

Supplementary Material

Ethical assessment of virtual consultation services: scoping review and development of a practical ethical checklist

Madeleine Reid^A and *Tania Moerenhout*^{B,*}

^AOtago Medical School, University of Otago, Dunedin, Otago, New Zealand. Email: reima352@student.otago.ac.nz

^BBioethics Centre, University of Otago, 71 Frederick Street, Dunedin 9016, New Zealand

*Correspondence to: Email: tania.moerenhout@otago.ac.nz

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	
Limitations	20	Discuss the limitations of the scoping review process.	
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med.* 2018;169:467–473. doi: 10.7326/M18-0850.



Literature Review (45)

1. Aneja J, Arora S. Telemedicine and ethics: opportunities in India. Indian journal of medical ethics. 2021;VI(4):314-20.

Country: India

Summary

The Government of India published the Telemedicine Practice Guidelines in 2020 to lay down a framework for telemedicine practice. This article briefly describes these Guidelines and highlights the ethical concerns surrounding the teleconsultation process in India while also suggesting possible solutions.

Key Points

- **Informed consent**
 - Recommended to seek and record consent prior to consultation
 - Patient-initiated consult implies consent
 - Third-party telemedicine platforms may get patients to mark a checkbox of Ts & Cs
- **ICT and informed consent – privacy, security, and accuracy**
 - Patient data must be protected from data mining (collecting and distributing health data)
- **Autonomy**
 - Strengthens autonomy by increasing health literacy and engaging in own care
- **Standards of care**
 - Must be on par with face-to-face
 - Some specialties may not be able to maintain standards of care (i.e., physical exam)
 - When an exam is required, the doctor must **request in-person** care
- **Doctor-patient relationship**
 - Telemedicine may depersonalise; Concerns re lack of body language, non-verbal cues
- **Confidentiality, privacy, and ownership of data**
 - **Security breaches** are a threat
 - Particularly regarding the maintenance of health records by private companies
 - **Patient ability to access data?**
 - **Data encryption** (end-to-end is best)

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2. Baumes A, Čolić M, Araiba S. Comparison of Telehealth-Related Ethics and Guidelines and a Checklist for Ethical Decision Making in the Midst of the COVID-19 Pandemic. Behav Anal Pract. 2020;13(4):736-47.

Country: USA

Summary

Cross-examination of the telehealth-specific ethical codes and guidelines of the APA, AAP, and NASW for applied behaviour analysis (ABA) services, including the development of a brief checklist for ABA practitioners to evaluate their telehealth readiness.

Key points

- **Therapist suitability**
 - Training in technology competence and telehealth should happen
 - Environment matters – safety, distractions, privacy, etc.
- **Client suitability**
 - Cultural factors and technological literacy may influence the effectiveness of the consultation
 - Environment matters – safety, distractions, privacy, etc.
- **Standards of care**
 - Keep consistent with best practice
 - **Continuity of care** – monitor progress and well-being of the patient
- **Informed consent**
 - Inform of benefits and risks (e.g., privacy, confidentiality) of delivery via telehealth
 - Inform of sharing information with other parties and how data is managed
- **Data confidentiality**
 - Risks to confidentiality include the use of search engines, involvement with social networking sites, unauthorised third parties gaining access to communications, and boundary issues between doctor and patient – these may also occur outside of telehealth sessions
 - The practitioner must inform the patient of risks and make the best effort to minimise them and end the session/change location if a privacy breach occurs
- **Security, Transmission, and Disposal of Confidential Information**
 - Practitioners must comply with accepted guidelines for the management of telehealth data and ensure its security (e.g., encryption, firewalls, etc.)
 - Patients must be notified of any data breaches

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3. **Ben-Arye E, Paller CJ, Lopez AM, White S, Pendleton E, Kienle GS, et al. The Society for Integrative Oncology Practice Recommendations for online consultation and treatment during the COVID-19 pandemic. Supportive Care in Cancer. 2021;29(10):6155-65.**

Country: USA/Israel/international review

Summary

The Society for Integrative Oncology (SIO) reviews ten challenges in their SIO Online Practice Recommendations, aimed at ensuring continuity of care beyond the COVID-19 pandemic. They aim to

provide guidance to practitioners in providing effective and safe online consultations and treatments for people with limited accessibility.

Key points

- Key issues identified:
 - **Privacy**
 - **Consent**
 - **Data security**
 - **Selection bias from doctors for appropriate and inappropriate patients**
 - **Monitor risks of online treatment**
 - **Tech barriers for patients**
 - **Continuity of care**
- Recommendations
 - Keep ethics and medical file sharing/protection consistent between virtual and face-to-face
 - Ensure patient privacy (no others listening), headphones
 - Protect the transfer of information
 - Warnings, disclaimers on online treatment; intervention to be performed during consult only
 - Written info regarding access
 - Schedule the next session if appropriate

4. Botrugno C. Towards an ethics for telehealth. *Nursing ethics*. 2019;26(2):357-67.

Country: Italy

Summary

To provide a critical assessment of the spread of remote services as a vector of positive transformation of contemporary health systems. The EU agenda for the promotion of telehealth is retraced and the main evidences to sustain the implementation of remote care services are assessed. The attempt by the EC to establish an ethical framework for guiding the use of telehealth in daily practice is also evaluated.

Key points

- **Competence** – adequate training for professionals involved in telehealth
- **Data protection** from unauthorised access and misuse
- Management of patients' own diseases requires a **proactive attitude**
- **Cultural factors** may influence care delivery and rapport

5. Brody AA, Sadarangani T, Jones TM, Convery K, Groom L, Bristol AA, et al. Family- and Person-Centered Interdisciplinary Telehealth: Policy and Practice Implications Following Onset of the COVID-19 Pandemic. *J Gerontol Nurs*. 2020;46(9):9-13.

Country: USA

Summary

The article discusses the opening created by the pandemic with regard to telehealth and provides recommendations for how to make permanent changes in telehealth policy and practice to allow for interdisciplinary, person- and family-centered care while also addressing issues of equity, ethics, and privacy issues related to telehealth and remote monitoring.

Key points

- **Health equity** – disadvantaged populations (e.g., low-income, rural, older) less likely to use telehealth
 - New technologies must prioritise improving health access
- **Integration of caregivers**
 - Maintain autonomy of older patient while taking into account caregiver insight

6. **Budhwani S, Fujioka J, Thomas-Jacques T, De Vera K, Challa P, De Silva R, et al. Challenges and strategies for promoting health equity in virtual care: findings and policy directions from a scoping review of reviews. J Am Med Inform Assoc. 2022;29(5):990-9.**

Country: Canada

Summary

A scoping review of reviews on the challenges associated with accessibility of virtual care among underserved populations.

