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Using a journal club to navigate a maze of COVID-19 papers in a front-line hospital service

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The early stages of the COVID-19 pandemic placed clinicians in a position of having to manage patients with a previously unknown disease, with no well-established information on diagnosis, treatment or prognosis. Simultaneously, the published research addressing these questions increased exponentially. Suddenly, clinicians, health services and governments were making decisions impacting whole populations based on non-peer-reviewed preprints of varying quality. Keeping abreast of the literature and rapid deployment of critical appraisal skills were more vital than ever.

In April 2020, PS and colleagues began a regular hospital-wide COVID-19 journal club at our busy tertiary hospital in Gold Coast, Australia. While journal clubs have been widely used by clinicians for over a century to enhance critical appraisal skills,^{1,2} their power to drive clinical practice changes should not be underestimated.

Our journal club, which was active from the start of the pandemic, was attended by the infectious diseases department staff, including the director and senior staff specialists, and a variety of clinicians across the health service over video-conference. The journal club began weekly. However, the schedule was flexible and adapted to clinical needs of the group, becoming fortnightly to monthly, with occasional 'ad-hoc' journal clubs scheduled at the request of the infectious disease team to discuss important emerging trial data (ie, data on vaccine efficacy). The journal club was a key mechanism for guiding the health services' clinical decision-making in the treatment of COVID-19 patients and management of the condition as a service, allowing clinical teams to change practices as soon as evidence had been appraised. This included a number of practice changes including abandoning the use of ineffective treatments such as hydroxychloroquine and ivermectin, introducing dexamethasone, remdesivir and monoclonal antibodies to treatment regimens and having confidence in vaccine efficacy, safety profiles and regimens. Some of these treatments introduced had to await regulatory approval in Australia, but from the day of their release, the clinical teams were already familiar with the evidence base that underpinned their use.

The success and sustainability of our journal club was largely due to using principles of the TREAT journal club^{3,4} format (TREAT stands for Tailoring Research Evidence and Theory). The format, investigated in over 250 health

professionals,^{3,4} is based on 11 key components in the literature known to be effective for running a journal club, including principles of adult-based learning, which are often overlooked in traditional journal club formats.^{5,6} Components of the TREAT format applied in the COVID-19 journal club included clinicians prioritising topics for articles as a group that were relevant to pressing clinical problems and mentoring and facilitation from academic staff. Specifically, articles were chosen collaboratively between the clinical and academic staff to address clinical questions that were pertinent to the infectious disease team. The process of article selection was at times expedited by academic staff who were concurrently conducting scoping reviews of COVID-19 treatments and vaccines and therefore familiar with the emerging evidence. All article suggestions were run past the senior infectious disease staff to ensure they were addressing relevant clinical questions.

Other principles of TREAT used in the journal club that facilitated its success included just-in-time teaching of evidence-based practice concepts so that clinicians could consolidate appraisal skills to apply in future papers, the use of structured critical appraisal tools, minute taking and robust discussion regarding local application with key actions being followed up. Resources including templates, user guides for implementing a TREAT journal club as well as critical appraisal training modules are available for free at the www.treat-journalclubs.com website.

The main barrier to implementation of the journal club was the limited time available to clinical staff during the pandemic. Academic staff took on the primary responsibilities of administering the journal club to ensure that it addressed clinicians' needs and catered to their changing clinical demands and schedule. Communication was enhanced by the fact that the academic staff were embedded within the hospital, working in the evidence-based practice unit, that was jointly funded by Gold Coast Health and Bond University. All sessions were conducted over videoconference via Microsoft Teams allowing team members across multiple locations to attend. Slides, recordings of the session and notes taken from the journal club were saved on the Teams channel for people to access later. While engagement on the group chat was common, speaking up was potentially intimidating for some clinicians, particularly for less senior clinicians. This improved over time as a learning atmosphere was fostered where clinicians

could learn from academics, and academics from the clinicians; thereby empowering clinicians to be more vocal in sharing their clinical expertise to assist with applying the evidence generated in the journal articles.

Our experiences of running a COVID-19 journal club encourages reflection on two questions: First, what strategies do you currently use to critically appraise the growing influx of research evidence to guide your own clinical practice? Second, could a journal club in your service be used more strategically to help inform clinical decision-making and policy change to ultimately improve patient outcomes? Central to the success of the COVID-19 journal club has been the close collaboration between university academics with skills in critical appraisal and front-line clinicians. Internationally, the relationship between these sectors has been critical in generating the evidence needed to mitigate the worst effects of the pandemic, including planning and conducting trials of vaccines, immune modulators and antiviral therapies. As our experience illustrates, this relationship is also crucial in executing the rapid appraisal and translation of this evidence into clinical and public health decisions.

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