Evidence check

Workforce reconfiguration

Evidence check questions

1. What is the evidence regarding temporary workforce reconfigurations such as splitting of teams and establishing social distancing protocols within teams to minimise staff exposure to COVID-19?

2. What is the evidence regarding temporary workforce reconfigurations to maintain or increase workforce surge capacity during the COVID-19 pandemic?

In brief

- Workforce reconfigurations during the COVID-19 pandemic such as splitting teams, creating smaller ‘sub teams’ and establishing social distancing protocols within teams have been described for a range of specialties including general surgery, oncology, radiology, cardiology, emergency departments and dialysis units. Workforce reconfiguration during periods of heightened COVID-19 prevalence is associated with reduced infection rates in the healthcare workforce.

- A wide range of institutional or departmental workforce reconfiguration strategies are described in the peer-reviewed literature (Table 1). Many of these strategies were developed and adopted rapidly during COVID-19 surge periods.

- The most commonly used workforce reconfiguration strategies included redeploying specialty staff or research-only clinical staff into COVID-19-specific or critical care workforce, both internally within hospitals and externally; and redistributing excess workforce from non-critical areas or areas with reduced work demand to critical areas or areas in need. There are no studies to evaluate the impact of staff working outside their normal scope of practice.

- In Australia, a Critical Care Pandemic Staffing Working Party made 60 recommendations to inform multidisciplinary workforce capacity expansion planning in critical care. They range from service-level recommendations for maintaining the critical care workforce, expanding the critical care workforce, rostering and allocation, nursing-specific recommendations for staffing the ICU, workforce support, environmental management, models of care and de-escalation.

- The World Health Organization recommends that generalist health workers, workers from other health settings, and recent medical graduates be redeployed to settings facing skills shortages.
Limitations
Evidence is based on single case experiences.

Background
Healthcare workers are at heightened risk of COVID-19 infection. One way to minimise infection among staff is through workforce reconfigurations to limit exposure.

Methods (Appendix 1)
PubMed and Google searches were run on 1 September and 6 September 2021.

Results
Table 1: Strategies for workforce reconfiguration to minimise staff exposure and preserve the healthcare workforce

<table>
<thead>
<tr>
<th>Category</th>
<th>Strategies</th>
</tr>
</thead>
</table>
| Peer-reviewed sources  | • Establishing an institutional or departmental command team, taskforce or leadership team with a broad representation of expertise, skills and ideas. \(^3\)\(^5\)  
                          • Involving senior clinical staff (i.e. medical registrar or consultant) in leading and helping deliver the changes. \(^6\)\(^7\)  |
| Leadership             | • Subdividing teams that can be rostered on different work schedules to minimise crossovers between staff and minimise the impact of staff exposure to COVID-19. \(^8\)\(^-\)\(^14\) Strategies include:  
                          o Establishing functionally independent teams \(^8\)\(^,\)\(^15\)  
                          o Ensuring staff within each team had the right skill-mix with various levels of training \(^6\)\(^,\)\(^8\)\(^,\)\(^9\)\(^,\)\(^16\)  
                          o Having on-call teams to replace active teams if members become ill or need to quarantine \(^9\)  
                          • Creating separate areas and teams for managing confirmed or suspected COVID-19 patients and non-COVID patients. \(^17\)  |
| Split teams            | • Restricting patient care activities of a staff to a single site only and halting inter-hospital and cross-institutional rotations of medical staff, to prevent cross-contamination between sites. \(^18\)\(^,\)\(^19\)  
                          • Two or more teams working on alternate blocks of times and shifts to minimise the staff crossover. Examples include:  
                          o 3 to 5-day block or 12-hour shift rotation, with each block alternating between day and night shifts or other shift schedules \(^20\)  
                          o ‘3-3-3’ which has three days and three nights with a ‘cooling off period’ of three days in between \(^21\)  |
<table>
<thead>
<tr>
<th>Category</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer-reviewed sources</td>
<td>o One week on, one week off.22-24</td>
</tr>
</tbody>
</table>
| Physical separation          | o Creating segregated physical spaces for COVID-19-positive and negative patients17  
   o Inter-team social distancing25  
   o Isolating workstations for different teams8, 22, 26  
   o Restricting bedside consults to only necessary cases26  
   o Designating one team member to have patient contact, while others remained in the hallway or joined in the rounds virtually22  
   o Replacing in-person handovers with virtual handovers8, 22, 26  
   o Virtual communication both within and between teams8, 14, 18, 26  
   o Limiting interaction across wards27  
   o Redesigning community visits as ‘doorstep’ visits where the clinician remains outside the home.28                                                                                                                                                                                                 |
| Virtual care                 | o Placing clinical care, pharmacy, allied health, administrative or other non-clinical staff for whom it is viable to provide telehealth consultations or work remotely at home to reduce risk of infection in the hospital7, 8, 28-31  
   o Using virtual care modalities in patient screening, remote patient monitoring, and providing remote clinical and decision support for clinicians32, 33  
   o Distance learning for trainees.34                                                                                                                                                                                                                                                                                                           |
| Reserve pool                 | o Identifying and establishing a reserve pool for staff with core competencies, or relevant training required for maintaining basic services5, 6, 16, 18  
   o Identifying excess workforce created by a decrease in patient volumes in some specialty areas and enlisting them into a reserve pool35  
   o Fast-track training for temporary healthcare-support workers to supplement workforce.36                                                                                                                                                                                                                                                     |
| Redeployment and redistribution | o Redeploying other specialty staff or research-only clinical staff into COVID-19-specific or critical care workforce, both internally within hospitals and externally4, 6, 8, 16, 20, 26, 31, 35, 37, 38  
   o Redistributing excess workforce in non-critical areas or areas with reduced work demand to critical areas or areas in need17, 21  
   o Providing appropriate training or induction to redeployed staff4, 5, 16, 35, 39  
   o Mobilising student volunteers and other contractors into public health workforce, including4, 40, 41:  
     o Epidemiological investigation and contact tracing                                                                                                                                                                                                                                                                               |
### Peer-reviewed sources

