Investing in Our First Line of Defense: Environmental Services Workers

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During the height of the pandemic in New York City, thousands of residents leaned out their windows every evening to cheer and celebrate the physicians, nurses, and other professionals on the frontline of combating COVID-19. Employees at groceries, pharmacies, and other essential businesses have also received well-deserved recognition. Largely absent from national attention, however, are the hundreds of thousands of workers devoted to disinfecting our hospitals. These environmental services (EVS) personnel are among those most likely to be exposed to the virus and most essential to combating its spread.

These staff perform the arduous tasks of wiping down beds, cleaning bathrooms, and decontaminating hospital equipment. They are the unnoticed sinews of a well-functioning hospital. These essential personnel are still often called “housekeepers”—a relic from a time when their role was regarded as purely janitorial rather than fundamental to patient safety. In the face of this pandemic, they are among the unsung heroes, the critical first line of defense against infection.

Yet their task of hospital cleaning and their stature in the health care hierarchy have long been underappreciated (1–3). This is despite extensive evidence that environmental contamination places patients and health care personnel at risk for life-threatening disease. When a hospitalized patient suffers an infection, the next patient to occupy their room has a 6-fold greater risk of acquiring the same pathogen (4). In intensive care units, dirty objects and failure to remove surface bioburden correlate with increased acquisition of infections (2). Across hospital systems, cost-cutting to reduce EVS staff and cleaning hours has been associated with increased nosocomial infections (1–3). In light of evidence that severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) can survive on surfaces for up to 3 days (5), along with studies demonstrating that viral shedding contaminates over 80% of the interior of hospital rooms (6) and aerosolization of SARS-CoV-2 causes extensive surface contamination (7), it is now more urgent than ever to emphasize the importance of environmental cleaning.

Unfortunately, EVS personnel have been a target for cost-cutting since the mid 1990s. Cleaning staff have been whittled down by 25% during this time, and more than one third of hospitals have disbanded their own EVS teams to outsource this work to contractors, shedding valuable institutional experience while exacerbating high turnover and inadequate training (1). Some new hires receive only 3 days of training, forcing 83% of EVS staff to train new recruits on the job, furthering the notion that their work is menial and unskilled rather than vital to patient outcomes. Meanwhile, stagnant low wages condemn over three quarters of workers below the

poverty line (1). A recent analysis found that 30.5% of health workers at risk for poor COVID-19 outcomes lack paid sick leave, and support workers remain uninsured at rates above the national average (8). It is no accident that many EVS workers feel invisible to the rest of the hospital team—they are systemically devalued, ignored, and relegated to the bottom of the socioeconomic hierarchy.

Now, as the surge of COVID-19 cases threatens to overwhelm our hospitals, EVS workers are being asked to do more with less. Even before the COVID-19 pandemic, two thirds of EVS staff reported working under chronically understaffed conditions, and over 80% worry that this impedes high-quality work (1). To thoroughly disinfect a hospital room, EVS workers need sufficient time, proper technique, and effective tools. Each worker must methodically work their way through each room, removing soiled linens, discarding trash, and mopping floors. To eliminate potential reservoirs for disease, they must meticulously wipe down all of the high-touch surfaces of a room, including bed rails, tables, intravenous poles, and door knobs (2). In deploying their arsenal of disinfectants ranging from bleach to ethanol, they must be trained on the different contact times necessary to kill different pathogens (2). The presence of high-risk pathogens complicates their work. They must garb themselves in personal protective equipment (PPE) to render these spaces safe for their colleagues and patients, and many EVS staff now find themselves deprioritized in the distribution of scarce protective gear against COVID-19 (9).

This is a daunting set of tasks for anybody to accomplish, yet hospitals are asking their EVS workers to perform it all in less than 15 minutes for up to 36 rooms a day (1). Many are pressured to cut corners and rushed to turn over rooms for waiting patients. The inevitable result: A study of more than 1000 patient rooms across 23 hospitals revealed that less than 50% of surfaces are properly cleaned (10).

There are alternatives. A culture of agency and responsibility could be instilled in every hospital employee. Airplane mechanics and parachute packers are recognized for their critical work, as each tightened bolt and each untangled line represents crises averted, lives saved. We should afford the same respect to our EVS workers and take steps to support their efforts on the frontline of infection prevention (Table).

We can start by properly acknowledging their role as valuable members of the patient care team. Hospitals need to embrace EVS employees as a core investment in improving patient outcomes. Further research and innovation should be directed toward enhancing their efforts. Crucially, EVS employees need sufficient PPE to protect themselves as they endeavor to protect others.

Table. Strategies to Support EVS Workers

Goals	Potential Implementation Strategies
Culture: Acknowledge and elevate role of EVS workers on care team	Build a culture of respect, recognize that EVS workers are essential to patient safety, and avoid interrupting or rushing them through tasks Involve EVS workers in regular interdisciplinary meetings and provide a forum for their input Provide interprofessional training that highlights the role of EVS workers and fosters a culture of teamwork toward safety
Investment: Invest in EVS workforce and professional development as core strategy to improve patient outcomes	Avoid understaffing by employing sufficient EVS staff and contingency planning for backup coverage (1, 10) Retain workers with increased wages that better reflect the importance of their work (1) Provide or incentivize certification programs to strengthen disinfection skills Provide accessible training materials (e.g., disinfection technique, contact times) that account for literacy and language barriers Develop in-house EVS teams to improve staff integration and accountability (3)
Effectiveness: Enhance EVS efforts through training, research, and innovation	Reduce human error through frequent monitoring and systems for regular feedback (2, 10) Implement evidence-based practices and checklists to guide effective cleaning Automated cleaning technology, such as UV irradiation or vaporized hydrogen peroxide, will complement but not replace the need for skilled EVS workers (2)
Safety: Increase EVS worker safety from disease exposure and occupational hazards	Implement guidelines and provide comprehensive training to reduce EVS exposure risk (e.g., signage for PPE requirements, increasing ventilation during cleaning tasks) Account for EVS requirements of protective gear (for both infectious disease and disinfectant chemical exposures) when managing and allocating supply of PPE Provide adequate health insurance and paid sick leave benefits to all EVS workers (1)

EVS = environmental services; UV = ultraviolet; PPE = personal protective equipment.

Health care will inevitably be reimagined after the global pandemic, and it is time to invest in EVS employees and their essential role in patient safety. As the COVID-19 pandemic illuminates the importance of infection prevention, we are offered a chance to shine new light on these unsung heroes.

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Disclosures: Disclosures can be viewed at www.acponline.org/authors/icmje/ConflictOfInterestForms.do?msNum=M20-2237.

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Ann Intern Med. doi:10.7326/M20-2237

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