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**Responding to emerging needs: Development of adapted performance indicators for
physiotherapy student assessment in telehealth**

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Abstract

Clinical placements in 2020 have been significantly impacted by the COVID-19 global pandemic. Ensuring that effective clinical placement opportunities continue during this time remains the priority of the Clinical Education Managers Australia and New Zealand (CEMANZ). Supporting educators to assess student competency when service delivery models are altered to embrace telehealth services, has been integral to achieving this.

Telehealth has been widely adopted to maintain services and contact with patients during the pandemic. Physiotherapy clinical educators voiced concern about the applicability of the Assessment of Physiotherapy Practice (APP) tool in this emerging learning environment and sought guidance from University Clinical Education Managers. This paper describes representative consensus across Universities regarding use of the Assessment of Physiotherapy Practice (APP) tool and the development of adapted APP performance indicators for use in telehealth. Clinical educators can use these adapted performance indicators to guide assessment of student competency for students completing placements in a telehealth setting.

I INTRODUCTION

The COVID-19 global pandemic has caused profound disruptions in society and in the delivery of healthcare during 2020. The provision of physical services within physiotherapy clinical practice has had to rapidly adapt, with many services moving away from face-to-face appointments to virtual or telehealth modalities (Haines & Berney, 2020; MacDonald et al., 2020). Clinical education for health professional students has been significantly impacted with the capacity of placement providers to host students decreased. In some instances, planned placements were cancelled due to staffing challenges, service reductions, and health service preparations for responding to new requirements for managing the impact of the pandemic. Despite this, there is a need for physiotherapy students to continue to engage in clinical learning that enables completion of their degrees and to be eligible to meet entry to practice requirements in Australia and New Zealand (Council, 2017). To enable graduation of student cohorts and to meet workforce demands in 2021, universities were required to consider innovative and alternate learning opportunities for student cohorts to continue their learning whilst still meeting accreditation standards during these difficult times.

Around Australia and internationally, physiotherapists have incorporated telehealth practice as a means to maintain services and contact with patients. Using online communication methods, telehealth supports remote access to care while maintaining social distancing. Telehealth has gradually developed over the last decade to improve access to health care for patients who are disadvantaged due to remoteness, demographics or disability. Research has found that patients, clinicians, teachers and students find the use of digital practice an acceptable part of contemporary health care delivery (Holland, 2017; Lee et al., 2018; O'Hara & Jackson, 2017; Simpson et al., 2014; Wentink et al., 2019).

Telehealth placement opportunities have emerged in recent years and in 2020 have become a critical strategy to maintain student clinical practice opportunities during the COVID-19 pandemic. Where traditional client services have successfully adapted to incorporate telehealth practice in response to the pandemic, provider capacity to continue to undertake student placements has been maintained. The rapid adoption of this alternative modality for supporting physiotherapy skill development has highlighted the need for guidance for both students and clinical educators (CEs) in the application of the Assessment of Physiotherapy Practice (APP). In response to uncertainty expressed by the clinical educator community regarding the appropriateness of the APP in determining student competence in telehealth experiences, the Clinical Education Managers Australia and New Zealand (CEMANZ) committee, identified the need to develop performance indicators to support clinical educators to assess student performance on placements with telehealth services. The CEMANZ committee is made up of 10 clinical education managers (CEMs) who are state or jurisdiction representatives for all CEMS (n=33) from Universities across Australia and New Zealand that have physiotherapy programs. They meet regularly to collaborate, discuss and advocate on pertinent matters related to physiotherapy clinical education and placements.

This article describes the development of performance indicators for the APP applicable to telehealth contexts, for use in assessing student performance. It highlights the process of consultation and collaboration that was necessary to achieve representative consensus. The contributing authors are all physiotherapists currently working in the higher education sector, with experience in physiotherapy student clinical education management and processes, comprehensive understanding of minimum standards of practice and significant experience in providing education and training in the use of the APP. The authors represent four different states/territories in Australia and are well respected within the clinical education jurisdictions they represent, as part of the CEMANZ committee.

