

Health app: ChatHealth communication platform in school nursing services

Medtech innovation briefing

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Summary

About this app

- ChatHealth is a 2-way communication platform that allows direct contact between patients and healthcare professionals.
- Currently, its main use is enabling young people (aged 11 to 19) to ask a nurse questions through anonymous SMS text messages. A web-based message management application allows teams of school nurses to reply to the messages confidentially.
- Costs depend on the size of the nursing team. For example, making ChatHealth available in a school nursing service involving up to 10 nurses would cost £6,000 per year. Ongoing licensing costs are £55.60 per staff user per month, for up to 4 nurses.

Evidence summary

- **Clinical effectiveness:** ChatHealth has potential to have a positive impact as a communication platform in school nursing services compared with standard care. There is no comparative or quantitative evidence with relevant outcomes to demonstrate clinical effectiveness. Limited evidence is available on the use of the system and type of queries received.
- **Cost and resource impact:** Cost savings may arise from increased efficiency in the school nursing service and potential avoidance of health issues by improving access to the service. Limited economic information available from a case study suggests cost and resource savings.

- **User benefits:** ChatHealth is currently available to around 1 million young people in England. Reports from users describe benefits including easier and anonymous access to the school nursing service from a young person's perspective and more effective use of staff time from a service provider perspective.

The technology

ChatHealth (Leicestershire Partnership NHS Trust) is a web-based messaging system that allows patients to directly contact healthcare professionals. It can be used by different kinds of clinical teams.

Currently, its main use (and the focus of this briefing) is enabling secondary school children and young people aged 11 to 19 to confidentially and anonymously contact their school nursing service through SMS text messages. The young person is able to state their name in the text message if they do not want their message to be anonymous. Messages are received at a central inbox, which can be accessed by the school nursing team. Nursing staff respond through a web-based application to send a message back to the young person's phone. Several messages can be sent and received within the same conversation.

The service is generally confidential between the young person and the school nursing team, but if the nurses judge the health, safety or welfare of the patient or someone else to be at significant risk then local safeguarding protocols may be implemented.

Features built into ChatHealth include:

- out-of-hours automated responses, which redirect the person to other services when the school nursing service is closed
- automated fail-safes such as flagging unread messages and system notifications
- availability management, which includes shared access to caseloads and the ability to respond to conversations on behalf of other nurses who become unexpectedly unavailable.

Nursing staff using ChatHealth usually have around 2 hours of training before service launch, as well as an optional introductory workshop (training costs are included in the initial implementation cost plan).

ChatHealth could also be adopted by other clinical teams, such as health visitors for parents of new born children. However, these other indications are beyond the scope of this briefing.

ChatHealth has undergone a technical evaluation using the [Digital Assessment Questions](#), a pilot tool currently available to developers in beta form. The tool comprises 7 domains: clinical safety; security and privacy; confidentiality (information governance); usability and accessibility; technical stability; change management (updates and version control); and regulatory approval. NHS Digital has confirmed that ChatHealth has passed this assessment. The completed assessments are not currently published.

Table 1 Technology components

Component (first UK launch, version number)	Regulatory status	Cost
Two-way messaging system using SMS text messages (April 2014, v1.0)	ChatHealth does not meet the current eligibility criteria for CE marking as a medical device or for regulation by the Care Quality Commission.	Implementation plans are available for teams of any size. As an example, a team of up to 10 nurses would cost £6,000 per year with 1 training day each. SMS messages are charged at the usual rates.
Web-based application (April 2014, v1.0)	As above.	No charge.

Novel system benefit

ChatHealth is an alternative channel for young people who want to contact the school nursing service, but would prefer not to do so in person. Its use may allow easier and more regular contact between school nurses and pupils, which may prevent problems escalating and the need for more costly interventions.

Current care pathway

Young people in secondary school typically have access to face-to-face support from school nurses, with enquiries relating to a wide range of health and wellbeing issues. School nursing services usually provide 1 named nurse for each school. When necessary, school nurses can refer young people to specialist support services outside of the school nursing system, such as mental health services.

ChatHealth is not intended to replace face-to-face services but offers an alternative communication channel. It is intended to be used as part of a range of methods that young people can use to get in touch with healthcare professionals.

