

Manuscript version: Author's Accepted Manuscript

The version presented in WRAP is the author's accepted manuscript and may differ from the published version or Version of Record.

Persistent WRAP URL:

<http://wrap.warwick.ac.uk/149227>

How to cite:

Please refer to published version for the most recent bibliographic citation information. If a published version is known of, the repository item page linked to above, will contain details on accessing it.

Copyright and reuse:

The Warwick Research Archive Portal (WRAP) makes this work by researchers of the University of Warwick available open access under the following conditions.

Copyright © and all moral rights to the version of the paper presented here belong to the individual author(s) and/or other copyright owners. To the extent reasonable and practicable the material made available in WRAP has been checked for eligibility before being made available.

Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge. Provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

Publisher's statement:

Please refer to the repository item page, publisher's statement section, for further information.

For more information, please contact the WRAP Team at: wrap@warwick.ac.uk.

1605

Practice Pointer

How to conduct written online consultations with patients in primary care

Minal Bakhai,¹ clinical director for Digital First Primary Care, general practitioner for NHS Brent CCG

Helen Atherton,² associate professor

¹ NHS England and NHS Improvement London, Skipton House, London SE1 6LH, UK

² Warwick Medical School, UK

Correspondence to: M Bakhai minal.bakhai1@nhs.net

Box Start

What you need to know

- Have a blended approach to communication (using text, online message, phone, video, and face-to-face consultations) focused on patient need
- Written online consultations work best in the context of an existing healthcare professional-patient relationship
- Draw on your current skills and clinical acumen in conducting consultations and apply these when consulting online
- The experience of the personal communication matters more to patients than the consultation modality

Box End

A written online consultation is a two-way written exchange between a healthcare professional and a patient using an online medium (such as an online web platform or email portal). Such exchanges offer an alternative route of access for patients alongside telephone and face-to-face consultations. This article offers a guide to help clinicians, particularly those working in primary care, use written online consultations effectively with their patients.

Where are written online consultations used in primary care?

Use of written online consultations has increased over the past decade, with many health systems adopting them as a way for primary care staff to interact with patients.¹⁻⁴ Arrangements for written online consultation vary between different countries and healthcare providers. In Denmark, offering patients email consultation has been mandatory in general practice since 2007, and 21% of all consultations were conducted this way in 2019.⁵ In England, general practices have been encouraged by NHS England and NHS Improvement to adopt online triage platforms. These offer patients a secure way to send a request or message to their practice via a structured online form.^{6,7} US health maintenance organisations have for many years used patient portals to facilitate this type of communication.^{8,9} The covid-19

pandemic has accelerated adoption of written online consultation because it offers communication without proximity.^{10 11} Many primary care health professionals will now be encountering this form of consultation with patients for the first time.

What is the evidence base?

Evaluating online written consultations has to date been challenging because of differences in the way different approaches are implemented and delivered, the complexity of factors that influence change, low uptake by patients, and, for quantitative studies, a lack of standardised approaches to recording consultation type use in practice.¹² To date, evaluations have mostly been small scale and short term or have been exploratory in nature.

A 2012 Cochrane systematic review of email consultations found the evidence to be equivocal in relation to impact on workload and clinical outcomes in primary care settings.¹³ A 2019 systematic review of e-consulting (including written online consultation) examined 57 studies, many of which were small studies.¹⁴ It reported that uptake and utilisation of e-consulting tended towards younger and employed adults, with acceptability and ease of use strongest in those with long term conditions and living in remote areas. Patients reported improved communication and increased engagement. Primary care professionals expressed fears about potential impact on workload, expectations of a quick response time, and the need for guidelines on the rules of engagement and communication strategies. A 2019 rapid review focused on “digital first primary care”¹⁵ found a lack of quantitative empirical data. It reported concerns from healthcare professionals about implementation and the potential for inequitable access to services for patients. Possible benefits included the ability to maintain continuity of care with a specific clinician. Included studies reported that written online consultations were popular among some older patients, patients who find face-to-face consultations difficult, those with hearing, mobility, or anxiety issues.¹⁵