II CURRENT ASSESSMENT OF PHYSIOTHERAPY PRACTICE

The Assessment of Physiotherapy Practice (APP) is a valid and reliable instrument used to assess student competencies on clinical practice placements (Dalton et al., 2012). The competencies assessed are aligned with the minimum standards of practice for entry to the physiotherapy profession in Australia and New Zealand. The instrument is widely accepted and used by most universities across Australia and New Zealand along with a growing number of international universities (O'Connor et al., 2018).

There are 7 'Domains' of physiotherapy practice detailed within the assessment instrument. These include: Professional Behaviour, Communication, Assessment, Analysis & Planning, Intervention, Evidence-based Practice and Risk Management. Within these domains, there are 20 'Items' upon which student performance is assessed using a set of 'Performance Indicators' and a 'Rating Scale' to guide the assessment score. The tool is traditionally used in face-to-face clinical placements, however, as the APP is applicable in a range of contexts where physiotherapy practice occurs, it is intended that skills in each of these domains can be developed and demonstrated in non-traditional settings including in a telehealth placement setting.

As physiotherapy services operate in a range of contexts, it is important that skill sets are assessed using performance indicators that are aligned to the placement experience. The original performance indicators were designed to be used as a set of suggested examples of indicators of clinical practice within each domain. Each set of indicators align with items of the APP and assist with educator decision making when assessing student performance. The performance indicators were not designed to be used as a checklist and students are not required to demonstrate all performance indicators listed. Indeed, there may be other performance indicators not listed that may also be relevant to the placement context and service delivery model. When using the APP instrument, CEs are enabled to identify additional, more relevant or alternative performance indicators to assist decision making on student performance demonstrated within their specific context and case mix. For the telehealth context it was evident from the CE concerns raised that more contextualised performance indicators would assist in identifying the skills within each domain. With a set of performance indicators that better align with the telehealth context it is anticipated that a shift in educator perceptions of how students are able to demonstrate their knowledge and skills may result.

III CONCERNS RAISED

As previously mentioned, many CEs experienced in applying the APP in traditional clinical placements with face-to-face client management were concerned about applicability of the APP in a telehealth context and questioned if student competency could be suitably assessed across all domains of practice. It was identified that whilst several useful resources existed to guide telehealth practice and student orientation to telehealth practice, there were no recommendations regarding assessment of physiotherapy students in telehealth context using the APP. Concerns focussed on the belief that students could not be fully assessed if they were not able, or did not have the opportunity, to demonstrate specific skills in face-to-face client interactions. For example, CEs reported they found it challenging to assess skills usually demonstrated by physical interaction with the client such as those relating to the 'Intervention' domain of the APP or items pertaining to physical assessment. Whilst there may be specific physiotherapy manual skills that are difficult to replicate in a telehealth context, students are able to develop and demonstrate knowledge and skills reflective of the principles of physiotherapy practice, including a range of assessment and intervention strategies for managing clients.

Telehealth placements can make a valuable contribution to developing the required entry to practice physiotherapy skills as well as preparing for the future workforce (Topol, 2020). Whilst many items appear to be easily transferrable to a telehealth setting, some items require the development of appropriate performance indicators that align with the context to make this more explicit and that assist educators to move away from expectations that students must always demonstrate hands-on physical techniques.

IV ADAPTING THE APP PERFORMANCE INDICATORS

To provide guidance to clinical educators, additional APP performance indicators were developed based on general principles for rapid advice guidelines in response to public health emergencies in the World Health Organisation handbook for guideline development (World Health Organization, 2014). With reference to these principles the CEMANZ group began consulting and collaborating to develop guidance for CEs re assessment in telehealth contexts.