<table>
<thead>
<tr>
<th>Strategies</th>
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<tbody>
<tr>
<td>o Providing training on proper personal protective equipment (PPE) use in residential care facilities</td>
</tr>
<tr>
<td>o Compiling lists of local resources</td>
</tr>
<tr>
<td>o Disseminating information</td>
</tr>
<tr>
<td>o Facilitate mass testing and informing patients of results</td>
</tr>
<tr>
<td>• Removing high-risk staff, such as pregnant women, elderly staff or staff with decompensated chronic disease, from roles that involve close contacts with confirmed or suspected COVID-19 patients.</td>
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</table>

### Service organisation

<table>
<thead>
<tr>
<th>Strategies</th>
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</thead>
<tbody>
<tr>
<td>• Only essential workers on site at the clinic or hospital</td>
</tr>
<tr>
<td>• Limiting or postponing elective cases</td>
</tr>
<tr>
<td>• Reducing non-essential services</td>
</tr>
<tr>
<td>• Combining services (i.e. surgical services provided by different divisions) where patient volume is decreased due to COVID-19 pandemic</td>
</tr>
<tr>
<td>• Assigning non-patient facing duties to physicians who are in quarantine or mildly ill to off-load burden at the hospital</td>
</tr>
<tr>
<td>• Decreasing documentation or other administrative requirements</td>
</tr>
<tr>
<td>• Providing emotional and wellness support for frontline staff</td>
</tr>
<tr>
<td>• Utilising community resources</td>
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<tr>
<td>• Anticipating childcare issues for staff</td>
</tr>
<tr>
<td>• Providing accommodation for front-line staff to prevent transmission within families.</td>
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</tbody>
</table>

