

eHealth literacy and the use of NHS111 online. What does it mean for accessing and using urgent care?

Many health care systems, including the NHS, use online services to support the delivery of care, a trend which was accelerated by the COVID-19 pandemic. Patients are increasingly encouraged to access and use online health services such as the NHS 111 online urgent care service, which assesses, triages and signposts users to other health services where necessary. Services like NHS 111 online require people to have sufficient motivation, knowledge of health and of services, and to be able to use digital technologies ('eHealth literacy'). Whilst digital technologies may seem almost ubiquitous in many aspects of daily life, it is estimated that many millions in the UK do not go online or lack the skills to use the Internet effectively.

The push towards accessing care online may exacerbate health inequalities due to variations in peoples' level of eHealth literacy. However, the relationship between eHealth literacy and the use of urgent online services such as NHS 111 online is not clear. This Evidence Brief describes the findings of a two-year study undertaken by the University of Oxford and the University of Southampton. It summarises the findings of a survey that measured eHealth literacy and preferences of users and non-users of NHS 111 online.

NHS 111 online: accessing urgent care

During the Covid-19 pandemic, the use of online general practice and urgent care health services rapidly accelerated in many countries. Alongside telephone services, online services are now central in the NHS to delivering primary, urgent and emergency care services. NHS 111 online assesses and triages people with urgent (non-emergency) care needs (patients aged over five years) to a range of health services. Launched in 2017 as an extension to the NHS 111 telephone service, NHS 111 online provides 24-hours a day access to a freely available Web-based health service, via a smartphone, tablet or computer. NHS 111 online users follow an algorithm answering questions about symptoms or health concerns, resulting in an outcome which signposts users to an appropriate service (for example, emergency ambulance, emergency department, general practice) or self-care advice is provided.

NHS111 online has the potential to provide 24/7 assessment, and more timely and convenient access to care. In November 2024, 636,800 online triages were completed; most contacts resulted in advice to contact a health service (44% primary care, 9% 999, 11% emergency treatment, 19% needed a prescription, 6% dental care).¹ It may also empower people to manage and maintain their own health, although only 7% of contacts resulted in self-management. Users of online symptom checkers and assessment services often report high levels of satisfaction. However, there are longstanding concerns that there may be barriers to using online health services for particular groups of people, for example older people, disadvantaged socioeconomic groups, those with a disability or Long Term Condition (LTC), and people that lack access to digital technology. These groups are typically less likely to use the Internet to search for health information and use symptom checkers ².

eHealth literacy and why does it matter?

UK policy, for example, The NHS Long Term Plan³ has positioned technology to play a central role in future service delivery plans. Patients are increasingly encouraged to access and use online health services. This requires people to have sufficient knowledge, skills, resources and motivation, for example, to complete online assessment tools / the relevant digital forms, or to participate in video consultations with health professionals. eHealth literacy describes a person's ability to have:

- an understanding of health/illness and health services (e.g., symptoms of illness; awareness of service provision) and;
- 'digital literacy' (ability to use digital technologies such as the Web or smartphones).

Such technologies are so commonplace it might be assumed that most people are able to access the Internet for health information and advice, and regularly do so. However, NHS England estimates that 11 million people lack the skills to use the Internet effectively and 5 million never go online.⁴ This suggests that there is potential difficulty in access for a significant proportion of the population. Lower levels of eHealth literacy are associated with increased age, lower levels of education, lower socioeconomic status, and the presence of a long-term health condition⁵. However, previous research has focused on using the Internet for health information seeking, rather than online triaging services. Since 111 online is used directly by patients / public – where there is no call handler or clinical intermediary – there are additional concerns about eHealth literacy as a barrier to accessing NHS 111 online. The research described in this Evidence Brief is a summary of a survey that measured eHealth literacy and preferences of users and non-users of NHS 111 online urgent care triage and assessment.⁶

Study design

The study is a cross-sectional survey of a convenience sample of 2754 adults (data collected 2020-2021). The sample was drawn from users of primary, urgent and emergency care services, third sector organisations, and the NHS 111 online website. The survey included the eHealth Literacy Questionnaire (eHLQ), a validated 35-item questionnaire⁷ which measures peoples' reported competencies, experiences, and interactions with technologies and services (scored using a 4-point scale from strongly disagree to strongly agree). It includes 7 dimensions of eHealth literacy, for example 'using technology to process health information', 'ability to actively engage with digital services', and 'motivated to engage with digital services'. The survey also asked respondents if they had ever previously used other urgent and emergency services, and also collected sociodemographic characteristics. Additionally, respondents were asked to rate their likelihood of using 111 online for 10 hypothetical scenarios describing common presenting conditions (e.g., child with a temperature) (on a 5-point Likert scale from "very likely" to "very unlikely").

