

**SUPPLEMENTARY TABLE S1: OUTLINE COMPETENCIES AND CAPABILITIES FOR STAFF PROVIDING REMOTE GENERAL PRACTICE SERVICES**

*Synthesised from primary data (interviews, ethnography) and various secondary sources (listed in Table 1)*

Staff group	Domains and example content
Clinical students and novice trainees	<p>Basic descriptive knowledge (<i>for example...</i>)</p> <ul style="list-style-type: none"> <li>- Describe the different kinds of remote consultation (e.g. telephone, video, electronic)</li> <li>- Describe the elements of a clinically adequate, appropriate and safe remote encounter</li> </ul> <p>Technical knowledge and skills (<i>for example...</i>)</p> <ul style="list-style-type: none"> <li>- Make contact with a patient using remote technology including video, telephone and asynchronous electronic [e-]communication, including test calls where appropriate</li> <li>- Describe technical and logistical issues arising within these different modalities</li> <li>- Outline potential harmful impacts of a 'failed' digital encounter (e.g. due to loss of signal)</li> </ul> <p>Triage skills (<i>for example...</i>)</p> <ul style="list-style-type: none"> <li>- Explain why triage to allocate patients to different kinds of encounter may be needed</li> <li>- Identify patients suitable (and unsuitable) for different kinds of remote encounter (telephone, video and e-consultation, SMS messaging, email, answerphone messages)</li> </ul> <p>Knowledge of ethics and governance (<i>for example...</i>)</p> <ul style="list-style-type: none"> <li>- Describe the consent process for a video or telephone consultation</li> <li>- Discuss ethical issues (e.g. confidentiality, data handling and storage, safeguarding, digital exclusion) relevant to different kinds of remote encounter</li> </ul> <p>Communication and clinical skills (<i>for example...</i>)</p> <ul style="list-style-type: none"> <li>- Explain why it is important to establish rapport in a remote encounter</li> <li>- Demonstrate attunement to the patient and their environment in a remote encounter, noticing and responding to cues within the limits of the modality</li> <li>- Demonstrate establishment of rapport in a remote encounter</li> <li>- Adapt method and style of communication appropriately to the remote modality</li> <li>- Take a detailed and careful history, given that clinical examination and non-verbal cues will be limited</li> <li>- Elicit symptoms and signs, including explaining concepts and giving instructions so as to gather information without being able to directly examine or fully observe the patient</li> <li>- Assess and interpret visual physical signs by video, or as described on the telephone, with appropriate caution</li> <li>- Explain the importance and principles of safety-netting in remote encounters</li> <li>- When undertaking remote or digital encounters, identify situations where there is a risk to patient safety and describe appropriate mitigative action (e.g. ask about relevant red flag symptoms, invite for face-to-face assessment, escalate to senior colleague)</li> <li>- Communicate appropriate safety-netting procedures in clinical cases in different remote modalities</li> </ul>
Established clinicians	<p>In addition to demonstrating a high level of competence in all the above:</p> <p>Advanced technical knowledge and skills (<i>for example...</i>)</p> <ul style="list-style-type: none"> <li>- Remain up to date on new and emerging technologies to support remote encounters</li> <li>- Adopt, select and use a range of technologies to support remote encounters, including traditional (e.g. telephone) and digital modalities</li> <li>- Demonstrate a sophisticated understanding of how particular remote and digital technologies fit with workflows and routines across their own organisation</li> <li>- Use remote and digital technologies to help achieve team-based multi-professional care in a multi-modal care environment (e.g. through continuity of record-keeping for episodes of illness)</li> <li>- Be aware of how informational and managerial continuity are achieved between organisations eg: pathways for electronic referrals, results and discharge or outpatient letters between primary and secondary care, and how breaches in continuity may occur</li> </ul>

- Know how to obtain technical help when troubleshooting fails

Advanced triage capability (*for example...*)

- Work within the limits of remote technologies and care models, supporting patient choice as far as possible and knowing when to advise a patient that they need in-person assessment
- Quickly and accurately identify patients who are sick and require physical assessment or more urgent care
- In situations where in-person appointments are limited, prioritise patients for those slots
- Make creative use of digital technologies to support the triage process and associated workflows

Advanced communication and clinical capability (*for example...*)

- Build and maintain therapeutic relationships through remote modalities, conveying attentiveness and compassion to the patient
- Practice appropriate telehealth etiquette, adapting to different patients' communication preferences and styles
- Cope with minor technical glitches such as lag or crackle using linguistic techniques such as repetition and repair
- Negotiate with patients who request a particular modality that does not align with clinical need or capacity constraints
- Use advanced history-taking, questioning and probing skills, and elicit and interpret patient self-assessment data appropriately, to compensate for lack of in-person clinical assessment
- Ensure that the clinician's full duty of care is realised in terms of responsibility for assessment, investigation and treatment, onward referral, outcomes and documentation
- Show awareness of, and sensitivity to, specific groups that may be more vulnerable to miscommunications or misinterpretations in remote encounters eg: older people, those with hearing impairments, those with learning disabilities, some neurodivergent people, some with emotionally unstable personality disorder, limited English speakers
- Take action to mitigate inequities that arise from people's differential ability or willingness to use remote and digital modalities
- When undertaking remote or digital encounters, consistently identify subtle clues that may indicate a risk to patient safety and take appropriate mitigative action