### Table 2 Grey literature

<table>
<thead>
<tr>
<th>Source</th>
<th>Summary</th>
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</thead>
<tbody>
<tr>
<td>Grey literature</td>
<td></td>
</tr>
<tr>
<td>Health workforce policy and management in the context of the COVID-19 pandemic response: Interim guidance</td>
<td>Policymakers and managers should:</td>
</tr>
<tr>
<td>World Health Organization December, 2020</td>
<td>o assign generalist health workers, those repurposed from other health delivery settings, and recent medical graduates to settings facing skills shortages, under appropriate supervision to appropriate roles that reflect their knowledge, skills and experience</td>
</tr>
<tr>
<td></td>
<td>o identify high-impact clinical interventions amenable to safe role delegation and expansion of scope of practice</td>
</tr>
</tbody>
</table>
| | o identify the available health worker skills mix that is best suited to address clinical care needs, in areas where resources are limited,
<table>
<thead>
<tr>
<th>Source</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grey literature</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Strategies to mitigate healthcare personnel staffing shortages</strong></td>
<td>Centers for Disease Control and Prevention, March 2021&lt;sup&gt;44&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>• When staffing shortages are anticipated, healthcare facilities and employers, in collaboration with human resources and occupational health services, should use contingency capacity strategies to plan and prepare for mitigating this problem. These include:</td>
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<td></td>
<td>o adjusting staff schedules, hiring additional healthcare personnel, and rotating healthcare personnel to positions that support patient care activities</td>
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<td></td>
<td>o cancelling all non-essential procedures and visits. Shift health workers who work in these areas to support other patient care activities in the facility. Facilities will need to ensure these health workers have received appropriate orientation and training to work in areas that are new to them.</td>
</tr>
<tr>
<td><strong>Redeploying your secondary care medical workforce safely</strong></td>
<td>National Health Service (NHS), England, July 2021&lt;sup&gt;45&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>• A wide range of clinicians have returned to clinical practice to support demand</td>
</tr>
<tr>
<td></td>
<td>• All redeployed staff should be appropriately supervised when delivering clinical care.</td>
</tr>
<tr>
<td><strong>Public Health Workforce Surge Guidelines</strong></td>
<td>NSW Health, February 2014&lt;sup&gt;46&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>• Activities that may need additional support during a public health surge include:</td>
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<tr>
<td></td>
<td>o case and contact finding</td>
</tr>
<tr>
<td></td>
<td>o case and contact management</td>
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<tr>
<td></td>
<td>o infection prevention and control</td>
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<tr>
<td></td>
<td>o immunisation (e.g. coordinating a mass clinic)</td>
</tr>
</tbody>
</table>

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Source | Summary
--- | ---
Grey literature | • Surge personnel may be engaged from within or outside NSW Health.

### Appendix

#### Original search 19 May 2020

PubMed and EPPI websites were searched on 19 May 2020. Additional studies were added that were screened for eligibility during daily evidence check searches. Searches included COVID-19 and past disease outbreaks. Search terms have been included in the appendix.

**PubMed**

1. (((workforce[Title/Abstract] AND structure[Title/Abstract]) OR ("healthcare team*"[Title/Abstract])) OR ("hospital[Title/Abstract] AND structure*[Title/Abstract]) AND (COVID-19[Title/Abstract]) OR (Coronavirus [Title/Abstract]) OR (Coronavirus [MeSH Terms]) OR (sars-cov-2[Title/Abstract])) 
2. (((workforce[Title/Abstract] AND structure[Title/Abstract]) OR ("healthcare team*"[Title/Abstract])) OR ("hospital[Title/Abstract] AND structure*[Title/Abstract]) AND “pandemics”[MeSH Terms] OR pandemic*[title/abstract])

**EPPI**

Workforce OR healthcare team AND nosocomial OR infection

#### Updated search 2 September 2021

**PubMed**


148 hits on 2 September 2021

**Google**

COVID-19 AND workforce OR staffing AND reconfiguration OR surge

### Inclusion and exclusion criteria
Inclusion

- Population: healthcare workforce
- Intervention: reconfiguration, restructuring, staffing or rostering changes, changes to teams
- Comparator: not applicable
- Outcome: the process of the reconfiguration
- In English

Exclusion

- Do not meet PICO criteria

<table>
<thead>
<tr>
<th>Search dates</th>
<th>Updates</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 May 2020</td>
<td>Original search</td>
</tr>
<tr>
<td>2 September 2021</td>
<td>Evidence check question was revised to include evidence relating to workforce capacity management strategies</td>
</tr>
<tr>
<td></td>
<td>Search re-run</td>
</tr>
<tr>
<td></td>
<td>New relevant publications added to table</td>
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<tr>
<td></td>
<td>In-brief updated to reflect new evidence.</td>
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</tbody>
</table>

References


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