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Integrating Social Media into Routine Midwifery Services: Maternity Direct +

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Abstract

The use of social media to disseminate and receive health messages has increased significantly over the past ten years. Many women use social media to access information during pregnancy. However, the NHS has been criticised for being slow to integrate consumer facing internet technologies into routine care services. This article describes an innovative social media project, Maternity Direct +, an Internet midwife employed by Basildon and Thurrock University Hospitals NHS Foundation Trust, who uses Facebook to disseminate health messages and answer non-urgent questions from pregnant women, mothers up to 28 days after birth, and women planning a pregnancy in South-West Essex. Findings from the project evaluation demonstrated a high level of demand for a responsive and evidence based non-urgent information and advice service for pregnant women and new mothers, and high levels of service user satisfaction. The authors conclude that social media can be integrated into routine midwifery services and used to complement existing communication channels.

Key Phrases

- Evidence suggests public demand for pregnancy related information via the Internet is increasing
- Maternity Direct + is a pioneering social media project that employs an Internet midwife to disseminate health messages and answer non-urgent questions from pregnant women, mothers, and women planning a pregnancy in South-West Essex
- The Maternity Direct + project team used the Social Media Tool Kit for the NHS to formulate their social media strategy
- The project evaluation demonstrated a high level of demand for and satisfaction with a responsive and evidence based non-urgent information and advice service, with contacts to the service including those related to investigations, abdominal or pelvic pain, spotting or bleeding, reduced fetal movement, and minor illnesses and injuries
- Social media can be integrated into routine midwifery services and used to complement existing communication channels

The term social media is defined as a group of Internet-based applications (programmes) that allow the creation and exchange of user generated content (Kaplan and Haenlein, 2010). Social media includes sites for social networking (Facebook and Twitter), professional networking (LinkedIn), media sharing (YouTube and Flickr), content production (blogs) and knowledge and information aggregation (Wikipedia) (Lee Ventola, 2014).

Participation in social media by the general public and the use of social media to disseminate and receive health messages has increased significantly over the past ten years. Many women use social media to access information during pregnancy. For example, 97% of women in the United States (US) who had given birth the previous year reported using the Internet as a source of information about pregnancy and childbirth (an increase from 76% in 2005) (Childbirth Connection, 2013). Whilst less is known about patterns of Internet access amongst pregnant women in the UK, Internet users as a percentage of the population are relatively similar to the US (Internet Live Stats, 2016a and 2016b) and research suggests that 23% of all Internet users aged over 16 years in the UK had used the Internet to find health information the previous week (Ofcom, 2015).

The factors that motivate public demand for pregnancy related information via the Internet are varied but commonly relate to immediacy, the potential for less embarrassment over sensitive topics and the reduction in logistical constraints such as distance and travel (Hether, 2014). The creators of social media content include healthcare practitioners, alternative therapists, companies who seek to promote their products, and parents who provide an account of their experiences, as well as anonymous individuals. Despite the popularity of peer support and parenting forums such as Mumsnet, research reveals a desire for greater access to the advice and

support of healthcare professionals. For example, pregnant women participating in a study in Sydney, Australia called on midwives and obstetricians to use technology to provide live question and answer forums, and video calls so women could request expert advice and receive answers immediately (Lupton, 2016).

The importance of technology in improving health outcomes and delivering cost improvements has been highlighted in successive government reports (see for example, Cabinet Office, 2013; Department of Health, 2013; Department of Health, 2012; Department of Health, 2014). However, the NHS has historically been slow to adopt Internet technologies to interface with patients as part of routine care services and commentators have observed that whilst the general public uses social media to communicate with friends, colleagues, companies and politicians, health professionals have typically remained beyond their reach (Koteyko and Hunt, 2015). These observations are supported by evidence from the first comprehensive analysis of social media in the NHS, which found low levels of social media adoption by NHS providers (JB McGrea Ltd, 2014).