NHS 111 online: who uses it, and what they would consider using it for

Of 2754 respondents, two thirds were female, 44% were aged between 45-64 years, and almost half reported a long-term condition. In total, 59% had not used 111 online ('non-users'). More women reported using 111 online and the proportion of users declined consistently with increasing age and increased with reported level of education. In total, 44% of people with a LTC had used 111 online. Both users and non-users of 111 online were especially likely to use 111 online for the scenarios; 'young child with a temperature and crying' and 'severe chest pain that goes away after a few minutes'. A sizeable proportion of non-users reported that they might use NHS 111 online for seeking advice about young children (76%) or severe chest pain (69%).

eHealth Literacy and NHS 111 online use

As might be expected, NHS 111 online users had higher digital literacy scores across most eHLQ dimensions compared to non-users. Differences between users and non-users were largest for the domains focused on their ability and motivation to use technologies ('Using technology to process health information', 'Ability to actively engage with digital services' and 'Motivated to engage with digital services'). Interestingly, respondents that reported having a LTC tended to have lower eHLQ scores and yet were more likely to have used NHS 111 online. However, people with a LTC who were non-users of NHS 111 online had the lowest eHLQ scores.

Predicting the use of NHS 111 online?

Logistic regression was used to explore which patient characteristics predicted use (vs non-use) of NHS 111 online, including age, gender, education, presence of a LTC, and mean scores for the seven eHLQ dimensions. Younger

age was a predictor of using NHS 111 online, with respondents aged 44 years and under more likely to have used it. Four eHLQ domains were significant predictors of 111 online use. Although more women reported use of 111 online, gender was not a significant predictor. Education level was not a strong predictor of use, although those with no formal qualifications were, perhaps unsurprisingly, less likely to report using 111 online.

Conclusions

Our findings about eHealth literacy and use of NHS 111 online may not be surprising: younger, more educated people are more digitally literate and therefore may be expected to be better able to use the service. However, we have identified important differences in reported eHealth literacy between users and non-users of NHS 111 online, notably for those with LTCs. Whilst digital devices are a necessity for participation in many aspects of modern society, it is important to remember that access remains a problem for some groups. We must ensure that 'digital first' policies do not entrench or exacerbate health inequalities.

Users and non-users were both willing to use NHS 111 online for a range of health scenarios, indicating broad acceptability of online health services. However, not everyone is able or likely to do this. Understanding the potential demand - and their eHealth literacy - will be important as online services continue to develop.

How to cite: Turnbull J., Barker, H. (ed), Fogg, C. (ed) e-Health literacy and the use of NHS111 online. What does it mean for accessing and using urgent care? Evidence Brief, University of Southampton. February 2025.

References

1. NHS England <https://www.england.nhs.uk/statistics/statistical-work-areas/iucadc-new-from-april-2021/111-online-statistics/>
2. Gray DM, Joseph JJ, Olayiwola JN. Strategies for Digital Care of Vulnerable Patients in a COVID-19 World - Keeping in Touch. JAMA Health Forum 2020; 1(1):e200734. doi:10.1001/jamahealthforum.2020.0734.
3. NHS England <https://www.england.nhs.uk/long-term-plan/>
4. NHS England <https://www.england.nhs.uk/long-read/digital-skills-for-patients/>
5. Choi NG, DiNitto DM. The Digital Divide Among Low-Income Homebound Older Adults: Internet Use Patterns, eHealth Literacy, and Attitudes Toward Computer / Internet Use. J Med Internet Res 2013;15(5):e93. doi: 10.2196/jmir.2645.
6. Turnbull J, Prichard J, MacLellan J, Pope C. eHealth Literacy and the Use of NHS 111 Online Urgent Care Service in England: Cross-Sectional Survey. J Med Internet Res. 2024;26:e50376. doi: 10.2196/50376.
7. Kayser L, Karnoe A, Furstrand D, Batterham R, Christensen KB, Elsworth G, et al. A Multidimensional Tool Based on the eHealth Literacy Framework: Development and Initial Validity Testing of the eHealth Literacy Questionnaire (eHLQ). J Med Internet Res 2018;2(2):e36. doi: 10.2196/jmir.8371.