A 2015 realist review examining use of digital communication with marginalised groups found online written consultations offered advantages—including for patients who required an interpreter, who had practical access issues, who had had a previous negative experience or stigmatising reaction, and who felt uncomfortable raising the concern face to face (such as a sexual health problem)—and that they worked best in the context of an ongoing doctor-patient relationship.¹⁶ The reviews that examined safety issues did not identify problems.¹³⁻¹⁵ At present there is a lack of definitive data on whether workload changes when introducing and using written online consultation. Multiple factors affect the workload in using written online consultation, including the implementation strategy, messaging functionality within

individual systems, and patients' threshold for requesting a consultation.^{13 17} More evidence is emerging, including from a recent analysis of routinely collected data from UK general practices using one online triage platform. It found a relative reduction of 3.4% in emergency department attendances in 2019 in practices that had adopted the online triage platform before mid-2019 compared with those that introduced it during the pandemic.¹¹

How to conduct a written online consultation

Key steps to consider when approaching a written online consultation are summarised in the infographic. Written online consultation should be considered part of a dynamic primary healthcare model and not a stand-alone service. This is not a bolt-on service but a change to practice systems and workflow and requires the involvement of the whole team and patients.⁶ Box 1 offers our suggestions for how to incorporate this mode of consultation into a general practice service.

Box Start

Box 1. Integrating online written consultations in general practice

Providing an inclusive and equitable service

- Maintain a multi-modal service
- Written online consultations represent a big change in how patients engage with their healthcare professional. Some patients may need training and guidance to support them. Human support is particularly important when patients have low levels of health literacy.¹⁸
- To improve inclusion, consider:
 - Free internet access at strategic sites
 - Improved readability and cultural acceptability of online health information and communication
 - Skill development for online access or additional support from a care facilitator^{19 20}

- Annotate records for those who may find it challenging to use online consultation tools (such as those with learning difficulties, visual impairment, or poor access to devices and data)

Encouraging patients

- Ask patients about their communication preferences and needs. Avoid making assumptions about who is able or wants to use digital channels
- Ask all practice staff to promote written online consultation at each interaction with patients or as part of a follow-up message
- Consider using an agreed script to help staff explain to patients how they can access services, what to expect, and how the service is working to keep patients (and others) safe in the context of covid-19
- Co-produce communications and proactively raise awareness with local diverse and inclusive patient communities
- Use practice, patient, and community champions as trusted digital facilitators
- Proactively seek patient feedback on what would make them more or less likely to use online consultation tools

Involving practice staff

- Ensure that the reception team are well informed about what written online consultation tool is available and what benefits the tool can offer
- Ensure the reception team feel confident in explaining that the patients will receive care when they need it, from the right clinician. This may include reassurance that face-to-face care always remains available when clinically appropriate
- Maintain an up to date and accessible practice website that works across multiple devices to maximise reach. You can use website analytics to prioritise how services and information are displayed on your home page so it is clear, easy to navigate, and structured around user needs
- Be aware that members of the practice team will adapt to new systems at varying rates, with some requiring longer periods of support to adjust
- Ensure patients are made aware of this option using as many routes as possible, such as social media, SMS, practice newsletter, information at registration

Communications with patients

- Ensure that the primary care practice website or web platform in use provides clear information about the rules of engagement and what goes on “behind the scenes”—for example, who will see the written online consultation, how a problem will be dealt with, how information will be kept afterwards, and the code of conduct. Include:

- Service hours and response times (in-hours and out-of-hours and for clinical and administrative queries)
- How to use it and what to do if they have a medical emergency
- How a response will be received and what to do if it is not or symptoms worsen
- How a patient can get help for an urgent clinical query, particularly out-of-hours
- What happens to photos, if and where they will be stored²¹
- Advice for safe and proportionate image sharing²¹
- How to navigate to information on self care and local self referral services

