4. Burdorf A, Porru F, Rugulies R. The COVID-19 pandemic: consequences for occupational health. *Scan J Work Environ Health.* 2020;46:229–230. DOI: 5271/sjweh.3893.

5. Sample spreadsheet tool available from one of the authors by sending a related request to: Theodore F. Them, MD, MS, PhD, MPH, FACOEM, Chairman, Department of Medicine and Chief, Section of Occupational Medicine, Guthrie Medical Group, P.C., 1 Guthrie Square, Sayre, PA, 18840, USA. E-mail: theodore.them@guthrie.org or telephone: 570-887-2495.

6. This is an example only; however, its application at one, large, multispecialty, group practice, with 5 hospitals, 55 outpatient clinics, and roughly 6,600 employees, resulted in only one (1), single case of occupational COVID-19 transmission and disease in that entire healthcare system.

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