NICE public health guidance on [social and emotional wellbeing in secondary education](#) recommends ensuring that young people have access to pastoral care and support, as well as specialist services, so that emotional, social and behavioural problems can be dealt with as soon as they occur. The NICE local government briefing on [social and emotional wellbeing for children and young people](#) states that commissioners and providers of services for young people in secondary education should ensure that secondary education establishments have access to the specialist skills, advice and support they need. This may be provided by public, private, voluntary and community organisations.

The Royal College of Nursing guidance on [use of digital technology for nursing staff working with children and young people](#) includes recommendations on setting up an SMS text messaging service, because people under 25 years are more likely to communicate through text than by telephone conversation. Text messaging can provide access to health and advice services for some young people who may not have access to services through traditional methods.

Population, setting and intended user

ChatHealth is currently used by secondary school children and young people aged 11 to 19. They can send messages from their mobile device within service opening hours determined by local school nursing teams.

Young people and children who are not in the mainstream education system may be eligible to use ChatHealth, depending on local commissioning policies.

Equality considerations

NICE is committed to promoting equality, eliminating unlawful discrimination and fostering good relations between people with particular protected characteristics and others. In producing guidance and advice, NICE aims to comply fully with all legal obligations to: promote race and disability equality and equality of opportunity between men and women, eliminate unlawful discrimination on grounds of race, disability, age, sex, gender reassignment, marriage and civil partnership, pregnancy and maternity (including women post-delivery), sexual orientation, and religion or belief (these are protected characteristics under the Equality Act 2010).

ChatHealth is used by secondary school children and young people aged 11 to 19. Age is a protected characteristic under the Equality Act 2010.

Evidence on effectiveness

A literature search was carried out for this briefing. The most relevant or best available published evidence relating to the clinical effectiveness of the technology has been summarised below. Further information about how the evidence for this briefing was selected, and full summaries of the included studies, are available on request by contacting medtech@nice.org.uk.

This briefing summarises 1 peer-reviewed published summary report and 6 non-peer-reviewed published documents from 4 NHS trusts reporting the use of ChatHealth (table 2).

Table 2 Summary of evidence and available information

Evidence	Outcomes reported
Leicestershire Partnership NHS Trust	

<p><u>Pilot Review Report</u> (April 2014) and peer-reviewed summary report in the Primary Health Care Journal (<u>Paterson 2014</u>).</p>	<p>ChatHealth was made available to 4,200 students across 3 local schools, from April 2013 to March 2014.</p> <p>A total of 269 messaging conversations were reported between students and the school nurse, including 25 conversations during summer holidays.</p> <p>Based on a sample of 200 conversation transcripts, 45% of these health enquiries were made anonymously.</p> <p>Most enquiries were appointment requests or administrative (47.2%), followed by sexual health enquiries (33.9%) and emotional health and wellbeing enquiries (17.3%). The others comprised enquiries about self-harm, weight management, sleep patterns, personal hygiene and skin care.</p>
<p>Published document describing the use of ChatHealth to support the national suicide prevention strategy and a showcase from the Patient Experience Network National Awards.</p>	<p>Following the launch of ChatHealth in March 2014, the trust made ChatHealth available to 65,000 young people aged 11 to 19 in Leicestershire.</p> <p>School nurses respond to over 100 enquiries a month, mostly from teenagers with enquiries about emotional and mental health, self-harm and sexual health.</p> <p>Five enquiries were severe and imminent enough to trigger local emergency protocols, such as reporting to emergency services or social care services.</p> <p>The duty school nurse responds to 2 thirds of enquiries through messaging; only 1 third are escalated to face-to-face colleagues.</p>
<p>Cambridgeshire Community Services NHS Trust</p>	
<p><u>Local newsletter</u> (November 2016).</p>	<p>In its first year ChatHealth received 3,170 messages from pupils aged 11 to 16.</p> <p>36% of the messages related to emotional health, 30% requested an appointment with the school nurse and 14% related to sexual health.</p> <p>Other issues included general health enquiries, smoking cessation and diet and lifestyle advice.</p>
<p>Cumbria Partnership NHS Trust</p>	

<p><u>Press release</u> (October 2016).</p>	<p>ChatHealth received 62 text messages from young people across the county, with the most common themes being immunisation, social anxiety and physical health.</p>
<p>Worcester County Council/ Worcestershire Health and Care NHS Trust</p>	
<p><u>Public health newsletter</u> (June 2016).</p>	<p>In its first 5 months of use, ChatHealth received 315 messages.</p> <p>The most common enquiries related to healthy eating and diet.</p> <p>The average ChatHealth conversation was usually completed within 2 or 3 messages, with some young people accessing ChatHealth every day for 5 days.</p>

Overall assessment of the evidence

Only 1 peer-reviewed published report was identified that reported the use of ChatHealth. This provided a summary of the pilot study in Leicestershire and presented limited data.