- Patients may be worried that something written is not as confidential as something said face-to-face. Reassure patients that this consultation type is secure and that the information sent is saved confidentially in their medical record. Many systems allow patients to receive a copy of their written online consultation
- Reassure patients that an online written consultation is not a “lesser” form of a consultation, but it is different. It is convenient for many patients, and the written medium means they can take time to consider their message and to read information^{22 23}

Box End

When choosing and setting up an online consultation platform,^{7 24} important considerations include²⁵:

- The use of questionnaires that are structured, use plain language, and offer a flexible approach can help patients to clearly detail their problem(s) and needs. Consider factors that may affect usability such as the length of time taken to set up and complete a consultation and the number of pop-ups patients will have to navigate (versus their intended benefit in providing safeguards for clinician and patient safety), tailoring these to local patient need and practice workflow processes.
- The availability of functionality offered by the online system to assist with verifying patient identity.

- Patients appreciate a consultation that feels personal and allows them to get a prompt response, even if this is simply letting them know that their query is being reviewed.
- To enable continuity of care, patients should be able to address the written online consultation to a specific clinician or the system should display a rota of who is available.

The patient completes a written online consultation

Written online consultations are commonly used for clinical administrative requests, medication queries, simple clinical queries, follow-ups, long term condition surveillance, risk factor monitoring, and providing advice and information.²⁶⁻²⁸ The clinical topics addressed tend to closely mirror those seen in a face-to-face consultation.²⁹⁻³¹ The consultations can also be used to keep patient contact details up to date.

Online consultation systems can also be used to gather more detailed information to support decision making—patients can send photos, audio or video files, remote observations, and attachments—and to follow up or monitor patients more easily. Consider if it is practical for the patient to take a photograph (such as, of certain areas of the body) if they have restricted dexterity or require a carer to help (and whether they would feel comfortable with this).

The primary care practice screens the patient's message

When the practice receives a request from a patient via the online consultation platform, this should be screened and directed to the most appropriate member of staff. This allows for administrative tasks to bypass a clinician and for effective use of the primary care clinical team (pharmacist, care coordinator, nurse, etc). This can be done by an appropriately trained member of the administrative team^{22 32}:

- The staff member screening requests can direct any obvious “red flags” to a clinician in the same way they would do with a telephone contact.
- Where possible, try to ensure continuity of care and pass the consultation to a clinician already known to the patient, particularly if the request is about an ongoing or non-urgent problem, when this is not possible, maintain effective communication between professionals.^{22 33}
- It's a continuous learning curve. Seek feedback from patients and staff to keep improving your processes. Use patient feedback questionnaires and routine reports to understand demand patterns, assess outcomes, and improve the service.

Responding to a written online consultation

Review and prioritise the patient's request based on the need and consider the most appropriate method of response: this might be a written reply, a telephone call, a video call, or a face-to-face appointment. Take a risk stratification approach, considering the clinical, technical, and socio-cultural context. Consider the person's preferences and accessibility of the format; the complexity, acuity, and urgency of the health need; your familiarity with the

patient, their history and the psychosocial context to judge their current state of health; the potential risk of harm from the intervention; patient experiences that may make it more difficult to develop trust such as trauma, stigmatisation, or discrimination; the patient's ability to have their voice heard and maintain autonomy in managing their healthcare; the need for a physical or visual assessment of the patient; and the ability to establish a two-way dialogue and share information in the way the patient understands or needs. Review and act on information presented in line with your clinical judgment as you would with any other consultation type. Be flexible and change the consultation method as needed.

There are many similarities with other forms of communication. For instance, we suggest writing in the tone that you would normally use with the patient.^{5 26}

- Write in a structured way, keeping sentences short.
- Introduce yourself, your role, consider stating your gender (such as “I’m Dr X, one of the female GPs at the practice”); as it may not be obvious from an unfamiliar name.
- Briefly summarise what the patient has written to confirm you have understood their point and the patient's expectations. However, don't be tempted to repeat taking the whole history. Clarify specifics or check if anything has changed if needed. This also reassures patients that you have read what they have written.
- Offer to explain anything again and ask the patient if they have any questions.
- Be specific about what will happen next.
- Share an agreed summary or management plan electronically and consider enabling full record access so patients can refer back to the consultation.
- Have a threshold at which you revert to telephone, video, or face-to-face consultation if the conversation is lengthy, not going well, or a deeper discussion is required.