The first step was to email CEMs across all Australian and New Zealand universities with physiotherapy programs. CEMs were invited to consult regarding assessment of students in telehealth placements. CEMs were invited to share resources pertaining to clinical practice placements in telehealth. Members of the CEMANZ committee (IN, AC-F, RD, CP) who initially identified the need for this in their educator community, invited two additional CEMs (RC, LJ) with experience in supporting telehealth placements to create a working subgroup to collaborate on indicator development. The subgroup reviewed all resources shared by CEMs in the first step to determine what resources were already available. Members of the subgroup then met via Zoom to discuss adaptation of individual performance indicators to suit telehealth settings and subsequently drafted an initial version. The initial suggested performance indicators were then circulated more broadly, to all university CEMs via CEMANZ. Feedback was incorporated and the final draft of the suggested performance indicators was approved by CEMANZ members as representative consensus of an appropriate resource for use in telehealth contexts (see Table 1).

Table 1
Adapted APP performance indicators for use in Telehealth settings

The suggested performance indicators can be used by clinical educators in conjunction with the original APP performance indicators when assessing students on telehealth placements. These suggested indicators may help guide how each item and aspect of physiotherapy practice may be demonstrated in a telehealth setting.

APP Domain	Examples relating to Telehealth
Professional Practice	
1. Demonstrates an understanding of patient/ participants rights and consent	<ul style="list-style-type: none"> • Respects the rights of participants to decline telehealth services. • Maintains a private and confidential telehealth service, e.g. use of private room, headphones and identifies all participants in the telehealth meeting. • Sets up telehealth services using approved programs and protocols, e.g. secure meeting invitations, use of passwords. • Highlights privacy and consent considerations including storage of any recorded footage/images.
2. Demonstrates commitment to learning	<ul style="list-style-type: none"> • Engages in work ‘chat rooms’ appropriately, e.g. to informally check in with supervisor and other team members or for quick questions that do not require confidentiality. • Meeting invitations are sent in a timely manner to supervisors for meeting requests. • Uses email or more direct methods of communication (i.e. synchronous methods) to obtain more formal support from supervisors (rather than chat rooms). • Provides supervisor with digital access to resources/session plans/ documents in a timely manner to allow adequate time to review and provide feedback. • Identifies own level of skill and comfort using telehealth as a medium for service delivery. Seeks and completes additional learning opportunities to increase skills and confidence in this area of practice as required. • Allocates time to familiarise self with telehealth technology, e.g. computers, camera, audio, settings, video, screen sharing, document sharing and seeks support when required.

APP Domain	Examples relating to Telehealth
	<ul style="list-style-type: none"> • Completes 'practice' telehealth sessions with student peer/supervisor if required and available.
3. Demonstrates ethical, legal and culturally sensitive practice	<ul style="list-style-type: none"> • Understands the context and impact of telehealth on service users and stakeholders. • Informs and educates participants on risks and limitations of telehealth services. • Shows clear understanding of how telehealth impacts service provision and outcome, orientation to ethos, values of service and delivery to improve specific measures of evaluation. • Ensures the participant has received all information and resources in a timely manner, e.g. sends information ahead of time, provides adequate time for participant to obtain resources required, sends appointment invitations in a timely manner, sends copy of assessments/intervention plans.
4. Demonstrates teamwork	<ul style="list-style-type: none"> • Effectively uses email, digital calendars, invitations, and schedules to negotiate and engage with colleagues/MDT. • Collaborates with co-workers on how to use the telehealth platforms and which platforms the team needs to use to deliver the service. • Actively contributes to online team meetings and follows through with roles and responsibilities assigned to them during the meeting. • Invites relevant members of the health care team to meetings and telehealth sessions as appropriate. • Ensures other people involved in the session are adequately prepared, aware of their roles, and sends information as required (i.e. to carers, other MDT members, support staff). • Uses respectful language and clearly articulates messages via digital means, e.g. avoids 'text talk'; emojis', etc.
Communication	
5. Communicates effectively and appropriately verbal and non-verbal	<ul style="list-style-type: none"> • Clearly explains telehealth services, risks and scope of service. • Monitors tone and speed of voice relevant to the participant within a telehealth session. • Demonstrates flexibility to adapt communication style (verbal and nonverbal) to suit telehealth modality and to build rapport, e.g. alters/monitors tone of voice, level of formality, pace, volume. • Positions self, camera, and environment to ensure adequate visual contact and presence is achieved and maintained. For example, limits distractions, has an appropriate and professional background, ensures adequate lighting, and maintains privacy. • Explains to the participant that they (the therapist) may be required to look at alternate screens whilst completing the telehealth consultation. • Considers cultural needs of the participant when communicating through telehealth modalities (by both synchronous and asynchronous methods). • Explores creative or alternative communication methods.
6. Demonstrates clear and accurate documentation	<ul style="list-style-type: none"> • Uses relevant written materials/screen sharing to support communication with co-workers, e.g. treatment plans, assessment outcomes, clinical reasoning, short and long-term goals, and project plans. • Completes required documentation in telehealth.
Assessment	
7. Conducts an appropriate participant interview	<ul style="list-style-type: none"> • Chooses an appropriate telehealth modality for the participant interview. • Performs a pre-consultation phone call prior to a telehealth participant interview when appropriate to instruct the participant on how the consultation will take place, assist with technology, direction, and set-