The other available evidence is limited to non-peer-reviewed documents that lack both quantitative and comparative data. The limited evidence base provides basic information about the overall usage of ChatHealth in local services, and a simple stratification of the enquiries ChatHealth received.

Three of the 7 reports were developed by Leicestershire Partnership NHS Trust, the developer of ChatHealth, and may have potential for bias.

Further studies are needed to determine ChatHealth's effectiveness in terms of behaviour change and service reconfiguration. Studies should include baseline measurements before its implementation, which will allow for a more detailed analysis of ChatHealth's effect on the service and comparisons with face-to-face school nursing. Outcome measures should include the number and type of contacts received by ChatHealth in a representative whole school population, across a number of geographical locations. Studies should include follow-up of these contacts to investigate both user benefit and overall system benefits (such as onward referral to specialist services, including NHS and social care, and specific relevant end points such as prescription of emergency contraception).

Costs and resource use

This briefing includes the best available information about the costs and resource use of adopting ChatHealth in the health and care system. Published information is used when available.

Economic evidence

No peer-reviewed economic evidence was identified. The [showcase](#) from the Patient Experience Network National Awards claimed that ChatHealth delivers 100 additional contacts with young people each month within the existing school nursing service capacity. It was considered that the same number of contacts without ChatHealth would have needed another 2 nurses, costing approximately £70,000 per year.

Suffolk County Council provided some unpublished cost and resource information from 12 months of using ChatHealth (see [case study: Suffolk County Council](#)).

Technology costs

SMS text messages sent to ChatHealth are charged at the usual network rate. The local ChatHealth commissioner buys credit in advance to send SMS messages in reply. Each message costs around £0.03 and organisations typically use £25 to £75 credit per quarter.

Implementation costs for ChatHealth include project management support, technical infrastructure and account setup, technical setup of the ChatHealth message management tool and staff user training. Bespoke implementation cost plans are available based on team size and training needs; for example, 10 staff users and 1 day of training would cost £6,000.

Ongoing licensing costs for ChatHealth include cover access to the message management tool and use of all product features, ongoing technical support and access to licensed materials. Licensing costs also vary based on team size, but for up to 4 staff users licensing costs £55.60 per licence per month.

These costs do not include VAT, marketing materials to advertise the availability of the service or SMS text message replies. Full breakdown of costs can be found on the [digital marketplace](#).

Comparator costs

ChatHealth should only be used as 1 of a range of methods for young people to get in touch with healthcare professionals. Standard care is typically face-to-face support from school nurses.

Suffolk County Council described that the average cost of a qualified school nurse is £41,797 per year, based on the lowest value in Suffolk local authority grade 6. This includes salary (£30,480), national insurance (£3,087) and pension (£8,230) per year and is comparable to a Band 6 nurse on NHS Agenda for Change pay scales (2016–17).

Case study: Suffolk County Council

The local authority implemented ChatHealth in November 2015 for young people aged 11 to 19 years. In April 2016 the service was expanded and made available to the parents and carers of all children aged 5 to 19 years. It is not limited to young people in mainstream education and is used alongside existing interventions.

After 1 year the ChatHealth service was reviewed. The school nursing service had 343 text-based conversations through ChatHealth, which included 1,410 messages received and 1,974 messages sent. Most conversations related to emotional health and wellbeing (39%), followed by queries about physical health (32%) and sexual health (10%). Requests to see a school nurse accounted for 19% of messages.

Suffolk County Council offered ChatHealth without incurring additional staff costs, because it had been resourced using existing staff. The council reported that using ChatHealth for 2 years cost £57,300, including implementation and licences for 50 nursing staff with 3 full training days. In comparison, a qualified school nurse would have cost £83,594 for the same period. To provide these additional interactions in such a large rural county using traditional services would have needed at least 1 extra nurse.

The council found that additional savings came from being able to send quick and remote responses, saving the need for a face-to-face nurse visit. By increasing access and providing early intervention to health issues, costs may be saved by avoiding escalation of health issues.

Potential resource impact

ChatHealth would represent an additional initial cost to school nursing services. If its use allowed more contacts with children and young people using existing staff resources then it could be cost saving compared with having additional staff.