Managing risk

It can be difficult to identify cues and clues when consulting online. Be aware of the challenge of not missing these, and be prepared to switch consultation method when needed. There is little research to indicate whether misunderstandings are increased or reduced with written online consultation³⁴:

- An established patient-clinician relationship makes a written online consultation easier,³⁵ reduces the potential for miscommunication, and provides a better understanding of what “normal” is for the patient.
- You may need to follow up with a telephone or face to face consultation in cases where a detailed history or discussion is needed. Non-verbal cues may be more important in some patients e.g. with learning difficulties or language barriers, where history taking may be more challenging.
- Remain professionally curious and be vigilant to safeguarding, capacity, and privacy issues. If you have concerns arrange a face-to-face assessment.
- Be alert to written cues and clues—for example, through the language used, literacy and language skills and consistency of responses; disproportionate or unsolicited intimate image sharing²¹ and alerts in the patient's clinical record. If an online request has been

submitted by a proxy, check their relationship with the patient and that consent has been given by the patient where appropriate.

- Follow up online requests from young people under 16 years old with a face to face assessment to determine whether the patient is capable of giving informed consent to medical treatment without the knowledge or permission of their parents (or legal guardian) and whether this is in their best interests, following the principles of Gillick Competence.²¹
- Ensure clinical safety risk management processes have been applied to your implementation strategy for online consultation systems.^{36 37} Have a robust policy for clinically triaging incoming online consultation requests to avoid missing urgent issues and flagging requests from patients known to be vulnerable, children, and young people—with a low threshold for seeing them. Take into consideration who initiated the consultation, the patient’s engagement with health and care services and choosing a consultation method that enables the person to talk about private concerns confidentially.
- Discuss cases with colleagues or take peer reviewed decisions.
- If a patient has repeatedly consulted about the same problem online or has multiple failed encounters, offer them a face to face or telephone appointment.
- To support the patient’s understanding of the consultation, it can be helpful to summarise key points and ask, for example, “Are you in agreement? Is there anything important I’ve missed?” and attach a link or digital leaflet to information, to consolidate your mutually agreed plan. Safety-net, explicitly highlighting red flags, particularly as you have not been able to see or speak to the patient.
- Fears that healthcare professionals will be overwhelmed with lengthy exchanges that take up time by using written online consultation have not been realised. A UK based analysis of email consultations found that the median number of emails in a consultation was two and the median number of days from the first to last email was three.^{38 39}

Adapting to written online consultations

Written online consulting is a new skill, and adapting to it can be cognitively demanding. Healthcare professionals facing the greatest transition and adaptation often require enhanced training and longer periods of support.⁴⁰ There is no “one size fits all” approach for training.

- Provide space for peer review, debriefs, and discussions.
- Create routine with regular “huddles” and check-ins for the whole team to share learning and feedback. Consider a shared working space (while adhering to any social distancing rules for the workplace). Teams with a strong foundation have found remote working easier and are better able to realise the benefits.⁴¹
- Join existing communities of practice for generating collective learning and clinician crowd-sourced advice.
- Ensure all staff receive training in using the systems and test the pathway to see how it works from the patient perspective.