Key points

- **Social challenges** – **digital divide**, differentials in device/internet access, **digital literacy, acceptability, lack of cultural safety**
- **Technology challenges** – adaptability/compatibility, lack of patient input, not user-friendly
 - Can combat this with **co-design and culturally sensitive design**
- **Health system challenges** – lack of practitioner training, challenges incorporating new technology, lack of infrastructure (particularly in rural areas), cost of establishment/maintenance
- Policy recommendations include **training in telehealth delivery (practitioners)** and **digital literacy (patients)**, ensuring **inclusive/culturally safe design**, ensuring **accessible services**, and providing adequate infrastructure and funding
- The article also provides a supplementary table outlining challenges and strategies for providing virtual care in **underserved groups** (e.g. rural, indigenous, minority, older age)

7. **Cahan EM, Mittal V, Shah NR, Thadaney-Israni S. Achieving a Quintuple Aim for Telehealth in Pediatrics. Pediatric Clinics of North America. 2020;67(4):683-705.**

Country: USA

Summary

Review of the positive and negative implications of telehealth, also discussing ten considerations to promote optimal care of children using these technologies.

Key points

- **Quality of care:** telehealth can enhance monitoring, intervention and self-care, but non-representative data can lead to biased telehealth suitability algorithms that exclude patients. The quality of the doctor-patient relationship may be eroded in telehealth.
- **Access to care:** digital divide can reduce access to telehealth (low income, poor education)
- **Health information:** data privacy and security implications. Device/operating system health information privacy policies may impact this. Encryption of data is an important consideration.
- **Big data:** collection of data must be impactful/meaningful
- **Population considerations:** acceptability of/resistance to technology, codesign and inclusive design, increased infrastructure costs in rural areas (will this worsen digital divide?)
- **Interoperability** – must be able to transfer data between providers
- **Security, privacy, confidentiality, anonymity of data:** third-party info sharing, data breaches

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8. Cordeiro JV. Digital Technologies and Data Science as Health Enablers: An Outline of Appealing Promises and Compelling Ethical, Legal, and Social Challenges. *Frontiers in Medicine*. 2021;8:647897.

Country: Portugal

Summary

This article maps relevant ELSI (ethical, legal, and social implications) of the digital health field. It considers the underlying tension between the promises of digital health and its many challenges.

Key points

- **Trust, quality, and the doctor-patient relationship**
 - Reduce human contact → impact relationship (non-verbal cues etc.)
 - Valuing of patient context and preferences
 - Trustworthiness of technologies – quality control, professional requirements
 - Dehumanisation of healthcare
- **Transparency, bias, and exclusion**
 - Those who are likely to benefit most from telehealth are also those less likely to be able to access or afford it
- **Autonomy, consent, and patient participation**
 - Poor health literacy and digital divide hinder patient participation in telehealth (access implications) – reject “one-size-fits-all” – tailor telehealth to individual needs
 - Risk communication and cultural respect in digital interactions
 - Data collected must have meaning

- Confirm the accuracy of health data
- Challenges to informed consent – identity confirmation, remote evaluation of voluntariness and competence
- **Privacy, confidentiality and security**
 - Privacy protection, data access (including by third parties/commercial companies), quality of recorded data, security of data
 - Interoperability – harmonise data flow across providers/jurisdictions

9. Dahlgren C, Dackehag M, Wändell P, Rehnberg C. Determinants for use of direct-to-consumer telemedicine consultations in primary healthcare-a registry based total population study from Stockholm, Sweden. BMC Fam Pract. 2021;22(1):133.

Country: Sweden

Summary

This paper explored the determinants for use of DTC telemedicine consultations in Stockholm, Sweden, where telemedicine is included in the publicly funded healthcare system. It applies logistic regressions to a database of the entire population of Stockholm, comparing DTC with face-to-face consultations, finding that higher probability of DTC utilisation is associated with younger age, higher educational attainment, higher income and being born in Sweden. In contrast, the main determinants for use of face-to-face visits were higher age, lower educational background and being born outside of Sweden, raising questions about equity implications.

Key points

- **Patient factors that increased likelihood of DTC consultation:** Female; Younger; Born in Sweden; Higher educational attainment; Higher income; History of depression or COPD/asthma; Greater distance to chosen provider; Low accessibility of chosen provider
- **Patient factors that increased likelihood of in-person consultation and decreased likelihood of DTC consultation:** History of heart failure and diabetes; Born outside of EU; Lower educational attainment ; Lower income ; Age 65+
- Results suggest telemedicine use is based on socio-economic factors as opposed to health need
- **Equity implications** based on utilisation patterns
 - Possible that DTC is lower cost – if DTC was a substitute face-to-face, possible to transfer lower-need patients to telemedicine to free up resources for high health need
 - If DTC was not to be substitute for face-to-face, telemedicine may trigger additional visits + costs + workload
 - Distributional effects – lower-need patients receiving telehealth may receive lower standard of care than higher-need patients receiving face-to-face
 - Low telemedicine usage in elderly – older age strongest determinant for not accessing
 - Improve elderly access by providing technical support
- **Continuity of care** – particularly in multi-morbidity (esp. in elderly)
 - DTC is less connected to local HCP so may be less useful for multimorbidity

- Enrolment question – “Digi-physical online consultations with a regular healthcare provider, as a complement to face-to-face consultations, could provide benefits for elderly patients as well”
- DTC more so **reaches young and relatively healthy** – may be at expense of older people with higher disease burden

10. Dash S, Aarthy R, Mohan V. Telemedicine during COVID-19 in India-a new policy and its challenges. Journal of public health policy. 2021;42(3):501-9.

Country: India

Summary

Critical examination of India’s first guidelines for the use of telemedicine, suggesting improvements in the areas of privacy, data storage, internet access, telecom infrastructure, and medical education on telemedicine.

Key points

- **Internet** penetration
- **Infrastructure** – internet speed
- Telemedicine competencies in **medical training**
 - Effective remote examination, group interactions, emergency situations, effective communication over digital platforms, digital troubleshooting
- **Data security and protection**

11. Fiene SL, Stark KS, Kreiner DS, Walker TR. Evaluating Telehealth Websites for Information Consistent with APA Guidelines for Telepsychology. Journal of Technology in Human Services. 2020;38(2):91-111.

Country: USA

Summary

Evaluation of websites offering therapeutic telehealth services using a 38-item checklist based on the APA guidelines for the practice of telepsychology to determine the extent to which online service providers included such information on their websites. On average, the reviewed websites addressed only 39% of the checklist criteria.

Key points

- Recommendation that telehealth website includes links to practice governing bodies, crisis intervention, contact information (email, phone, location), certifications, terms of use and privacy policies, encryption/PHI and payment info
- Issues:
 - **Security and privacy** – unsecured doctor-patient communication, security of data and health information

- **HCP competency** – training in using telemedicine, licensing
- **Emergency/crisis interventions**
- Parental **consent** for under 18s
- **Confidentiality** – notifications of requirements for disclosure
- Results of study showed variable consistency with which websites were aligned with guidelines

12. Grebenschikova E. Digital medicine: Bioethical assessment of challenges and opportunities. Jahr. 2019;10(1):211-23

Country: Russia

Summary

Issues of **confidentiality, informed consent, autonomy, and equity** are analysed in three areas of digital medicine: telemedicine, mHealth, and AI.