The King's Fund (2008) analysed the factors that influence decisions to adopt technology in the NHS. Inhibitors included the level of engagement between technology suppliers and the NHS, the availability of agreed technology standards, consumer awareness of technology and understanding the benefits that it can bring, consumer concerns about confidentiality and usability, management and leadership direction, structures to assess and trial technology and encourage adoption, efficiency of information sharing within the health service, effectiveness of procurement and decision-making, and funding and people. From the people perspective, Dalton et al (2014) explored attitudes of midwives to the use of information communication technologies for the delivery of pregnancy related

information in Adelaide, Australia. They found that although midwives recognised the potential benefits of these technologies, many had reservations about their use in everyday practice. These reservations included lack of training in the use of information communication technologies, perceived legal risks associated with social media, potential violations of patient privacy, misdiagnosis, and misunderstandings between the midwife and client.

Despite these barriers, there are some notable Internet pioneers; healthcare practitioners and providers who are using social media for appointment setting and reminders, diagnostic test results reporting, health information sharing, prescription notifications and answering general health and wellbeing questions (Chauhan et al, 2012). In midwifery practice, there are examples of the use of social media in the education curriculum (Uppal et al, 2016), recruitment to research studies (Manca et al, 2013), professional networking (Stewart and Sidebotham, 2012), continuous professional development (Moorley and Chinn, 2014), and supporting maternal role transition (Congden, 2016). This paper describes one such pioneering Internet project, Maternity Direct +, an Internet midwife employed by Basildon and Thurrock University Hospitals (BTUH) NHS Foundation Trust, who uses social media to compliment traditional communication channels to disseminate health messages and answer non-urgent questions from pregnant women, mothers up to 28 days after birth, and women planning a pregnancy. The paper will provide an in-depth description of the development process and present the findings from an evaluation of the service at six months. It will also consider the implications of these findings for the development of Internet midwife role at BTUH NHS Foundation Trust and the use of social media by maternity services elsewhere.

Background

Basildon and Thurrock University Hospitals NHS Foundation Trust serves the 405,800 population of South-West Essex. The Child Health Profile suggests the health and wellbeing of children in Essex is generally better than the England average; infant and child mortality rates are similar to the England average, children have better than average levels of obesity and a similar percentage of mothers initiate breastfeeding compared with the England average (Public Health England, 2016). Whilst the last three years has seen a period of relative stability in the number of births at BTUH (approximately, 4510 per year), population projections suggest the trust's catchment population will grow significantly faster than the national projection; for example, the population of Thurrock is projected to increase by 11% over the next ten years (Thurrock Health and Wellbeing Board, 2015).

Against this backdrop, the trust's vision is to provide harm-free care, afford patients and carers with the best possible experience, deliver excellent outcomes, and provide value for the taxpayer through high quality care at the lowest possible cost (BTUH NHS Foundation Trust, not dated). In working towards this vision, the trust fosters a culture that supports innovation and applies innovative approaches to delivering maternity services. For example, in July 2011, a new Maternity Direct service was launched in conjunction with NHS South-West Essex to allow women to contact a midwife directly, as soon as she knows she is pregnant and as an alternative to going first to their GP. As well as supporting patient autonomy and choice, the service was intended to give earlier access to maternity services. Furthermore, in July 2014, specialist midwives for infant feeding created a Feeding Together application for iPad, iPhone and Android devices to provide information and support to parents with new babies.

In spring 2015, the lead author was working as a bank midwife at Basildon University Hospital, during this period and whilst providing cover for planned and unplanned staffing shortfalls she had the idea of Maternity Direct +.

Development and planning process

The Maternity Direct + project team was established in May 2015 and included the lead author, the head of maternity services, a maternity matron, and the trust clinical governance and media communications departments. In the spirit of digital working and information sharing, most team meetings occurred virtually where participants joined from different locations. In the development phase, the team was guided by the Social Media Tool Kit for the NHS (NHS Employers, 2014). The toolkit provided a six stage process to help the team formulate their social media strategy (see **Box 1**).