Box Start

How this article was made

This work draws on an evidence based toolkit devised by NHS England²⁴ and on an evidence based toolkit³² devised by researchers in how to use alternatives to face-to-face consultations. The advice presented here is additionally informed by research conducted by author HA,

including a published review⁴² and published research in this field, including the most recent evidence synthesis conducted.^{14 15 34 43 44}

Box End

Box Start

Additional educational resources

Resources for clinicians

- NHS England and NHS Improvement. Advice on how to establish a ‘total triage’ model in general practice using online consultations. 2020. <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0098-total-triage-blueprint-september-2020-v3.pdf>
- FutureNHS. Demand and capacity tool. <https://future.nhs.uk/system/login?nexturl=/connect.ti/digitalpc/view?objectid=66209701>
- Good Things Foundation. NHS widening digital participation. 2020. <https://digital-health-lab.org/>
- NHS Digital. Digital inclusion for health and social care. 2019. <https://digital.nhs.uk/about-nhs-digital/our-work/digital-inclusion>
- RCGP. Key principles for intimate clinical assessments undertaken remotely in response to COVID-19. 2020. https://elearning.rcgp.org.uk/pluginfile.php/154305/mod_page/content/11/Key%20principles%20for%20intimate%20clinical%20assessments_July%202020.pdf
- RCGP. Principles for supporting high quality consultations by video in general practice during COVID-19. 2020. <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0479-principles-of-safe-video-consulting-in-general-practice-updated-29-may.pdf>
- NHS England. Using online consultations in primary care: implementation toolkit. 2019. <https://www.england.nhs.uk/publication/using-online-consultations-in-primary-care-implementation-toolkit/>
- Health Education England, e-Learning for Healthcare. Remote total triage model in general practice. 2020. <https://portal.e-lfh.org.uk/Component/Details/609561>
- RCGP. Remote versus face-to-face: which to use and when? 2020. https://elearning.rcgp.org.uk/pluginfile.php/154305/mod_page/content/13/Remote%20versus%20face-to-face_Nov%202020.pdf

Resources for patients

- NHS Health at Home. <https://www.nhs.uk/health-at-home/>
- Good Things Foundation, Learn my way. Improving your health online. <https://www.learnmyway.com/subjects/improving-your-health-online/>
- NHS England. Video consulting with your NHS. <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/08/C0638-nhs-vc-patient-quick-guide-a4.pdf>
- NHS England and NHS Improvement. How to access your GP practice. <https://www.youtube.com/watch?v=gXHPWbEmp5s&t=65s>

Box End

Box Start

Education into practice

- Peer review written online consultations as part of ongoing team training to improve quality and appropriateness

- Design a crib sheet with your team with key messages and frequently asked questions to ensure patients get a consistent message and to help staff answer queries more easily

Box End

Box Start

How patients were involved in the creation of this article

A draft of this article was shared with the Patient Public involvement reference group linked to the Unit of Academic Primary Care, Warwick Medical School, via Helen Atherton and the Community Barnet Primary Care Group, via Minal Bakhai. Recommendations were made on all parts of the draft by participants. Of particular note detailed suggestions were made to sections on accessibility, privacy, and security.

Box End

Contributors: MB and HA conceived the article and are guarantors. Both authors wrote and reviewed the article, created the boxes, and helped with the infographic

Competing interests: We have read and understood the BMJ policy on declarations of interests and declare the following interests: HA receives research funding from NIHR as chief investigator and co-investigator on projects relating to the critical evaluation of digital applications in primary care. She is lead supervisor for a collaborative PhD studentship partly funded by Advanced and partly funded by University of Warwick. In 2017 she received data at no cost from askmyGP to conduct independent analysis, this work was conducted by a medical student as part of a funded placement and published in the *British Journal of General Practice*. She is a member of the Primary Care Digital Transformation Board at NHS England, and the Scientific Foundation Board at the Royal College of General Practitioners.

Provenance and peer review: Commissioned, based on an idea from the author; externally peer reviewed.