Key points

- **Doctor-patient relationship**
- **Confidentiality**
 - Protection of communication channels
 - Protection of identifiers used when seeking telemedicine
 - Implication of family involvement in some cultures
- **Autonomy**
 - Patient involvement in the development of telemedicine services
- **Informed consent**
- **Justice**
 - **Digital divide**
 - **Older and disabled people** may not be able to use and thus benefit from telemedicine

13. Greenhalgh T, Rosen R, Shaw SE, Byng R, Faulkner S, Finlay T, et al. Planning and Evaluating Remote Consultation Services: A New Conceptual Framework Incorporating Complexity and Practical Ethics. Front Digit Health. 2021;3:726095.

Country: UK

Summary

Presentation of a novel framework, Planning and Evaluating Remote Consultation Services (PERCS) built from a literature review and ongoing research. This framework is organised along 7 domains: the reason for consulting, the patient, the clinical relationship, the home and family, technologies, staff, the healthcare organization, and the wider system. The authors identified tensions and ethical dilemmas in the use of remote consultation services that require drawing on guiding principles applied with contextual judgement.

Key points

- **Doctor-patient relationship**
- **Privacy**
 - Inadequate home environments
- **Digital inclusion**
 - Provisions to improve digital inclusion:
 - Patients are able to select **options** to suit their needs
 - **Co-design** with patients and carers
 - **Digital access support** (infrastructure, skills)
 - **Non-digital alternatives** for those who cannot access
- **Practical ethics of remote consultations:**
 - **Beneficence, non-maleficence, autonomy, justice**
 - **Veracity, privacy, confidentiality, fidelity**
 - Burden of treatment when patient asked to self-manage
- **Mitigate digital exclusion**
- **Continuity of care**
- **Autonomy** – balance patient autonomy with carer support
- **Patient training** in digital skills

14. Guy M, Blary A, Ladner J, Gilliaux M. Ethical Issues Linked to the Development of Telerehabilitation: a Qualitative Study. *Int J Telerehabil.* 2021;13(1):e6367.

Country: France

Summary

Interview study examining ethical issues arising with telerehabilitation use.

Key points

- **Risk of reinforcing inequalities**
- **Privacy**
- **Data protection**
- **Autonomy**
- **Patient consent**
 - Must inform of advantages and limitations of remote consultation
- Lost **human contact**
- **Training** of HCP in technologies
- Transfer of responsibility of care from doctor to patient
- **Major ethical principles that apply to traditional medicine also apply to telemedicine**
- **Evaluation of apps by ethics committee recommended**

15. Holt GR. Contemporary ethical considerations in clinical otolaryngology. *Laryngoscope Investigative Otolaryngology*. 2020;5(4):778-81.

Country: USA

Summary

An exploration of how to provide clinical care in otolaryngology consistent with ethical principles and moral leadership within the constraints of the COVID-19 pandemic. The main points are maintaining ethical foundations for appropriate informed consent, provision of remote health care through telemedicine, and strengthening the patient-physician relationship while role modeling the highest level of professionalism.

Key points

- **Doctor-patient relationship**
 - Doctor responsibility and accountability
 - Trust, honesty, effective communication
- Telemedicine
 - **Continued use of accepted standards of care**
 - Security and acceptability of remote consultation
 - **Privacy and security** of PHI
 - Examination requirement warrants responsibility to get **in-person care**
 - **Continuity of care** with other primary HCPs
 - **Informed consent**
 - Barriers to communications
 - **Digital divide**
 - Lack of internet and/or telephone
 - Make efforts to provide care to vulnerable populations

16. Humbyrd CJ. Virtue Ethics in a Value-driven World: Ethical Telemedicine. *Clin Orthop Relat Res*. 2019;477(12):2639-41.

Country: USA

Summary

This editorial discusses clinical opportunities and ethical dilemmas arising from different models of telemedicine. It also considers what the best uses for telemedicine would be, at present.

Key points

- **Beneficence**
- AMA recommends telemedicine supplements, rather than replaces, traditional medicine
 - Telemedicine is better for “low-stakes” issues – straightforward history and inspection, low possibility of major harm – “convenience care”

- **Non-maleficence** – avoiding scenarios in which patient care may be compromised (e.g., those requiring examination, child abuse screening)
- **Justice** – telemedicine can improve access

17. Intan Sabrina M, Defi IR. Telemedicine Guidelines in South East Asia—A Scoping Review. *Frontiers in Neurology*. 2021;11.

Country: Malaysia, Indonesia

Summary

A scoping review to explore and compare guidelines on telehealth and telemedicine in South East Asian countries. A total of 24 articles were selected for review, and raised issues were considered. Suggestions are made for universal telemedicine guidelines for any country to adapt based on the local context.

Key points

Ethics:

- Adhere to the same ethical conduct in telemedicine as in traditional medicine
- Advice only to be given in the scope of speciality/practice
- Proper licensing of HCPs
- **Informed consent**
- **Privacy, confidentiality and data security**
 - Data handling, info sharing and record keeping
 - Indonesia and Vietnam only allow telemedicine to be conducted via Internet systems at registered health facilities
 - Most guidelines place responsibility for data security with the provider
- **Record-keeping and data**
 - Consultations and activities must be recorded by the provider
 - Data stewardship responsibility with providers

18. Iyengar K, Jain VK, Vaishya R. Pitfalls in telemedicine consultations in the era of COVID 19 and how to avoid them. *Diabetes and Metabolic Syndrome: Clinical Research and Reviews*. 2020;14(5):797-9.

Country: UK, India

Summary

This study presents a literature review on the common pitfalls of remote consultations. Recommendations are derived to ensure telemedicine can avoid those pitfalls. Note: This study provides recommendations but does not include a detailed description of the method of the literature study.

Key points

- **Competence – training**
- **Consent** – explicit required if doctor-initiated, implied if patient-initiated
 - Must Inform of limitation of remote consultation
 - Capacity for consent assessment
- **Confidentiality** – appropriate environment, protect privacy
- **Safety** – scheduling face-to-face appt. if necessary
- **Data protection**

19. Jokinen A, Stolt M, Suhonen R. Ethical issues related to eHealth: An integrative review. *Nursing ethics*. 2021;28(2):253-71.

Country: Finland

Summary

A systematic review was performed to identify and analyse ethical issues related to eHealth from the users' perspective. In total, 26 studies were included and four ethical themes were identified. The ethical issues within these themes were related to information sharing, ownership, access to information and data protection, informed consent, defense of rights, and equity, equality, and proportionality of response.

Key points

- **Privacy**
 - **Data sharing**
 - Control over with whom is data shared
 - Maintaining privacy when sharing health information
 - **Patient's ownership** of own health information
 - Access to data and safety – avoid health record access by **third parties**
 - **Informed consent** – consent to information sharing
- **Beneficence and non-maleficence**
 - **Protection** – data access by third parties
 - Defence of rights – misuse of data could lead to stigma, discrimination
- **Justice**
 - **Equality and equity** – differential access due to no or intermittent internet connection, poor internet skills, reduced mental capacity, poor numerical skills, difficult to understand services, age-related difficulties
- **Trust**
 - Improve caring, must not replace personal contact
 - Accuracy, legitimacy, and processing of data – Security

20. Kaplan B. Revisiting Health Information Technology Ethical, Legal, And Social Issues And Evaluation: Telehealth/Telemedicine And Covid-19. International Journal of Medical Informatics. 2020;143:104239.