Advanced knowledge in ethical, legal and regulatory domains (*for example...*)

- Ensure patient privacy and consent during remote assessments and data gathering, including where safeguarding issues are pertinent (*such as* possibly-coercive relationships, children and teenagers, cognitive impairment, limited English proficiency)
- Demonstrate a good working knowledge of when and how to pursue safeguarding concerns through local processes and safeguarding leads
- Demonstrate understanding of relevant security and information governance rules and regulations
- Demonstrate understanding of the legal limits of care provided across jurisdictions (e.g. national borders), and the implications for indemnity

Digital implementation skills (*for example...*)

- Contribute to selection and procurement decisions for technologies to support remote and digital care
- Contribute to the on-going development and embedding of digital technologies in local settings, co-adapting technologies and workflows and identifying potential design improvements
- Develop and adapt remote and digital workflows and practices to optimise safety

Supervisory, teaching and coordinating roles (*for example...*)

- Ensure appropriate supervision and support is in place where needed when trainees and allied health staff are involved
- Motivate patients to try remote technologies; explain the 'rules of engagement' for remote encounters to them; and assist them to use and troubleshoot technologies in this context

	<ul style="list-style-type: none"> <li>- Support and motivate fellow staff members to learn to use remote technologies</li> <li>- Manage scenarios where team members may be in different locations (e.g. learner is with patient vs. learner is with supervisor vs none are co-located)</li> </ul>
Strategic role (e.g. senior manager, clinical director)	<p>System-level perspective on remote and digital service provision (<i>for example...</i>)</p> <ul style="list-style-type: none"> <li>- Ensure that the organisation adopts a variety of information and communication technologies to deliver high-quality, safe, patient-centred care to diverse populations in a variety of settings</li> <li>- Work within the health care team and setting to ensure that remote encounters function well within a system or programme of care that has continuity and follow-up as needed</li> <li>- Monitor, evaluate and continuously improve the organisation’s digital maturity and success in delivering remote and digital services</li> <li>- Proactively address digital disparities and the needs of excluded and underserved groups by providing multiple access options and care navigation as appropriate</li> <li>- Assess and address the multiple training needs of individual staff members and teams, including but not limited to the introduction of new digital technologies</li> <li>- Put systems in place to proactively identify and address safety issues arising from the remote delivery of care, working with technology suppliers, patients, regulators and others</li> </ul>
Support staff	<p>Basic system knowledge (<i>for example...</i>)</p> <ul style="list-style-type: none"> <li>- Describe the different modalities of patient encounter (triage or consultation) available in the practice</li> <li>- Outline the key remote and digital workflows for which their role is relevant</li> </ul> <p>Technical knowledge and skills (<i>for example...</i>)</p> <ul style="list-style-type: none"> <li>- Be familiar with the remote and digital technologies associated with their role, including supporting patients to use these technologies</li> <li>- [Where appropriate, show and support other staff members to use these technologies]</li> </ul> <p>Triage skills (<i>for example...</i>)</p> <ul style="list-style-type: none"> <li>- Explain why triage to allocate patients to different kinds of encounter may be needed</li> <li>- Gather information appropriately from patients and identify those suitable (and unsuitable) for different kinds of remote encounter (telephone, video and e-consultation, SMS messaging, email, answerphone messages)</li> <li>- Be familiar with measures used in the practice to aid remote triage eg: asking patients to send a photo of a skin complaint</li> <li>- Outline the principles of safety netting</li> </ul> <p>Communication skills (<i>for example...</i>)</p> <ul style="list-style-type: none"> <li>- Use professional and ‘customer care’ approaches to communicate with patients remotely, conveying attentiveness and compassion</li> <li>- Be aware of the kinds of patients who may require support or flexibility with communication</li> <li>- Recognise the need to mitigate digital disparities</li> <li>- Deal effectively and sensitively with patients who are upset or insistent in a triage encounter</li> </ul> <p>Safety-critical clinical knowledge (<i>for example...</i>)</p> <ul style="list-style-type: none"> <li>- Be aware of ‘red flag’ priority symptoms (e.g. bleeding, difficulty breathing) and the process for escalating these</li> <li>- Be aware of practice protocols for particular scenarios (e.g. young children, abdominal pain) and apply these during triage encounters</li> </ul> <p>Note: a future paper will cover training needs of support staff in more detail</p>