<jrn>1 Bertelsen P, Stub Petersen L. Danish citizens and general practitioners' use of ICT for their mutual communication. *Stud Health Technol Inform* 2015;216:376-9. [PubMed](#)</jrn>

<jrn>2 Huygens MWJ, Swinkels ICS, Verheij RA, Friele RD, van Schayck OCP, de Witte LP. Understanding the use of email consultation in primary care using a retrospective observational study with data of Dutch electronic health records. *BMJ Open* 2018;8:e019233. [PubMed doi:10.1136/bmjopen-2017-019233](#) </jrn>

<eref>3 NHS England. Empowering the person: roadmap for digital health and care services. 2018. <https://eu-rm.roadmunk.com/publish/0dbd8ebaa98e26573e09b1d1fc74433d486ee5d2/>.</eref>

<jrn>4 Pearl R. Kaiser Permanente Northern California: current experiences with internet, mobile, and video technologies. *Health Aff (Millwood)* 2014;33:251-7. [PubMed doi:10.1377/hlthaff.2013.1005](#) </jrn>

<jrn>5 Grønning A, Assing Hvidt E, Nisbeth Brøgger M, Fage-Butler A. How do patients and general practitioners in Denmark perceive the communicative advantages and disadvantages of access via email consultations? A media-theoretical qualitative study. *BMJ Open* 2020;10:e039442. [PubMed doi:10.1136/bmjopen-2020-039442](#) </jrn>

<jrn>6 Farr M, Banks J, Edwards HB, et al. Implementing online consultations in primary care: a mixed-method evaluation extending normalisation process theory through service co-production. *BMJ Open* 2018;8:e019966. [PubMed doi:10.1136/bmjopen-2017-019966](#) </jrn>

<eref>7 Bakhai M. Advice on how to establish a remote 'total triage' model in general practice using online consultations. 2020. <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0098-total-triage-blueprint-september-2020-v3.pdf>.</eref>

- <jrn>8 Chen C, Garrido T, Chock D, Okawa G, Liang L. The Kaiser Permanente Electronic Health Record: transforming and streamlining modalities of care. *Health Aff (Millwood)* 2009;28:323-33. [PubMed doi:10.1377/hlthaff.28.2.323](#) </jrn>
- <jrn>9 Goldzweig CL, Orshansky G, Paige NM, et al. Electronic patient portals: evidence on health outcomes, satisfaction, efficiency, and attitudes: a systematic review. *Ann Intern Med* 2013;159:677-87. [PubMed doi:10.7326/0003-4819-159-10-201311190-00006](#) </jrn>
- <eref>10 Bakhai M. The use of online and video consultations during the COVID-19 pandemic - delivering the best care to patients. 2020. <https://www.nhsx.nhs.uk/blogs/use-online-and-video-consultations-during-covid-19-pandemic-delivering-best-care-patients/>.</eref>
- <eref>11 Clarke G, Pariza P, Wolters A. How are total triage and remote consultation changing the use of emergency care? 2020. <https://www.health.org.uk/news-and-comment/charts-and-infographics/how-are-total-triage-and-remote-consultation-changing-the-us>.</eref>
- <jrn>12 Atherton H, Brant H, Ziebland S, et al. The potential of alternatives to face-to-face consultation in general practice, and the impact on different patient groups: a mixed-methods case study. *Health Services and Delivery Research* 2018; [doi:10.3310/hsdr06200](#). [PubMed](#)</jrn>
- <jrn>13 Atherton H, Sawmynaden P, Sheikh A, Majeed A, Car J. Email for clinical communication between patients/caregivers and healthcare professionals. *Cochrane Database Syst Rev* 2012;11:CD007978. [PubMed doi:10.1002/14651858.CD007978.pub2](#) </jrn>
- <jrn>14 Mold F, Hendy J, Lai Y-L, de Lusignan S. Electronic consultation in primary care between providers and patients: systematic review. *JMIR Med Inform* 2019;7:e13042. [PubMed doi:10.2196/13042](#) </jrn>
- <jrn>15 Rodgers M, Raine G, Thomas S, Harden M, Eastwood A. Informing NHS policy in ‘digital-first primary care’: a rapid evidence synthesis. *Health Serv Deliv Res* 2019;7:41 [doi:10.3310/hsdr07410](#) .</jrn>
- <jrn>16 Huxley CJ, Atherton H, Watkins JA, Griffiths F. Digital communication between clinician and patient and the impact on marginalised groups: a realist review in general practice. *Br J Gen Pract* 2015;65:e813-21. [PubMed doi:10.3399/bjgp15X687853](#) </jrn>
- <jrn>17 Palen TE, Ross C, Powers JD, Xu S. Association of online patient access to clinicians and medical records with use of clinical services. *JAMA* 2012;308:2012-9. [PubMed doi:10.1001/jama.2012.14126](#) </jrn>
- <jrn>18 Koh HK, Brach C, Harris LM, Parchman ML. A proposed ‘health literate care model’ would constitute a systems approach to improving patients’ engagement in care. *Health Aff (Millwood)* 2013;32:357-67. [PubMed doi:10.1377/hlthaff.2012.1205](#) </jrn>
- <jrn>19 Sarkar U, Karter AJ, Liu JY, et al. The literacy divide: health literacy and the use of an internet-based patient portal in an integrated health system-results from the diabetes study of northern California (DISTANCE). *J Health Commun* 2010;15(Suppl 2):183-96. [PubMed doi:10.1080/10810730.2010.499988](#) </jrn>
- <jrn>20 Sheridan SL, Halpern DJ, Viera AJ, Berkman ND, Donahue KE, Crotty K. Interventions for individuals with low health literacy: a systematic review. *J Health Commun* 2011;16(Suppl 3):30-54. [PubMed doi:10.1080/10810730.2011.604391](#) </jrn>
- <eref>21 Bakhai M. Key principles for intimate clinical assessments undertaken remotely in response to COVID-19. 2020. https://elearning.rcgp.org.uk/pluginfile.php/154305/mod_page/content/11/Key%20principles%20for%20intimate%20clinical%20assessments%20July%202020.pdf.</eref>