Country: USA

Summary

A literature review to identify and summarise ethical, legal, and social issues related to information technology in healthcare, as exemplified by telehealth and telemedicine and to propose future research directions. A synthesis matrix was developed to categorize the identified issues.

Key points

- **Quality of care**
 - Must remain the same as face-to-face
 - Depersonalisation potential
- **Consent and autonomy**
 - Who consents and how
 - Meaningfulness of consent (EULAs and no choice but to accept)
- **Access**
 - Physician access to technology
 - Patient access to technology (Digital divide; Location; Vulnerabilities/disabilities; Usability; Serving all populations)
- **Privacy, confidentiality**
- **Data protection, sharing, and ownership**
- **Licencing**
- **Clinician responsibilities** (Understands limitations and informs patients; Data protection; Data quality; Training; Cultural sensitivity)
- **Changed doctor-patient relationship**
 - Should establish a relationship prior to virtual consultation
- **Commercialisation of healthcare**
 - Data exploitation
- **Evaluation of services**

21. Kaplan B. Ethics, Guidelines, Standards, and Policy: Telemedicine, COVID-19, and Broadening the Ethical Scope. Cambridge quarterly of healthcare ethics: CQ: the international journal of healthcare ethics committees. 2022;31(1):105-18.

Country: USA

Summary

This paper builds on professional organizations' guidelines and ELSI scholarship to develop emerging concerns illuminated by current experience in telehealth services. Four ethical themes characterized previous literature: quality of care and the doctor–patient relationship, access, consent, and privacy. An **applied ethics approach** to ELSI is proposed to address context-specific issues and the relationships between people and technologies.

Key points

- Key ELSI for telemedicine:
 - **Quality of care:** doctor-patient relationship, depersonalisation of healthcare, data availability of new patients if no existing relationship
 - **Consent and autonomy:** limited alternatives to care if patient unable to enrol with GP, family involvement, vague/opaque privacy policies limit ability to be informed, access requiring acceptance of vague policy – is this true consent?
 - **Access:** digital divide, lower usage of technology by older and disadvantaged groups
 - **Privacy and confidentiality:** relinquishing of privacy through accepting EULAs that are necessary to access service, health data breaches, less secure if physician's personal devices used
- **Other regulatory issues:** doctor licensing/credential requirements, liability and malpractice
- **Responsible technology use:** doctors must be familiar with limitations/risks of telehealth and inform patients of these, must authenticate patients and must be culturally sensitive
- **Usability, acceptability and access:** patients may need help in using technology, doctors should have training in telehealth to ensure a safe and effective service
- **Implications of commercialisation:** may compromise care, potential for data exploitation, EULAs
- Important to establish telehealth guidelines and address above issues with regulatory policy

22. Keenan AJ, Tsourtos G, Tieman J. **The Value of Applying Ethical Principles in Telehealth Practices: Systematic Review.** *J Med Internet Res.* 2021;23(3):e25698.

Country: Canada

Summary

This is a systemic literature review aimed at providing a critical overview of existing research into the incorporation of ethical principles into telehealth practice. A total of 49 papers were reviewed, from which five ethical principles were identified: autonomy, professional-patient relationship, nonmaleficence, beneficence, and justice. Research on how ethical principles are incorporated into clinical practice are limited. **Conclusion: Several studies proposed frameworks, codes of conduct, or guidelines, but there was little discussion or evidence of how these recommendations are being used to improve ethical telehealth practice.**

Key points

- **Autonomy**
 - Consent, choice, independence, empowerment, control and self-determination key issues
 - Accessing support at time convenient to patients can improve autonomy
- **Beneficence**
 - Potential to improve access, quality of care, availability, control over own care
- **Justice**
 - Inequal access to technology
 - Rural areas that would most benefit from telehealth are least likely to afford technology
 - Ensure telehealth is not solely used as a cost-saving measure that takes away patients' ability to seek face-to-face consultation
- **Non-maleficence**
 - Burden on frail or ill patients who struggle with technology (ie., low digital literacy)
 - Risk of compromising care for high-need patients
 - Crisis management
- **Professional-patient relationships**
 - Confidentiality, privacy, fidelity
 - Telemedicine can take away the “human touch” aspect
 - Telemedicine should **supplement, not replace**, traditional care
 - **Lack of non-verbal cues** etc. may impair trust/relationship building

23. Keenan AJ, Tsourtos G, Tieman J. Promise and peril-defining ethical telehealth practice from the clinician and patient perspective: A qualitative study. *Digit Health*. 2022; 8: 20552076211070394.

Country: Australia

Summary

Semi-structured interviews were conducted with 20 telehealth practitioners and patients using constructionist grounded theory methods. Coding was based on Beauchamp and Childress' framework of biomedical ethics. Ethical principles were experienced differently by telehealth practitioners and patients. Patients felt telehealth may force a greater share of costs and burdens onto them and reduce equity. Building sufficient trust and mutual understanding are equally important to patients as privacy and confidentiality.

Key points

Clinician experience

- **Autonomy**
 - Greater choice of **access** to health services + **person-centered care**
 - **Acceptability** – difficulties for older patients
 - Lack of **choice** in choosing telemedicine if only options

- **Non-maleficence**
 - Incomplete or absent telemedicine guidelines
 - New risks related to technology
 - Difficult to manage clinical/social risks remotely
 - Poor preparedness from lack of training can lead to impaired quality of care
 - Adapting to tech is stressful and can hinder care
- **Beneficence**
 - Saves time and allow more efficient use of resources
 - Inclusion of home and family helps build rapport
 - Continuity of care if keeping same practitioner
- **Justice**
 - Alleviates isolation and distance to travel
- **Professional-patient relationships**
 - Communication challenges are greater – impairs rapport and trust
 - Lack of human interaction and physical presence
 - Difficulties with lack of physical exam
 - Privacy and confidentiality issues: clinician can't control environment

Patient experience

- **Autonomy**
 - **Access and flexibility** improved for some patients, reduced for others
 - **In-person** should always be available
 - Improved **empowerment and control** in interactions with practitioners
- **Non-maleficence**
 - Lack of physical presence leads to features/signs missed (demeanour etc.)
 - Technology is unpredictable and can limit access to care
 - Psychological safety concerns
 - Normal conversational cues are not present – less genuine communications
- **Beneficence**
 - More thorough care and listened to
 - **Continuity of care with normal providers**
- **Justice**
 - Improved healthcare access for those with access to technology
 - **Improved access** must be balanced with costs of service and over-servicing
 - **Access barriers** for elderly
- **Professional-patient relationships**
 - Greater risk of miscommunication and patients not fully expressing themselves
 - Privacy and confidentiality concerns
 - Less likely to feel support or reassurance over telehealth

24. Kuziemyky CE, Hunter I, Gogia SB, Lyenger S, Kulatunga G, Rajput V, et al. Ethics in Telehealth: Comparison between Guidelines and Practice-based Experience - the Case for Learning Health Systems. *Yearbook of medical informatics*. 2020;29(1):44-50.

