Evidence check

The effect of COVID-19 on healthcare workforce - infections

Rapid review questions

What are the effects of the COVID-19 pandemic on healthcare workforce in terms of infections?

What strategies have been used to protect healthcare workers?

In brief

- Journals, editorials and governing bodies provide general summaries of lessons learned and recommendations for protecting healthcare staff from infection
- The infection of staff is a serious concern, with two countries reporting approximately 3% of its COVID-19 cases are healthcare workers
- In Italy up to 20% of responding healthcare workers were infected;
- Some of the strategies to relieve pressure on the health care workforce include protecting healthcare workers, employing medical students, operational considerations, telehealth and redeploying workforce.

Background

The pressure on the health care workforce will intensify if strategies are not undertaken to plan methods to counteract capacity demand of healthcare workers. This pressure takes two forms, the potential for COVID-19 infection rate to overburden the health system capacity and the adverse effects on health care workers being overworked or exposed to COVID-19 (1).

A Chinese study reported that, healthcare workers accounted for around 4% of cases and five deaths (2). Recent figures show that healthcare workers make up 3% of Italy's COVID-19 cases (3).

A Lancet editorial suggested that in China, more than 3300 healthcare workers have been infected and in Italy, 20% of responding healthcare workers were infected (4). Recent press coverage reports a total of 40 healthcare workers in Italy have died (5).The infection of healthcare staff is a serious concern as affected staff must self-isolate for 14 days, depleting the capacity of the workforce. In addition to infection risks, reports document that medical staff describe physical and mental exhaustion, the stress of difficult triage decisions and deaths of patients and colleagues.

Methods (Appendix 1)

Google and PubMed were searched on 30 March 2020. Snowball sampling was also used to find information relating to the rapid review question.

Results (Table 1)

The system response to the outbreak may be affected by absence of hospital workers due to COVID-19 infections. Countries face the slowdown in transportation of critical supples and support services, affecting the ability to maintain normal operations.

Possible solutions identified as options to support and protect health workers include:

- Access to personal protective equipment, planning for surge in respiratory cases and other increased admissions, increased laboratory capacity for testing
- New structures for care delivery, hub-and-spoke model, managing low to moderate risk patients in designated community facilities, telehealth
- Provision of food, rest, family support and psychological support
- Prioritise methods to prevent spread of the virus in the healthcare workforce

Table One: Supporting the healthcare workforce – preventing infection		
Source Title	**Advice**	**Source Link**
COVID-19: protecting health-care workers	• Article advises: • adequate provision of personal protective equipment • Cancellation of non-essential events to prioritise resources • Provision of food, rest, family and psychological support	https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30644-9/fulltext
Operational considerations for case management of COVID-19 in health facility and community: interim guidance	• Guideline provides scenarios for the severity of COVID-19 transmission within communities • In severe community transmission cases the guideline recommends: new structures established for care delivery and new hospitals or temporary structures to care for COVID-19 patients	https://apps.who.int/iris/bitstream/handle/10665/331492/WHO-2019-nCoV-HCF_operations-2020.1-eng.pdf
Covid-19: how doctors and healthcare systems are tackling coronavirus worldwide	• A summary of actions taken by health care systems world wide to curb the spread of COVID-19 • Countries include: Unites States, Japan, India, Spain, Australia, China, France, Germany, Iran, Canada and Italy	https://www.bmj.com/content/368/bmj.m1090
Video consultations for covid-19	• Editorial advises video consultation can be used as a strategy to reduce burden on health care facilities. Video consultation could serve COVID-19 patients with mild symptoms, or symptoms suggestive of COVID-19, chronic disease reviews, counselling, administrative appointments and medication reviews	hhttps://www.bmj.com/content/368/bmj.m998
Novel coronavirus (COVID- 19) standard operating procedure: estates and facilities	• Document provides guidance on how to rapidly convert existing wards into facilities for intubating COVID-19 patients	https://www.england.nhs.uk/coronavirus/publication/covid-19-standard-operating-procedure-estates/
Securing the Safety Net and Protecting Public Health During a Pandemic Medicaid's Response to COVID-19	• The article describes actions that can be taken to: (1) improve prompt testing and treatment of patients with COVID-19, (2) mitigate the strain on the health care system and preserve the capacity of hospitals and health care practitioners, and (3) limit	https://jamanetwork.com/journals/jama/article-abstract/2763487

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	transcription of COVID-19 by facilitating changes in how care is delivered.	
Preparing for a COVID-19 pandemic: a review of operating room outbreak response measures in a large tertiary hospital in Singapore	• To reduce the risk of viral transmission to healthcare workers this article suggests identification and preparation of an isolation operating room, administrative measures such as modification of workflow and processes, introduction of personal protective equipment for staff and the formulation of clinical guidelines	https://link.springer.com/article/10.1007/s12630-020-01620-9#Abs1
COVID-19 Pandemic plan for the Victorian Health Sector	• This plan describes actions that are planned in the event a health care worker is exposed to infection during the COVID-19 pandemic. The document also provides a guide for broader workforce support and maintaining personal protective equipment supplies	https://www2.health.vic.gov.au/about/publications/ResearchAndReports/covid-19-pandemic-plan-for-vic

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References

1. Adams JG, Walls RM. Supporting the Health Care Workforce During the COVID-19 Global Epidemic. JAMA. Published online March 12, 2020. doi:10.1001/jama.2020.3972
2. Wu Z, McGoogan JM. Characteristics of and Important Lessons from the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases From the Chinese Center for Disease Control and Prevention. JAMA. Published online February 24, 2020. doi:10.1001/jama.2020.2648
3. International Council of Nurses, 2020. High Proportion Of Healthcare Workers With COVID-19 In Italy Is A Stark Warning To The World: Protecting Nurses And Their Colleagues Must Be The Number One Priority. [online]
4. Lancet, COVID-19: Protecting health-care workers [Editorial]. The Lancet. 2020 Retrieved March 27, 2020, from https://doi.org/10.1016/S0140-6736(20)30644-9

5. The Guardian https://www.theguardian.com/world/2020/mar/26/as-if-a-storm-hit-33-italian-health-workers-have-died-since-crisis-began

Appendix 1: Search strings

Google search included: "effect reduced capacity healthcare staff covid-19", "healthcare staff reduced capacity and coronavirus", "medical workforce planning novel coronavirus"

Google Scholar: "protecting healthcare workers covid-19", "increasing capacity healthcare staff covid-19", "effect reduced capacity healthcare staff covid-19"

Pubmed search one: (((((health care [MeSH Terms]) OR health care workforce [Title/Abstract]) OR capacity [Title/Abstract]) AND planning) AND covid-19) OR novel coronavirus

Pubmed search two: ((((((workforce[MeSH Terms]) OR health care workforce[Title/Abstract]) OR medical staff[Title/Abstract]) AND planning) OR suppor*) AND covid-19) OR novel coronavirus

Evidence checks are archived a year after the date of publication