The first stage was to identify what factors were driving the use of social media and to describe what the organisation expected to achieve by its use. The factors driving Maternity Direct + were threefold and included the government's technology agenda, consumer demand and the trust's vision to be an excellent provider of high quality and safe care. Indicators of consumer demand included not only the aforementioned research studies but anecdotal evidence which suggested local community midwives were spending a significant proportion of their working day responding to non-urgent queries in the form of telephone calls and text messages from pregnant women. It was with these drivers in mind that the aim of the new service was to provide a highly responsive and evidence based non-urgent information and advice via social media to pregnant women, mothers up to 28 days after the birth as well as women planning a pregnancy.

The second stage was to align social media expectations with organisational objectives. Maternity Direct + was to be an extension of the already popular Maternity Direct service. Therefore, the long term objectives were aligned to those set out by Maternity Direct and included increasing patient autonomy, supporting patient choice and promoting earlier and easier access to maternity services.

The third stage was to establish how best to engage with the target audience. There were many different social media platforms available; however, Facebook was chosen as the most appropriate based on its current share of the digital audience and its confidential direct messaging function. An email option was to be created for women who might not want to use social media and a call back telephone service was to be made available should messages require an urgent response or difficulties be encountered in the expression or comprehensive of non-verbal information.

To optimally engage the target audience, the project team agreed that the new service should operate both inside and outside normal working hours with the Internet midwife available seven days a week from 7am to 9pm. The team also decided that to truly operationalise the concept of responsiveness, the Internet midwife should respond to messages within 60 minutes.

The fourth stage was to consider resources and possible rewards. Whilst social media is free, the time and effort needed to operate a successful service is not. In an attempt to establish the amount of time social media work would take, the literature was searched for examples of Internet midwifery services operating elsewhere in the UK. The search revealed one notable example, Edie the e-midwife in South London. Edie was a senior midwifery manager (supported by midwifery colleagues) with Facebook, Twitter and email accounts and who responded to non-

urgent queries within 48 hours (Labriola, 2015). Edie reportedly received over 100 contacts a month with popular queries relating to antenatal appointments, abdominal pain, vaccinations, parent education, maternity certificates and vaginal discharge. Descriptions suggested additional staff had not been employed to help operate the service but existing staff had agreed to work differently.

The project team determined that neither community midwives nor senior midwifery managers had capacity to provide the level of responsiveness required by Maternity Direct +. However, they were unable to estimate the amount of time social media work would take or calculate whether spending on social media instead of other work would lead to better outcomes and improved value for money. For this reason, the lead author offered to work as the Internet midwife in an unpaid capacity for a six month pilot period. Her commitment to the project was made practical by maternity matrons agreeing to provide cover for rest days and leave, and the availability of encrypted mobile working devices, which afford flexibility in the location of work.

The fifth stage was to consider content. It was important to ensure that the content of the Facebook page was aligned to the project aims. Health promotion information for the Facebook newsfeed had to be evidenced based, non-judgemental and tailored to the needs of pregnant women, mothers of babies aged up to 28 days, and women planning a pregnancy living in South-West Essex. It was anticipated that this information would be drawn from international organisations such as UNICEF, national government bodies such as the Department of Health and Public Health England, and professional organisations such as the Royal College of Midwives and the Institute of Health Visitors. The more serious health information would be interspersed with information pertaining to the local services (such as schedules for upcoming parenting classes) and more light hearted items (such as Great British

Bake Off news and recipes). Specific content of the Facebook page was the responsibility of the Internet midwife, who was the content producer and sole content sign off. Prior to going on holiday, the Internet midwife agreed that she would create forthcoming information releases and schedule them to be automatically posted on the newsfeed whilst she was on leave. During this stage the Maternity Direct + logo was also designed and approved by the project team (see **Box 2**).