APP Domain	Examples relating to Telehealth
	<p>up.</p> <ul style="list-style-type: none"> • Articulates how telehealth format may change/impact the quality of the information gathered. • Is aware of factors that may influence the clinical interaction/engagement with participant, e.g. participant's vision, hearing, cognition, attention, anxiety, mood, digital literacy.
8. Selects and measures relevant health indicators and outcomes	<ul style="list-style-type: none"> • Selects appropriate formal or informal evaluation methods relevant to a telehealth context. • Selects the appropriate assessment tools to use with participants during a telehealth consultation and adapts the assessments appropriately to fit a telehealth format where necessary. • Seeks feedback from participants about their experience and selects relevant tools/methods to evaluate the participant's telehealth experience.
9. Performs appropriate physical assessment procedures	<ul style="list-style-type: none"> • Performs objective measures using appropriate instruction. • Identifies suitable resources required for the telehealth assessment session, e.g. by identifying resources participants have at home that can be used during the assessment/treatment. • Makes appropriate adjustments to the assessment procedures to ensure the safety of the participant during assessment and treatment. • Demonstrates an understanding of the tests as they communicate the components to the client.
Analysis and Planning	
10. Appropriately interprets assessment findings	<ul style="list-style-type: none"> • Interprets and verifies assessment findings appropriately within a telehealth context and identifies barriers that may limit the ability to accurately assess some elements. • Recognises the impact that a telehealth format has on quality and range of information gathered.
11. Identifies and prioritizes patient goals and problems	<ul style="list-style-type: none"> • Uses telehealth consultations with the participant to identify and prioritise participant goals. • Uses technology to track outcomes and progress, e.g. apps, photos, online surveys. • Prioritises interventions based on telehealth opportunities and capacity.
12. Sets realistic short- and long-term goals	<ul style="list-style-type: none"> • Sets appropriate short- and long-term goals in accordance with current practice and includes parameters that may be related to telehealth requirements as appropriate, e.g. self- management goals may be prioritised as clients may have to manage their home program or session more independently.
13. Selects appropriate intervention in collaboration with patient	<ul style="list-style-type: none"> • Utilises information from the assessment of the participant to select an appropriate intervention that can be performed via telehealth in a safe and effective manner. • Identifies suitable resources available to the participant during their telehealth session, e.g. determines equipment participants have access to at home to assist with their treatment.
Intervention	
14. Performs intervention appropriately	<ul style="list-style-type: none"> • Performs interventions that comply with e-safety, including confidentiality, risk management, home safety, falls prevention, privacy of session. • Adjusts the intervention during the session as appropriate based on participant response, session timeframes and flow of telehealth intervention. • Develops a treatment plan that includes contingency planning in the event of technology failure (e.g. internet drops out, audio difficulties) and utilises this when required.