Country: International review

Summary

This study performed a comparison between telemedicine ethics guidelines and practitioners' perspectives to identify the similarities and differences between them. Overall, published guidelines largely focus on macro-level issues related to technology and maintaining data security in patient-provider interactions, while practitioner concern is focused on applying the guidelines to specific micro-level contexts. **Ethics guidelines on telehealth have a macro-level focus in contrast to the micro-level needs of practitioners. Work is needed to close this gap.**

Key points

- Telemedicine ethics vs. face-to-face ethics:
 - Telemedicine requires adequate data
 - Both require a doctor-patient relationship, protection of privacy, promoting equity, seeking the best outcomes possible
- Telemedicine for the elderly:
 - Allow **autonomy** for them to age in place but can have age-related access barriers
 - **Privacy** of health information with family members and/or caregivers present
 - **One-size-fits-all** – telemedicine not made to fit individual needs
- No meaningful **co-design** of technologies with HCP and patients
- Guidelines focused on macro-level issues, while HCPs more concerned about micro-level issues

25. Langarizadeh M, Moghbeli F, Aliabadi A. Application of Ethics for Providing Telemedicine Services and Information Technology. *Medical archives (Sarajevo, Bosnia and Herzegovina)*. 2017;71(5):351-5.

Country: Iran

Summary

This article presents a literature review aimed at identifying ethical issues for providing telemedicine services and Information technology. A total of 28 articles were selected from which several ethical themes were identified. Suggestions are made to investigate ethics in technology, to offer standards and guidelines to therapists.

Key points

- **Doctor-patient relationship**
 - Trust
 - Both doctor and patient involved in decision making – **shared decision making**
 - Use of telemedicine impairs **relationship**

- **Security and confidentiality**
 - Clinician’s **responsibility** to ensure data security and confidentiality while receiving, storing, and transferring data
- **Justice**
 - Reduced access for those with poor **digital literacy** or poor **internet access**
- **Informed consent**
 - Same as face to face, but must inform patient of risks and limitations of telemedicine
- Involvement of **clinical ethicists and ethical guidelines** important

26. Lee DWH, Tong KW, Lai PBS. Telehealth practice in surgery: Ethical and medico-legal considerations. Surgical Practice. 2021;25(1):42-6.

Country: Hong Kong

Summary

This article references the “Ethical Guidelines on Practice of Telemedicine” issued by the Medical Council of Hong Kong and common law cases to discuss the relevant ethical and medico-legal issues in telehealth practice. Telehealth practitioners are advised to familiarize themselves with the ethical guidelines, to keep abreast of the medico-legal developments in this area, and to observe the licensure requirements and regulatory regimes of both the jurisdiction where they practice and where their patients are located.

Key points

- Recommended that a **doctor-patient relationship** be established prior to teleconsult
- Communication may be limited over telemedicine (**lack of non-verbal cues**)
- **Patient preferences** must be taken into account
- **Consent** – telemedicine risks, procedures, limitations (e.g., privacy and confidentiality breaches), etc. to be explained
- **Lack of physical exam** – when required, failure to examine would be below the standard of care so in-person referral must be made
- Data
 - **Anonymisation** is recommended and sending encrypted
 - Practitioners’ responsibility to **protect data** when using telemedicine and transferring data
- Same **record-keeping responsibilities**
- **Privacy** – other parties may be present

27. Lindeman DA, Kim KK, Gladstone C, Apesoa-Varano EC. Technology and Caregiving: Emerging Interventions and Directions for Research. The Gerontologist. 2020;60 (Supplement 1): S41-S9.

Country: USA

Summary

This paper proposes a conceptual framework for identifying and addressing the challenges that may need to be overcome to effectively apply technology-enabled solutions for family caregivers. The challenges include issues related to equity, inclusion, and access; ethical concerns related to privacy and security; political and regulatory factors affecting interoperability and lack of standards; inclusive/human-centric design and issues; and inherent economic and distribution channel difficulties.

Key points

- **Equity and access**
 - **Older adults** do not have access to technology
 - **Digital divide**
 - **Low social-economic status**
 - **Technological literacy**
- **Privacy and security**
- **Interoperability and lack of standards**
 - Device and technology compatibility
- **Inclusive/human-centric data**
 - **Co-design** with patients and usability

28. Melchiorre MG, Lamura G, Barbabella F, Consortium IE. eHealth for people with multimorbidity: Results from the ICARE4EU project and insights from the "10 e's" by Gunther Eysenbach. Plos One. 2018;13(11).

Country: Italy

Summary

This paper aims to describe the implementation of eHealth technologies in integrated care programs for people with multimorbidity in Europe, and to analyse related benefits and barriers according to outcomes from ICARE4EU study and within the more general conceptual framework of the "10 e's" in eHealth by Gunther Eysenbach. Note: our thematic analysis focused on the relevant ethical concepts.

Key points

- Barriers (relating to ethics):
 - **Access:** inadequate IT support and/or infrastructure, lack of patient skills/digital literacy (this can reduce empowerment)
 - **Quality of care:** lack of provider skills
 - **Equity:** cultural resistance, differentials in effectiveness between groups, digital divide
 - **Privacy and security issues**
 - **Patient resistance to technology**
- Benefits:

- **Empowerment/autonomy:** involvement in decision-making, increased access to health records (this can increase trust)
- **Equity:** can improve access to healthcare in remote areas
- Ways to make implementation more successful:
 - **Patient training** (digital literacy)
 - **Doctor training**
 - **Codesign** (esp. in relation to equity)
 - **Evaluation of technology**
 - **Clear legislation** protecting data privacy and security and transfer of data

29. Parsons JA. The telemedical imperative. Bioethics. 2021;35(4):298-306.

Country: UK

Summary

The author presents and defends the term 'telemedical imperative' in this article, referring to a duty for healthcare systems to implement remote access to services where possible. They provide four criteria that must be met for the telemedical imperative to arise and address several potential objections to the telemedical imperative.

Key points

- **Autonomy** – telemedicine enhances patient choice provided they can choose between in-person or telemedicine (key – telemedicine as an *additional* choice, not a replacement)
- Conditions of telemedicine being of benefit:
 - **Safety:** must not increase risk of harm to safety relative to in-person care – same standards of care should apply
 - **Effectiveness:** similar effectiveness to in-person
 - May not be effective in all situations
 - **Acceptability:** most patients must consider telemedicine acceptable
 - **No service-specific concerns**
- Potential objections to telemedicine:
 - **Decline of in-person services** – keep in-person as default, but retain choice (autonomy)
 - **Digital exclusion** – poor tech literacy, low income etc.
 - **Damage to clinician-patient relationship** – worse communication and trust, no non-verbal cues, potential for misdiagnosis
 - Telemedicine training may help overcome this

30. Qian AS, Schiaffino MK, Nalawade V, Aziz L, Pacheco FV, Nguyen B, et al. Disparities in telemedicine during COVID-19. Cancer Med. 2022;11(4):1192-201.

Country: USA

Summary

This retrospective cohort study evaluated health disparities associated with telemedicine uptake during the COVID-19 pandemic among cancer patients in a tertiary care academic medical center. It demonstrated racial/ethnic, language, and income-level disparities with telemedicine use, which ultimately led patients with the highest risk of COVID-19 infection to use telemedicine the least.