The final stage was evaluation. The project team agreed to evaluate service demand, user satisfaction, and user interaction at the end of the six month pilot period. Service demand was measured using recording sheets completed by the Internet midwife. User satisfaction was measured by way of an electronic survey pinned to the Maternity Direct + Facebook profile page. The wording of the survey drew on NHS England's Friends and Family Test and asked respondents how helpful they found the service and how likely they were to recommend the service to friends and family if they needed similar care or treatment. User interaction was measured using Facebook Insights, a free social media analytic tool that tracks user activity and engagement. The service evaluation was registered with and approved by the Improvement Academy at Basildon Hospital.

Evaluation

The service went live in November 2015 following an advertising campaign that included notices on the trust website and in the local press, posters in maternity areas, pharmacies, children's centres, GP surgeries and libraries in the South-West Essex area, and stickers placed on the front of women's hand held pregnancy notes. The evaluation took place in July 2016.

Recording sheets

On receiving a private message or email, the Internet midwife collected biographical information and, depending on the nature of the presenting problem, took either a focused or comprehensive health history (see **Box 3**). This information was recorded electronically and key workload data extracted and transferred onto recording sheets at the end of each week. Analysis of the recording sheets demonstrated a steady increase in direct messaging contacts over the pilot period from 30 in December 2015 to 314 in July 2016. The number of emails received remained relatively stable at 20 per month.

In July 2016, 92 percent of contacts were from pregnant women ($n = 290$), 7 percent were from new mothers ($n = 21$), and 1 percent were from women who had experienced a miscarriage ($n = 3$). Only one woman contacted the service for preconception care.

Eighty-four percent of contacts from pregnant women were clinical in nature ($n = 262$) and 16 percent were administrative ($n = 24$). Of clinical contacts, 10 percent were related to investigations ($n = 27$), 10 percent related to abdominal or pelvic pain ($n = 27$), 6 percent related to spotting or bleeding ($n = 16$), 5 percent related to reduced fetal movements ($n = 13$), and 4 percent were related to minor illnesses and injuries ($n = 11$). The remaining clinical contacts were varied and included queries about the appropriateness of over the counter medication, beauty treatments and air travel. Seven women contacted the service because they thought they were in labour.

Standard actions included information giving, simple advice, reassurance, signposting to electronic resources (such as the Kicks Count and Pregnancy

Sickness Support websites), and referrals to other members of the maternity team (such as community midwives, specialist midwives, and the GP) and inpatient services (such as the maternity assessment unit and antenatal ward). Seventy-four percent of all contacts were resolved following the provision of information, simple advice, reassurance, and signposting (n = 231) and 26% necessitated onward referral (n = 83).

Social media analytics

User interaction was captured by numbers of page likes, page views, and post engagements. If a Facebook user chooses to like the Maternity Direct + profile page, the action appears as an update on their timeline and they will start to see Maternity Direct + stories in their newsfeed. In July 2016, Maternity Direct + acquired 162 new page likes, which took its total user base to 2340. This meant Maternity Direct + stories automatically appeared in the newsfeed area of 2340 people. Page views refers to the number of people visiting the Maternity Direct + profile page to look for information. An actual visit to the profile marks a higher level of interaction than simply reading posts in a newsfeed. In July 2016, 1478 people visited the Maternity Direct + profile page. Post engagements refers to the number of times people click on a Maternity Direct + link, like and/or comment on individual posts, and share Maternity Direct + posts with friends. These measures indicate how well posts resonate with people. In July 2016, there were 7735 post engagements.

Survey

The electronic survey questionnaire was available via Facebook for a three week period in July 2016. During that time, 235 women completed the questionnaire.

Sixty-eight percent of respondents indicated they had used the direct messaging function (n = 161) and 95% indicated they had found it either very helpful or helpful (n = 156). Ninety-two percent of respondents indicated they were either very likely or likely to recommend Maternity Direct + to friends and family (n = 216) (see **Box 4**). The survey also captured free text responses and whilst the majority were very positive and commended the responsiveness of the service and the reassurance it provided new and expectant mothers, one user expressed a preference for more news and stories pertaining to home births, and another expressed sensitivity to some of the posted items having recently experienced a miscarriage.