APP Domain	Examples relating to Telehealth
	<ul style="list-style-type: none"> Teaches a patient how to do a self-technique e.g. self-massage, self-taping etc.
15. Is an effective educator	<ul style="list-style-type: none"> Demonstrates client education skills and utilises self-management or guided management strategies. Adjusts demonstration skills as required. Provides the participant with information on 'how to use telehealth' and details of alternate ways to contact the therapist if technology issues arise.
16. Monitors the effect of the intervention	<ul style="list-style-type: none"> Reviews current service provision and suggests modification based on best practice and professional reasoning, including cessation of telehealth as appropriate. Identifies appropriate methods to monitor the effect of the intervention via telehealth and considers aspects of reliability and validity of outcome measures when identifying these. Utilises innovative strategies to monitor/evaluate intervention. Monitors and is aware of limits caused by telehealth on the ability to observe the wider environment, the 'full' participant and their context, e.g. patient may only be visible from shoulders up, student unable to see lower limbs/foot tapping/out of camera distractions.
17. Progresses intervention appropriately	<ul style="list-style-type: none"> Reflects on participant performance and progresses/modifies interventions appropriately to suit the telehealth mode of service delivery. Reflects on service outcomes and performance, e.g. telehealth usability, ways to improve participant connectedness, progression.
18. Undertakes discharge planning	<ul style="list-style-type: none"> Undertakes discharge planning with supervisors and other health workers using telehealth and other e-health technologies and identifies appropriate methods of participant follow-up. Uses appropriate telehealth technologies to support both written and oral handovers of service provision, e.g. screen sharing as appropriate, use of reports, intervention plans and project summaries.
Evidenced based practice	
19. Applies evidenced based practice	<ul style="list-style-type: none"> Undertakes research to determine current evidence regarding the use of telehealth in assessing and treating participants with specific needs and utilises this information when making informed decisions about their participant's service provision and use of telehealth.
Risk Management	
20. Identifies adverse events/near misses and minimises risks associated with assessment and interventions	<ul style="list-style-type: none"> Monitors participants' performance during telehealth session for signs of anxiety, dysregulation, disengagement, fatigue, confusion, attention difficulties, difficulty hearing/seeing instructions. Minimises risk of adverse events to client and self in performance of intervention, e.g. anticipation and prevention of problems while watching a patient do an exercise. Identifies suitability of participant for telehealth service. Informs and educates participants on how to safely set up a telehealth session including room set up, lighting, position of device/camera, speakers/audio. Completes a risk screen prior to instructing participants to complete a task or activity, e.g. identifies potential risks in pre-session interview, engages other carers/family members in session to assist with managing risks and safety. Provides clear and safe instruction to the participant when asking them to 'show' a skill or the home environment, e.g. not to walk with device or walk whilst being distracted using the device.

V DISCUSSION

In response to CEs questioning students' capacity to demonstrate certain skills, such as manual skill in a telehealth context and therefore the applicability of the APP to evidence these skills, the APP performance indicators have been adapted for the telehealth context. It can be noted however, that assessment of practice is broader than demonstrating manual assessment and intervention skills. The APP allows for competencies to be demonstrated in various ways and the adapted performance indicators are intended to guide CEs in the assessment of students in telehealth contexts. Though specific university learning objectives may vary, it is accepted that learning objectives associated with clinical placements assessed using the APP align with minimum set of standards as reflected in the Physiotherapy threshold statements of Australia and New Zealand (2015).