The central ChatHealth messaging inbox can be accessed by all members of the local school nursing team through a web-based application. This may encourage remote and shift working to increase

efficiency and capacity. For nursing teams that comprise only 1 nurse per school, ChatHealth could make better use of existing resources by allowing fewer school nurses to serve more schools.

ChatHealth may also save resources by resolving through text messaging enquiries that were previously made through face-to-face appointments. In the case study, Suffolk County Council highlighted that requests to see a school nurse accounted for 19% of ChatHealth messages received.

Another potential resource impact is a decrease in disease burden through earlier intervention, but there is no reported evidence to support this.

To use ChatHealth, nurses must be able to access a current web browser (Internet Explorer 8 or equivalent) on a PC or mobile device. New safety practices may need to be adopted to prevent any issues relating to safeguarding pupils. Nurses should consult with their appointed Caldicott Guardian before proceeding with implementing the service. The text service and information documented from text messaging should be subject to rigorous and regular audit, clinical supervision, practice development and service standards.

Overall assessment of the economic evidence

There is currently limited economic evidence for the use of ChatHealth. The only cost information available has been provided from the sponsor, Suffolk County Council, as unpublished anecdotal evidence. This may therefore not be generalisable to other NHS trusts or local authorities.

Usage and user experience

Current usage and reach

ChatHealth is currently used by 27 organisations including NHS trusts, social enterprises, community interest companies and charities. This has made the ChatHealth messaging service available to around 1 million young people in England.

Table 3 Summary of usage, reach and reported user experience

Evidence of usage and reach	Source
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<p>In April 2014, ChatHealth was made available to approximately 65,000 young people aged 11 to 19 across Leicester, Leicestershire and Rutland. School nurses respond to over 100 enquiries a month.</p>	<p>The developer.</p>
<p>In 2015, the East Midlands Academic Health Science Network invested more than £100,000 into ChatHealth, encouraging uptake by frontline teams across the UK to improve access to healthcare using digital platforms. The funding subsidised setup of messaging programmes in a number of NHS trusts that wanted to license use of the messaging service.</p>	<p>AHSN 2015.</p>
<p>In its first year in Norfolk, ChatHealth received 3,170 messages from young people aged 11 to 16.</p>	<p>Local newsletter (November 2016).</p>
<p>In the first 5 months in Worcester County Council/ Worcestershire Health and Care NHS trust, 315 contacts were made and this number was gradually increasing.</p>	<p>Public health newsletter (June 2016).</p>
<p>Reported user experience</p>	<p>Source</p>
<p>Three organisations highlighted that ChatHealth provided access to a service for young people who would not normally have access to school nursing through traditional means, such as those who are not in mainstream schools.</p> <p>They noted that support could now be easily accessed at a convenient time to the young person and without the restriction of the school day or location. This was considered to enable more effective use of staff time, particularly when staff resources are limited.</p>	<p>Sponsor; specialist commentator organisations (Children and Young People's Health Services, Norfolk and Lancashire care NHS Foundation Trust).</p>
<p>Two organisations noted that because ChatHealth is confidential and anonymous, the school nurse service was being used by those who had not previously used it, for example, for embarrassing questions.</p>	<p>Suffolk County Council and Lancashire Care NHS Foundation Trust.</p>
<p>One organisation considered that the use of ChatHealth depends on how well it is promoted and publically advertised, with significant increases following distribution of service newsletters to parents and young people and teaching sessions or presentations in schools.</p>	<p>Children and Young People's Health Services, Norfolk.</p>

<p>Young people provided feedback information over 4 months. 23 feedback scores were received: 20 young people scored the service 4 or 5 out of 5, where 5 was the best. There was also anecdotal evidence that young people with social communication difficulties have found ChatHealth to be useful.</p>	<p>Specialist commentator (unpublished data).</p>
<p>ChatHealth has also been found to be a useful tool during school holidays and also for home-educated young people to contact school nurses.</p>	<p>Specialist commentator.</p>
<p>In a survey of 35 young people done for this briefing, 3 said that they would definitely use ChatHealth, 18 said that they may use it if they get an immediate response, and 14 would definitely not use it.</p>	<p>Patient organisation.</p>

Overall assessment of user benefits

- Most staff users find that ChatHealth is beneficial to young people in terms of improved and anonymous access to the school nurse. They indicated that ChatHealth has led to the school nurse service being used by young people who may not have previously used it.
- Staff users also considered that ChatHealth would enable more effective use of staff time, particularly when resources are limited.
- The survey by the patient organisation revealed more negative views, but this was a small group and it is not known exactly what information they had about the ChatHealth service or whether they had access to ChatHealth themselves.