Key points

- **Less likely to use telemedicine (US): Hispanic, Asian (non-white), non-English speakers, low income, those on Medicaid insurance**
- **Divide in digital inclusion:** differential patient access to technology and digital literacy
 - Digital divide evident among lower income and non-English speakers
- Study demonstrates **link between disparities in social determinants of health** (income, language and literacy skills) **and use of telemedicine**
 - **Cultural and language tailored medicine could help reduce health disparities**

31. Qureshi AZ, Ullah S, Aldajani AA, Basson P, AlHabter AM, Ali T, et al. Telerehabilitation Guidelines in Saudi Arabia. Telemed J E Health. 2021;27(10):1087-98.

Country: Saudi Arabia

Summary

A panel of various rehabilitation experts designed guidelines for the use of telerehabilitation in Saudi Arabia. The core principles are based on standards set forth by the American Telemedicine Association and are guided by telemedicine policy in Saudi Arabia.

Key points

- Records management
 - Ensure **no third-party access**
 - **Security systems** (e.g., antivirals, firewalls etc.)
 - **Confidentiality and security**
- **Informed consent**
 - Competency
 - Guardianship for younger people
 - Explain and consent for specific therapies, not just to teleconsultation itself
 - Possible privacy and confidentiality threats
- **Competency**
 - Accreditation
- **Quality of care**
 - Recommended the first examination be in-person
 - Scopes of practice

32. Rabe M. Telehealth in South Africa: A guide for healthcare practitioners in primary care. South African Family Practice. 2022;64(1):a5533.

Country: South Africa

Summary

This article presents guidelines for telehealth based on the revised Health Professions Council of South Africa (HPCSA) General Ethical Guidelines for Good Practice in Telehealth and guidelines on remote or video consultations from the University of Oxford, the Royal Australian College of General Practitioners and the Royal College of Psychiatrists.

Key points

- **Relationship prior to telehealth consult** is desirable
- **Informed consent** – risks and benefits, limitations explained; explained to that a physical visit is necessary if HCP feels it's needed
- **Quality of care** – same standards of practice as in-person
 - Telehealth consultations are **not substitutes for physical consults** but should resemble them as closely as possible
 - **Safety concerns** – physical examination necessary, patient ability to use tech, vulnerable patients (disabilities, children, older etc.)
 - **Record-keeping essential**
- **Continuity of care** and follow-up where necessary

33. Raveesh BN, Munoli RN. Ethical and Legal Aspects of Telepsychiatry. Indian J Psychol Med. 2020;42(5 Suppl):63s-9s.

Country: India

Summary

This article addresses ethical and legal aspects in telepsychiatry practice against the background of existing practice guidelines and rules that were designed for face-to-face, in-person delivery of mental health care.

Key points

- **Competency and practice**
 - In India, psychiatrists must do an **online telehealth course**
 - Must **observe the same laws and standards as in-person**
- **Advertising**
 - Unethical to solicit patients directly or advertise to inflate physician's importance
 - Ensure patients see physicians' qualifications and enlist only registered HCPs
- **Responsibilities** of technology platforms
 - **Terms and conditions must include privacy and confidentiality statements**
- **Consent**

- Implied (patient) vs. explicit (HCP)
- Capacity
- **Depersonalisation of doctor-patient relationship**

34. Rodriguez JA, Shachar C, Bates DW. Digital Inclusion as Health Care - Supporting Health Care Equity with Digital-Infrastructure Initiatives. N Engl J Med. 2022;386(12):1101-3.

Country: USA

Summary

This perspective considers the impact of the Infrastructure Investment and Jobs Act, the opportunities it presents, how it can be implemented in an effective and equitable way, and how healthcare can take advantage of improvements to the digital infrastructure. It focuses on digital inclusion and improving access to care.

Key points

- **Disparities in patient portal use** based on age, race, SES, English proficiency
- **Barriers to digital inclusion: poor access to internet, poor health literacy**; these communities are often the ones with poor health outcomes
 - **Ensure affordable access to internet and devices**, digital literacy supports, appropriately designed platforms
 - Bandwidth limitations – may exclude patients with lower bandwidth
- **Inclusive design** – language translation, integration of interpreters
- Evaluate the effects of telehealth to ensure no increasing disparities

35. Scott TM, Marton KM, Madore MR. A detailed analysis of ethical considerations for three specific models of teleneuropsychology during and beyond the COVID-19 pandemic. The Clinical neuropsychologist. 2022;36(1):24-44.

Country: USA

Summary

This article outlines ethical considerations and suggestions for teleneuropsychology and explores the challenges and ethical considerations to completing an accurate assessment on which method to use.

Key points

- **Competence**
 - Telemedicine training
- **Beneficence and non-maleficence**
 - Non-maleficence – potential harm if telemedicine limits adequate assessment of conditions
 - Determine whether telemedicine is appropriate for patient (benefits outweigh risks)

- **Equity and justice**
 - **Telemedicine may increase health disparities among disadvantaged groups**
 - Improve access to technology and digital literacy to ensure equity/justice
- **Informed consent**
- **Privacy, confidentiality and security**
 - **Third-party access**
 - Adhere to confidentiality standards
 - Private space for patients
 - Discuss data privacy issues with patient
 - Additional informed consent for recording

36. Shafizadeh H, Larijani B, Mojtahedzadeh R, Shamsi Gooshki E, Nedjat S. Initial drafting of telemedicine's code of ethics through a stakeholders' participatory process. J Med Ethics Hist Med. 2021;14:24.

Country: Iran

Summary

This study aimed at developing the codes of ethics for telemedicine, based on a literature review of national and international ethical guidelines and 48 semi-structured interviews conducted with ethics and informatics experts as well as physicians and patients.

Key points

- Key ethical issues:
 - **Doctor-patient relationship**
 - **Confidentiality, privacy and security**
 - **Informed consent**
 - **Accessibility** – patient training
 - **Effectiveness, beneficence, and adaptability** – need for physical exam, doctor training
 - **Continuity of care** – follow up
- Positive ethical aspects of telemedicine:
 - **Autonomy**: improved access, choice and convenience
 - **Effectiveness**: reduced time and cost, rapid record access
 - **Equity: improved access** (incl. to remote areas and people with disabilities)
- Negative ethical aspects of telemedicine:
 - **Reduced quality of care**: limitations of tech lead to malfunction and medical errors, diagnosis difficulties due to poor picture quality and lack of physical exam
 - Patient and doctor stress due to new tech
 - Need to adapt to a new mode of communication
 - **Privacy and security concerns**: hacking, data misuse, inappropriate disclosure of information, identity deception, ambiguity in responsibility for remediation of errors

- **Key concerns:**
 - Providers must consider **ethical principles** in doctor-patient relationship – these are not necessarily specific to telemedicine
 - Communication tools must **protect patients’ rights** and improve their **health and safety**
 - If necessary, the provider should hold a consultation with the patient **in person**
 - Telemedicine is **not a substitute for in-person services**, but rather complementary
- Development of an **ethical code** that addresses the above concerns – focuses on provider responsibility

37. Shaw J, Brewer LC, Veinot T. Recommendations for Health Equity and Virtual Care Arising From the COVID-19 Pandemic: Narrative Review. JMIR Form Res. 2021;5(4):e23233.