It is important to consider that there is a clinical practice learning journey undertaken by every student prior to graduation. It is not likely that students will undertake all clinical placements in a telehealth service model and therefore over the course of the placements, students will have the opportunity to meet the desired learning objectives and develop all of the necessary required skills for registration. Providing a diverse range of placement experiences is a requirement of physiotherapy programs to satisfy accreditation standards (APC, 2016) as this enables students to develop a variety of skills that are essential for practice in contemporary service settings. Telehealth experiences provide a contemporary and emerging mode of physiotherapy service delivery and as such can assist in preparing students for the provision of health care to their communities, for example in rural and remote locations.

Telehealth placements may be limited in providing opportunity for 'hands on' skills compared to face-to-face placements, however telehealth can provide additional benefits through the opportunity to develop and extend students' capabilities in communication, observational and clinical reasoning skills, perhaps more so than in a face-to-face placement context. Overt communication of clinical reasoning is often emphasised as a necessary component of telehealth interactions. More emphasis is placed on skills demonstrated by the student within the aspects of practice where they are required to 'unpack' techniques and ascertain information through a more directed and intentional process of enquiry. This can provide overt evidence of understanding and interpretation as the student explains, directs and clarifies client responses and applies their own clinical reasoning. These skills may not always be evident in a more traditional interaction with the client. During a telehealth experience, physical assessment skill development relies more on strong observation skills, specific verbal guidance and instruction, utilising possible assistance from family or carers and visual representation of desired assessment technique. The need for overt demonstration of these skills is no doubt beneficial to student skill development, as successful outcomes for the client rely even more on clear communication and guidance, using technology to provide effective management.

Students can also be evaluated on the organisation and structure of their assessment and communication of objective tests as a means of demonstrating skills. For example, when conducting a client assessment, students can demonstrate alternative ways to gather the desired information through effective communication of relevant techniques.

Similarly, in a telehealth context, assessment of students' manual intervention skills may be challenging, and opportunities limited during client interactions. When physical handling is not possible, assessment of these items can be considered more broadly. CEs may need to consider alternative ways of enabling students to demonstrate these skills with a focus on students' capacity to provide an intervention by adapting, selecting and communicating appropriate management that fits the telehealth context and remains focused on achieving the client goals. In addition, if required, CEs can determine student handling skills by replicating the performance of these by other means (e.g. with student peers or staff as models).

Telehealth placements can provide an excellent opportunity to enhance clinical reasoning skills and enable students to demonstrate their 'Analysis and Planning'. Students need to use a strong clinical reasoning framework to convey their decision making and clinical judgment as they

interact with their clients during the telehealth interaction. This enables a more explicit demonstration of clinical reasoning by the student.

In the 'Risk Management' domain of student assessment on the APP, telehealth requires the student to be very aware of an environment they have less control over. This may provide the opportunity to enhance the students' awareness of potential risks in the clients' home such as anticipation of hazards, environmental set-up, availability of suitable equipment and attire to undertake interventions.

VI CONCLUSION

The APP is applicable to assess students' skills in a telehealth placement and the inclusion of additional performance indicators will guide CEs and improve confidence in seeing the value of telehealth experiences in the development of students' skills.

While it is anticipated that all items on the APP can be used to assess students' skills on a telehealth placement, there remains the option to identify where an item has not been able to be assessed. Universities monitor student learning opportunities and provide students with a clinical learning program comprising of multiple placements. Students are given the opportunity to develop their skills across these placements. Where it is considered a student has not been provided with sufficient opportunity to meet the learning objectives and demonstrate the required skill sets, supplemental processes may also be used to augment the experiences gained by students undertaking telehealth placements.

Using telehealth as a way to provide clinical services is a valuable addition to the toolbox of a physiotherapist. Exposing students to telehealth while on placement is preparing them for future practice and providing them with valuable skills. When a pandemic necessitated the sudden change to telehealth, clinical educators were concerned about their ability to adapt the commonly used assessment tool to the changed circumstances. This paper describes the rapid response to concerns raised regarding the applicability of the APP in telehealth contexts when determining student competency. It outlines the process undertaken to provide guidance to CEs through the development of a resource guide supporting the application of the APP, thus enabling placements to continue.

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