- <jrn>22 Atherton H, Brant H, Ziebland S, et al. Alternatives to the face-to-face consultation in general practice: focused ethnographic case study. *Br J Gen Pract* 2018;68:e293-300. [PubMed doi:10.3399/bjgp18X694853](#) </jrn>
- <jrn>23 Hansen CS, Christensen KL, Ertmann R. Patients and general practitioners have different approaches to e-mail consultations. *Dan Med J* 2014;61:A4863. [PubMed](#)</jrn>
- <eref>24 Bakhai M. Using online consultations in primary care: implementation toolkit. 2019. <https://www.england.nhs.uk/publication/using-online-consultations-in-primary-care-implementation-toolkit/>.</eref>
- <conf>25 Turner A, Farr M, Banks J, et al, eds. How does the adoption of digital health tools in primary care impact clinician-patient communication? Some lessons from the DECODE study into unintended consequences. South West Society for Academic Primary Care Conference 2020; Bristol.</conf>
- <jrn>26 Atherton H, Boylan A-M, Eccles A, Fleming J, Goyder CR, Morris RL. Email consultations between patients and doctors in primary care: content analysis. *J Med Internet Res* 2020;22:e18218. [PubMed doi:10.2196/18218](#) </jrn>
- <jrn>27 Mirsky JB, Tieu L, Lyles C, Sarkar U. A mixed-methods study of patient-provider e-mail content in a safety-net setting. *J Health Commun* 2016;21:85-91. [PubMed doi:10.1080/10810730.2015.1033118](#) </jrn>
- <jrn>28 Shimada SL, Petrakis BA, Rothendler JA, et al. An analysis of patient-provider secure messaging at two Veterans Health Administration medical centers: message content and resolution through secure messaging. *J Am Med Inform Assoc* 2017;24:942-9. [PubMed doi:10.1093/jamia/ocx021](#) </jrn>
- <jrn>29 Eccles A, Hopper M, Turk A, Atherton H. Patient use of an online triage platform: a mixed-methods retrospective exploration in UK primary care. *Br J Gen Pract* 2019;69:e336-44. [PubMed doi:10.3399/bjgp19X702197](#) </jrn>
- <jrn>30 Stuart B, Leydon G, Woods C, et al. The elicitation and management of multiple health concerns in GP consultations. *Patient Educ Couns* 2019;102:687-93. [PubMed doi:10.1016/j.pec.2018.11.009](#) </jrn>
- <jrn>31 Edwards HB, Marques E, Hollingworth W, et al. Use of a primary care online consultation system, by whom, when and why: evaluation of a pilot observational study in 36 general practices in South West England. *BMJ Open* 2017;7:e016901. [PubMed doi:10.1136/bmjopen-2017-016901](#) </jrn>
- <eref>32 Atherton H, Brant H, Ziebland S, et al. Guidance: Alternatives to face-to-face consultations in primary care. 2018. <http://www.bristol.ac.uk/primaryhealthcare/researchthemes/alt-con/resources/>.</eref>
- <jrn>33 Atherton H, Pappas Y, Heneghan C, Murray E. Experiences of using email for general practice consultations: a qualitative study. *Br J Gen Pract* 2013;63:e760-7. [PubMed doi:10.3399/bjgp13X674440](#) </jrn>
- <jrn>34 Chambers D, Cantrell A, Johnson M, et al. Digital and online symptom checkers and health assessment/triage services: systematic review. *BMJ Open* 2019;9:e027743. [PubMed doi:10.1136/bmjopen-2018-027743](#) </jrn>
- <jrn>35 Atherton H, Brant H, Ziebland S, et al. The potential of alternatives to face-to-face consultation in general practice, and the impact on different patient groups: a mixed-methods case study. *Health Services and Delivery Research* 2018;6. [PubMed doi:10.3310/hsdr06200](#) </jrn>
- <eref>36 NHS Digital. Clinical risk management: its application in the deployment and use of health IT systems. DCB0160. <https://digital.nhs.uk/services/clinical-safety/clinical-risk-management-standards#dcb0160>.</eref>