Country: Canada

Summary

A narrative review gathers insights generated during the COVID-19 pandemic that can inform strategies to promote health equity in virtual care. These strategies are identified at three levels: (1) policy and government, (2) organizations and health systems, and (3) communities and patients.

Key points

- **Digital divide**
 - Access to technology
 - Technology literacy
 - Lack of outcomes related to technology
- Strategies to **promote health equity**
 - **Inclusive design**
 - Evaluation and feedback from community
 - **Adequate infrastructure** (internet access and digital device availability)
 - **Training** for HCPs
 - Quality improvement for disadvantaged communities
 - Collection of metrics providing insight into **equity-related outcomes**
 - **Digital literacy training** (e.g., through local libraries)
 - Simplify user interfaces, information and choices
 - **Bandwidth requirements** – work with lower bandwidth and simpler/older devices
 - “Intermediaries” for **tech support**

38. Simon DA, Shachar C. Telehealth to Address Health Disparities: Potential, Pitfalls, and Paths Ahead. J Law Med Ethics. 2021;49(3):415-7.

Country: USA

Summary

This commentary considers what deliberate choices are needed in the implementation of telehealth to ensure it supports vulnerable patients.

Key points

- **Those who would most likely benefit from technology are least likely to afford it**
 - Lack of internet, and device access
 - **Poor infrastructure**
 - **Phone calls can mitigate issues related to video calls**
 - Disabled, and elderly patients may not be able to use tech
- Solutions:
 - **Improve infrastructure**
 - **Dedicated community spaces for telehealth** (e.g., churches, libraries etc.)
 - Attitudes towards telehealth – hesitancy, mistrusting (age, income, education, ethnicity)
 - **Community outreach**
 - Patient and provider **education**

39. Solimini R, Busardo FP, Gibelli F, Sirignano A, Ricci G. Ethical and Legal Challenges of Telemedicine in the Era of the COVID-19 Pandemic. *Medicina (Kaunas)*. 2021;57(12).

Country: Italy/international review

Summary

This narrative review provides a synthesis of the main ethical and legal issues of telemedicine practice during the COVID-19 pandemic.

Key points

- **Informed consent** (info about risks and benefits)
- **Autonomy**
- **Patient privacy**
 - Use private locations
- **Confidentiality**
- **Data protection and security**
- **Malpractice and professional liability**
- **Equity of access**
 - **Digital divide**
 - **Justice** – equal access and fair distribution of tech
- **Quality of care**
- HCP-patient relationship
- **Beneficence**

40. **Tedeschi C. Ethical, Legal, and Social Challenges in the Development and Implementation of Disaster Telemedicine. *Disaster Medicine and Public Health Preparedness*. 2021;15(5):649-56.**

Country: USA/international

Summary

This narrative review examines the advantages of using telehealth to assist in disaster response along the important questions its use raises related to social impact, ethical implications, and regulatory oversight.

Key points

- **Co-design** with clinicians and patients to improve acceptability
- **Access**
 - Infrastructure
 - Justice – equitable distribution
- Impairs **doctor-patient relationship**
- **Privacy and confidentiality**
- **Autonomy**
 - Right to **informed decisions** – understanding how telemedicine works
 - Able to opt for **in-person**
 - DTC providers provide more **choice**
 - Development of industry best practices
- **Beneficence**
 - **Competence**
 - Act for **patient benefit, not commercial interests**
- **Non-maleficence**
 - **Referral to in-person where necessary**

41. **Townsend BA, Scott RE, Mars M. The development of ethical guidelines for telemedicine in South Africa. *South African Journal of Bioethics and Law*. 2019;12(1):19-26.**

Country: South Africa

Summary

This article seeks to inform the development of a new ethical framework by addressing three distinct and relevant ethical issues: the fiduciary nature of healthcare and the changing nature of the doctor-patient relationship; privacy, confidentiality, and the sensitivity of health data; and informed consent. It does so by proposing a broader and more nuanced solution to these ethical obstacles by identifying conceptual and operational difficulties within the existing South African telemedicine guidelines, and advancing suggestions for reform that improve cultural and contextual awareness.

Key points

- **Doctor-patient relationship** – same standards of care
- **Privacy and confidentiality**
 - Legal privacy protection
 - Guidelines for data protection
- **Informed consent**
 - Objective of telemedicine
 - Role and responsibility of provider and patient
 - Other people participating in the interaction
 - **Care documentation requirements**
 - Risks and benefits
 - Patient capacity to understand telemedicine and issues around data transmission
 - **Implied vs. explicit consent**
 - **“Forced consent”** – accepting terms of service a requirement for care
 - **Terms of service may be difficult to understand language – hard for people with poor literacy skills**

42. Uhlmann WR, McKeon AJ, Wang C. Genetic counseling, virtual visits, and equity in the era of COVID-19 and beyond. *J Genet Couns.* 2021;30(4):1038-45.

Country: USA

Summary

This commentary highlights the successes and challenges in the rapid implementation of virtual visits for genetic counselling. It also discussed the additional steps required for testing outside of the clinical setting, along future research considerations.

Key points

- Challenges to virtual visits:
 - **Tech device issues**
 - May not have device or adequate device
 - May not know how to use device
 - Video quality issues
 - **Internet issues**
 - **Distractions** (pets, children etc.)
 - **Communication issues**
 - **Privacy concerns**
 - Patient environment
 - Internet security issues
 - **Inability to use software**
- Lower use of telemedicine among:

- **Low socio-economic status**
- **Non-English speakers**
 - Interpreters integrated

43. Umali MJPS, Evangelista-Sanchez AMA, Lu JL, Ongkeko AM, Sylim PG, Santos ADF, et al. Elaborating and discoursing the ethics in eHealth in the Philippines: Recommendations for health care practice and research. Acta Medica Philippina. 2016;50(4):215-22.

Country: Philippines

Summary

This study built on a literature review and qualitative research to examine ethical issues in research and clinical practice of eHealth, and to determine ethical guidelines and principles applicable to eHealth and telehealth in the Philippines.

Key points

- **Duty of care**
- **Informed consent**
 - **Implied** consent when treatment sought by patients
 - Use of data, means of transmission
 - Use of images
 - For any treatment
- **Privacy and confidentiality**
 - Transmission and receipt of data
 - Adhering to **data privacy laws**
 - **Secure data storage and use**
- **Quality of care**
 - Maintain practice guidelines
- **Justice**
 - Access for disadvantaged communities
 - Extra support
 - Prioritising those communities with poor healthcare access
 - Socio-cultural considerations
 - User-friendly design and co-design/participatory design in technology
- **Non-maleficence**
 - Recording any adverse outcomes
- **Competence**
 - Doctor training and knowledge of technology
 - Scope of practice – appropriate referrals

44. Xu J, Willging A, Bramstedt KA. A scoping review of the ethical issues within telemedicine: Lessons from COVID-19 pandemic. *Journal of Health and Social Sciences*. 2021;6(1):31-40.