Limitations of survey evaluation

Whilst every attempt was made to conduct a robust and meaningful evaluation, it is important to recognise and explore the limitations of the data. The first is that it was not possible to calculate an accurate response rate because the survey was pinned to the Facebook profile page rather than sent to individual service users. At the same time, respondents to the survey were self-selecting, therefore their views may not be representative of all users. Whilst it was encouraging to note that the majority of respondents had used the direct messaging function, they may nevertheless have had a different experience from those that did not respond. Given the potential for mostly women who had an especially good or bad experience of the service to take part in the survey, responses were compared to feedback provided by service users on the Facebook Rating and Reviews page, which found very similar satisfaction levels.

Discussion and conclusion

The findings from the evaluation demonstrated a high level of demand for a responsive and evidence based non-urgent information and advice service for pregnant women and women up to 28 days after birth in Basildon and Thurrock. They also demonstrated a high level of user satisfaction with the service provided. However, limited demand for women planning a pregnancy was established.

Preconception care for women aims to reduce maternal risk factors before pregnancy and improve outcomes through health promotion and intervention (Atash et al, 2008). Current demographic and epidemiological trends including obesity, diabetes and delayed child-bearing increase the potential for preconception care to reduce maternal and childhood mortality and morbidity (World Health Organisation, 2012). The small numbers of women presenting for advice when planning a pregnancy has been identified by a number of studies and the reasons for low uptake are likely to include lack of familiarity with the concept of preconception care and concerns about over-medicalisation of a normal life event (Ojkwu et al, 2016). In the context of Maternity Direct +, it is expected that demand for preconception care may increase amongst women who have used the service in an earlier pregnancy. However, the project team will need to decide whether or not to continue to target women planning a pregnancy, particularly those planning their first pregnancy. It is likely that any decision will be informed by discussions with a range of stakeholders including the local authority, who is tasked under the Health and Social Care Act 2012 with improving the health of their population and reducing inequalities.

The Internet midwife is now contracted to work 25 hours a week. To sustain levels of demand, satisfaction and engagement, posters advertising the service have been

redesigned, and content relating to home births and miscarriage has been added to the newsfeed. At the same time, emerging trends in social media use are being monitored to ensure the service is keeping a pace with user expectations and preferences. For example, since November 2015, online video has grown exponentially and is increasingly seen by marketing industry experts as the key means by which people choose to satisfy their information and entertainment needs (Trimble, 2015); the Internet midwife is responding to this development by providing more video content to avoid any loss in engagement. Moving forward, the project team are discussing a second evaluation, one that assesses the effectiveness of the service in relation to the long term objectives of increasing patient autonomy, supporting patient choice and promoting earlier and easier access to maternity services.

It is hoped that the findings from this evaluation encourage other organisations to consider integrating social media into routine midwifery services. However, the authors recommend that anyone considering such a development use of the Social Media Toolkit for the NHS to help decide if using social media is right for their service users and organisation.

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Box 1: A Social Media Toolkit for the NHS (NHS Employers, 2014)

Stage 1	Identify your drivers to use social media and your aim when using it
Stage 2	Align your social media objectives to your organisation's objectives
Stage 3	Map your online stakeholders
Stage 4	Resources and possible reward
Stage 5	What is your content and where is it going to come from?
Stage 6	Evaluating your work

Box 2: Maternity direct logo



Box 3: Biographical and health history Information

- Name
- Date of birth
- Gravida
- Parity
- Expected due date
- Gestation
- Name of community midwife
- Antenatal risk
- Medical history
- Obstetric history
- Reason for contact

Box 4: Survey Data												
	Extremely helpful		Helpful		Neither helpful nor unhelpful		Unhelpful		Extremely unhelpful		Don't know	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
If you used the direct messaging function, how helpful was the response?	67	110	28	46	5	8	0	0	0	0	0	0
	Extremely likely		Likely		Neither likely nor unlikely		Unlikely		Extremely unlikely		Don't know	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
How likely are you to recommend Maternity Direct + to friends or family	77	180	15	36	3	6	2	5	0	0	3	7

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