- <jrn>37 Jones D, Dunn L, Watt I, Macleod U. Safety netting for primary care: evidence from a literature review. *Br J Gen Pract* 2019;69:e70-9. [PubMed doi:10.3399/bjgp18X700193](#) </jrn>
- <jrn>38 Atherton H, Boylan AM, Eccles A, Fleming J, Goyder CR, Morris RL. Email consultations between patients and doctors in primary care: content analysis. *J Med Internet Res* 2020;22:e18218. [PubMed doi:10.2196/18218](#) </jrn>
- <jrn>39 Shimada SL, Petrakis BA, Rothendler JA, et al. An analysis of patient-provider secure messaging at two Veterans Health Administration medical centers: message content and resolution through secure messaging. *J Am Med Inform Assoc* 2017;24:942-9. [PubMed doi:10.1093/jamia/ocx021](#) </jrn>
- <jrn>40 Colligan L, Potts HW, Finn CT, Sinkin RA. Cognitive workload changes for nurses transitioning from a legacy system with paper documentation to a commercial electronic health record. *Int J Med Inform* 2015;84:469-76. [PubMed doi:10.1016/j.ijmedinf.2015.03.003](#) </jrn>
- <eref>41 The Kings Fund. Leading teams virtually. 2020. <https://www.kingsfund.org.uk/publications/leading-teams-virtually>.</eref>
- <jrn>42 Atherton H, Ziebland S. What do we need to consider when planning, implementing and researching the use of alternatives to face-to-face consultations in primary healthcare? *Digit Health* 2016;2:2055207616675559. [PubMed doi:10.1177/2055207616675559](#) </jrn>
- <jrn>43 Borg K, Boulet M, Smith L, Bragge P. Digital inclusion & health communication: a rapid review of literature. *Health Commun* 2019;34:1320-8. [PubMed doi:10.1080/10410236.2018.1485077](#) </jrn>
- <jrn>44 Weiss D, Rydland HT, Øversveen E, Jensen MR, Solhaug S, Krokstad S. Innovative technologies and social inequalities in health: A scoping review of the literature. *PLoS One* 2018;13:e0195447. [PubMed doi:10.1371/journal.pone.0195447](#) </jrn>