Country: USA/Australia/international review

Summary

The aim of this scoping review was to consolidate the main ethical concerns in telemedicine into a framework that can be used to guide training, policies, and further research as these platforms are implemented.

Key points

- **Confidentiality**
 - **Privacy**
 - **Data security** (transmission, storage)
 - Sharing across different platforms
 - Secure tech systems – protocols for access, encryption
- **Accessibility**
 - **Poor access to tech** – affordability, internet access, older tech not compatible
 - Hearing, visual, dexterity **impairments**
 - **Lack of familiarity or trust in systems**
 - **Socio-cultural barriers**
 - Telemedicine must not be generalised but personalised
- **Effectiveness**
 - Evaluation must be done
 - Patient must be the primary beneficiary
 - Clinician must know when to defer **to face-to-face**
 - **Same standards of care and ethical standards**, must acknowledge telemedicine limitations
- **Doctor-patient relationship**
 - Depersonalisation potential
 - Trust and respect – founded on **informed consent**
 - **Consent** – understandable info on data collection, storage and sharing as well as privacy policies
 - Ensure patient remains engaged in telemedicine
- **Supplement to regular care, not replacement**
- **Competency** – telemedicine training

45. Chaet D, Clearfield R, Sabin JE, Skimming K. Ethical practice in Telehealth and Telemedicine. *J Gen Intern Med*. 2017;32(10):1136-40.

Country: USA

Summary

This article summarizes the report of the American Medical Association's (AMA) Council on Ethical and Judicial Affairs (CEJA) on ethical practice in telehealth and telemedicine.

Key points

- Risk to **doctor-patient relationship**
- **Patient suitability and standards of care**
Access to and ability to use technology; Patient comfort with TM; Need for physical exam
- **Fidelity (patient welfare above other interests)**
Conflicts of interests; Disclosure of financial interests in commercial health website
- **Competence**
Proficiency in tech use and interaction with patients through tech
Recognition of limitations – know when to shift to in-person
- **Transparency (well-considered decisions about care) and informed consent**
Risks, benefits, limitations of TM, how TM used in care
Doctor credentials
- **Privacy and confidentiality**
Publish privacy policy – what info collected and how used
Protection from unauthorised access
Discuss with patients that issues of data security may arise, how these will be addressed
- **Continuity of care**
Record keeping
Communication with patient's usual doctor
Recommendations for follow-up care where needed
- **Access**
Limited access to care if not comfortable or don't have access to/ability to use tech (e.g., elderly, perceptual/cognitive/psychomotor disabilities, communities with low tech access/adoption)

NZ Guidelines

1. NZ Telehealth Forum and Resource Centre. Guideline for establishing & maintaining sustainable Telemedicine services in New Zealand. Christchurch; 2017.

- Justification for telemedicine – unequal access to healthcare (location, transport, money), strained health system (time)
- TM *not* appropriate when:
 - Main reason for implementation is cost-saving or revenue increasing
 - Physical exam necessary
 - Interconnectivity issues between devices and networks
 - Patient not appropriate (e.g., hearing, visual, cognitive, psychiatric problems)
 - Possibility for sign language interpreter
- **Privacy and confidentiality**
 - Controlled environment of appt.
 - Use of Connected Health Network – applies to DTC?
 - Aims to have interoperability of NZ health and disability sector
 - Meet MoH HISO technical standards (interoperability, endpoint naming, network connectivity, HI security)
 - As of 2017, no organisation that sanctions services to do so – clinician and organisation responsibility
 - Transferred data should be encrypted
 - System shouldn't store data
- **Informed consent**
 - Must continue standards of care – if telehealth is unable to achieve this, must advise need for face-to-face
- **Quality of care**
 - Service monitoring
 - Acceptability and usability (patient and clinician)
 - Effectiveness and cost-efficiency (patient outcome and costs)

2. Medical Council of New Zealand. Statement on Telehealth. 2020.

- Device issues can arise in terms of security and the patient's ability to use the device
- **Standards of care:**
 - Requirement for NZMC registration and hold a current practicing certificate
 - **Equivalent care for TM as in-person**
 - Assess **patient suitability, informed consent, privacy and confidentiality, follow-up care, updating medical records, communication with patient's relevant primary care provider**
 - **Cultural safety**

- Must tell the patient if limits of telemedicine mean they are unable to maintain standards of care
 - NZMC standards of care apply if the doctor works with telehealth providers
- **Physical examination** – if this is likely to influence the clinical decision, must be arranged, even with another doctor in the patient’s locality
- **Good prescribing practice**
 - First time for medicine – recommended to have in-person consult
 - If potential for serious adverse effects, regular assessment should be done

3. The Royal New Zealand College of General Practitioners. Position statement: specialist GP telehealth consultations. Wellington; 2022.

- “Valuable and necessary component of community medicine in New Zealand”
- Telemedicine challenges:
 - **Access to devices, data, and networks**
 - **Communication** difficulties
 - Lack of **physical exam** → less clinical information
 - **Barriers for deaf, non-English speakers, cognitive impairment**
 - **Jurisdictional and funding issues** (e.g., ACC only funding if both doctor and patient in NZ)
- Benefits for Māori:
 - Tino rangatiratanga – **flexibility** (choose when and how to see GP/patients)
 - **Equity** – access to healthcare with no time off, childcare, or travel costs
 - **Whānau involvement**
 - Active **protection** – infection control
 - **Options** – choose a consultation that best fits their needs, Māori options
 - **Partnership** – transparency, and control over health information → more co-designed care and treatment
- Telemedicine risks:
 - **Cost-cutting and efficiency as drivers**
 - Urban doctors treating rural patients – **lack of contextual understanding**
 - **In-person rural services being reduced**
 - Impacts on ED, urgent care
 - **Increased health disparities** – people with better devices and data get better services
- **Cybersecurity** protocols and systems must be maintained
- **Arrangements for in-person care if needed** (safety-netting)
- Doctor-patient relationship may be more difficult over telehealth, esp. phone or messaging
 - Difficulties can be mitigated if the **relationship** has already been established

4. Louw PK. ACC Telehealth Guide. Wellington: Accident Compensation Corporation; 2022.

- For patients who experience access barriers to in-person care
- **Standard of care:** same as in-person, telehealth must be clinically appropriate (i.e. must be safe to use)
 - Where limited by TM, discuss with patient, record in notes, arrange for follow-up/third-party practitioner involvement
 - Continuity of care – support ongoing involvement of local providers with client
- **Privacy and confidentiality:** same as in-person
 - Informed consent, contacts
 - Private space
 - Secure devices and connections
 - Recordings (consented), clinical notes, and reports must be stored and transmitted securely, preferably using more than one form of data protection
- **Informed consent**
 - Pre-engagement video or phone call to inform on what telehealth is, alternatives, technology requirements, costs and risks, and a mitigation plan for these
 - Continued evaluation of whether TM is suitable
- **Doctor-patient relationship** may be impacted
 - Miscommunication (lack of non-verbal cues, connectivity lags, etc.)
- **Socio-cultural considerations:** Māori people and older people may prefer in-person
- **Technology** – both provider and client must have suitable technology and internet access
- **Capacity** – patients must be able to operate tech themselves or have support present, younger children may not be appropriate