Specialist commentators comments

Comments on this technology were invited from specialist commentators working in the relevant fields and relevant patient organisations. The comments received are individual opinions and do not represent NICE's view.

Three specialist commentators had used ChatHealth in practice and promote the service.

Level of innovation

Two specialist commentators considered ChatHealth to be innovative. One added that it is different to other systems in that it links to other health and social care services and provides a

point of triage. Two commentators considered that NHS choices and the 111 service were similar to but were less advanced than ChatHealth (that is, ChatHealth offers a more tailored response and from a trusted professional).

Potential patient impact

All 3 specialist commentators considered that ChatHealth appeals to young people who do not normally seek support for themselves in school.

The commentators felt that using ChatHealth would improve young people's access to school nursing services. They felt that ChatHealth removes barriers of geography and transport, and felt that young people would be more inclined to ask embarrassing questions through an anonymous service. They felt that ChatHealth could be accessed by young people who may not normally access face-to-face services.

All 3 commentators thought that ChatHealth would encourage young people to self-help. Two specialist commentators noted that ChatHealth enables young people to seek support in school, without needing to speak with an adult or member of school staff.

Potential system impact

All 3 specialist commentators thought that using ChatHealth could lead to cost savings for the NHS. They considered that a greater reach could be achieved with minimal staff. One commentator added that school nurses are a limited resource and that ChatHealth would enable more effective use of their time. One also highlighted that it enables school nurses to be able to offer support outside the traditional working hours of the school day and school term.

One specialist commentator stated that ChatHealth could prevent mild health issues from developing into more serious problems that need costly interventions. They suggested that ChatHealth may help to improve young people's confidence in managing their own needs, thus reducing the need to access face-to-face services. However, 1 commentator added that it cannot be used without the back-up of staff able to provide face-to-face contact.

Two specialist commentators noted that the only changes in facilities needed to use ChatHealth would be staff access to computers. One commentator added that information governance practice should also be followed to ensure the equipment and webpages are kept safe and secure. Local policies would also need to be developed to address any safeguarding concerns that may arise.

General comments

One specialist commentator felt that ChatHealth links with the national commissioning guidance for school health services and school nurse vision.

One commentator considered that using digital technology needs a major rethink by many professionals. New skills are needed to be able to provide care and advice to a disembodied query. Text messaging communication needs to be well written so it is not misunderstood or misinterpreted while also being succinct and compassionate. One commentator highlighted that some young people with disabilities may need access to adapted phones to use ChatHealth.

One commentator noted that ChatHealth enables communication with a group of people who embrace digital technology. One further highlighted that it is important that this is an inclusive digital technology and that it does not replace other forms of contact for those that want face-to-face appointments or cannot access a text messaging service.

Patient organisation comments

Action for Children gave the following comments on ChatHealth. This organisation works on behalf of vulnerable and disadvantaged children.

Young people would be able to use the ChatHealth service easily, wherever they feel comfortable. One concern with ChatHealth is that young people who do not have access to the technology needed would not be able to use the service.

ChatHealth may feel impersonal to young people, some of whom may prefer to speak to people who they know. Face-to-face contact would still be needed and ChatHealth should not be relied on in all cases. Without face-to-face contact, some signs of risk could also be missed.

Overall, provided that nursing staff are competent and responsive, ChatHealth would provide easier access to services and may ultimately reduce stresses being placed on the health service. ChatHealth could improve health outcomes, but only if there is effective follow-up with young people who are identified as having greater needs.

Specialist commentators

The following specialist commentators provided comments on a draft of this briefing:

- Ms Nancy Campen, school nurse, Norfolk Children and Young People's Health Services. No relevant conflicts of interest declared.
- Ms Paula Lawrenson, school nurse practice teacher, Lancashire Care NHS Foundation Trust. No relevant conflicts of interest declared.
- Ms Wendy Nicholson, national lead nurse for children, young people and families and deputy head of World Health Organisation Collaborating Centre for Public Health Nursing and Midwifery, Public Health England. No relevant conflicts of interest declared.

Representatives from the following patient organisation contributed to this briefing:

- Action for Children. No relevant conflicts of interest declared.

Development of this briefing

This briefing was developed for NICE by Newcastle and York external assessment centre. Please contact medtech@nice.org.uk for more information.

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