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ACUTE PERSPECTIVE

David Oliver: Could we do better on hospital acquired covid-19 in a future wave?

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Hospitals are currently in the eye of a covid-19 storm, driven by a rapid rise in community infection rates and more new emergency cases presenting daily. But before the current surge there were concerns about covid infection acquired or identified during a hospital stay.

In October the Healthcare Safety Investigation Branch (HSIB) issued a report on the factors behind hospital acquired covid-19 infections in England last spring.¹ We now have better access to testing and personal protective equipment (PPE). We have better knowledge from research and guidelines. But the rates of covid infection officially classified as “hospital acquired” have yet to fall.

NHS hospitals are fielding formal complaints from people angry and distressed that they, or a family member, may have contracted infection in what they expect to be a place of safety. Teams battling to deliver clinical care in a highly pressurised environment and at some personal risk will be sent down a distracting, demoralising warren of complaint handling and root cause analysis, for something that can seem inevitable and out of our control.

Besides which, the HSIB report made it clear that many of those root causes lay in building design, ventilation, huge pressure on overcrowded beds, short staffed and overwhelmed clinical teams, and a lack of testing and PPE in those early months.² Hardly our fault—and there hasn’t been much time to implement the recommendations as we near the peak of the winter surge.

Still, the numbers are alarming. On 18 December a *Health Service Journal* analysis of NHS England data found that around one in four covid cases was probably caught by hospital inpatients initially admitted for other reasons.³ The rates were over one in three in some hospitals and had risen by 35% in one week. Given the high rate of false negative or first negative tests, we might quibble at the definition (patients testing positive more than eight days into admission), but that definition hasn’t changed even as cases have risen.

Worryingly, on 16 December the *HSJ* also reported a study by doctors in northwest England, showing “major deficiencies” in compliance with Public Health England’s guidance on good practice in preventing nosocomial covid-19 transmission.⁴ Failings included routine allocation of patients to beds before negative tests were confirmed, not testing clinical staff regularly, and not using protective screens between patients. Remember: the HSIB, while sympathetic to staff and the conditions they worked in, hadn’t pulled

any punches about some basic failings in adherence to best infection control practice.

My personal, intuitive reaction as a doctor working on all-covid wards throughout the pandemic was, “What do you expect in a service with endemic structural deficiencies, in the middle of a pandemic, and with a virus that people often test negative for to begin with? Get off our backs.” However, I did start to read more stories from other health systems, courtesy of conversations with microbiologists and other infection control experts.

JAMA carried an editorial on “Hospital acquired infection: lessons for public health,” summarising data from several nations on prevalence of and successful real life interventions to prevent hospital acquired covid—also finding that around one in seven of all cases worldwide was in hospital staff. Often, simple measures to prevent infection in patients could protect staff and vice versa.⁵ The key was rigorous, sustained, and consistent vigilance and implementation.

One striking example of many I could pick, by Rhee and colleagues in *JAMA*, described over 9000 admissions to a US university hospital in Boston over 12 weeks, with 697 covid cases diagnosed.⁶ The authors found only two cases diagnosed in hospital. One was traced to pre-admission contact with a spouse, and the other patient developed symptoms at home four days after discharge, but there was no documented exposure in the hospital.

The intervention? “A comprehensive infection control program was implemented that included dedicated covid-19 units with airborne infection isolation rooms, [PPE] in accordance with the recommendations from the US Centers for Disease Control and Prevention, [PPE] donning and doffing monitors, universal masking, restriction of visitors, and liberal RT-PCR testing of symptomatic and asymptomatic patients.”

Admittedly, that hospital may be better resourced than most NHS hospitals, and our rates of patients with covid admitted to hospital have been considerably higher during first and second pandemic waves. Fewer admissions mean less exposure for other patients. But could we really say that we’re doing all of these things rigorously in most NHS units?

It’s hard to challenge our own practice when we already feel so challenged ourselves. And, with so much pandemic pressure on acute beds, right now is not the time. But when we’re through the worst of the current crisis, we need to think about how we could improve prevention of nosocomial viral

transmission for all infections, to stand us in better stead next time.

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