‘Palliative care education in nursing homes: a qualitative evaluation of telementoring

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ABSTRACT
There is an increasing need to support nursing homes in palliative care to reduce suffering and avoid unnecessary hospital admissions at the end of life. Providing education to nursing homes faces many barriers including structural systems and cultural issues. In order to overcome some of these barriers, education using Project Extension for Community Health Outcomes (ECHO) methodology has been delivered to nursing homes throughout a large city in England. This paper aims to explore participant experience in Project ECHO for nursing homes.

Methodology
Qualitative semistructured interviews with a purposive sample of nursing home staff. Interviews were conducted by one researcher and transcribed verbatim. Line-by-line coding and categorisation were used to form themes.

Results
Eleven interviews were completed with data saturation reached by interview eight. The following themes were revealed: Barriers and facilitators to accessing Project ECHO, Community of Practice and Communication with nursing homes and data extraction.

Conclusion
Project ECHO is an accessible, acceptable and engaging way of delivering palliative care education to nursing homes combating some of the traditional barriers that nursing homes face in accessing training.

INTRODUCTION
If current trends continue, by 2040 nursing homes (NHs) will be the most common place of death in the UK.1 As well as an immediate requirement for NH beds to support this,2 there is a need to educate and support nursing and residential homes in palliative care, reducing suffering and unnecessary hospital admissions at the end of life.3 The COVID-19 pandemic has highlighted the importance of palliative care in NHs with many homes experiencing a large number of resident deaths.4 However, evidence suggests that palliative care in NHs internationally is sometimes lacking. A study of 322 NHs across six European countries found that staff knowledge of managing physical palliative care symptoms was suboptimal, which had an impact on patient care at the end of life.5 Education provision and evaluation around palliative care is varied, with limited data detailing whether these influence resident care.6 It is, therefore, important to evaluate educational interventions to understand and learn from their successes and failures. In a rapid review of the literature, Manson et al7 found barriers to palliative care education included structural systems, cultural

Key messages
What is already known?
► There is a need to educate and support nursing and residential homes in palliative care to reduce suffering and unnecessary hospital admissions.
► Project ECHO is proven to be effective in delivering education to isolated healthcare workers.

What are the new findings?
► Project ECHO is generally well received by nursing homes and can lead to enhanced palliative care education.
► Project ECHO can create an engaged community of practice for nursing homes during sessions, however further thought should be given to how knowledge is shared outside of sessions.
► Nursing homes desire short sessions to ensure reduced demand on their caseload.
► Technology can be used successfully to bring together communities of practice for education and peer support, although barriers such as accessing equipment and confidence being on camera should be addressed prior to starting.
and interpersonal issues, and problems with knowledge translation and indicated that by addressing flexible barriers, educational interventions can be more successful.

Project Extension for Community Health Outcomes (ECHO) is a virtual educational intervention which uses videoconferencing software to deliver telementoring to hard-to-reach populations. The methodology is proven to be effective at delivering education to isolated healthcare providers in order to improve participant self-rated knowledge and confidence, and patient care. It uses a hub-and-spoke approach to deliver remote education in the form of a brief lecture lasting 20–30 min, followed by 1–2 case presentations from the spokes. An overarching principle of ‘all teach, all learn’ signifies that education is not only from the hub to the spokes but also from the spokes to each other and back to the hub. Project ECHO uses Zoom technology which runs on a low bandwidth, meaning that participants only need access to a computer, tablet or smartphone with access to a basic internet connection. A camera is encouraged to improve engagement, but not essential.

Substantial evidence supports Project ECHO’s effectiveness in other healthcare settings including community health centres and primary care but limited knowledge of its efficacy in an NH environment. This is consistent with the general care home education literature, where there is a lack of evidence on the effectiveness of interventions due to difficulties with data linkage, participant motivation, skills of the educator, and participant influence making it difficult to attribute an educational intervention to quantitative outcomes. Qualitative evaluation has been instrumental in understanding the implementation of interventions and can provide essential information on evaluation that quantitative data cannot describe, such as reporting experience, acceptance and helping to interpret findings. However, there has been little qualitative investigation into NH palliative care educational interventions, including Project ECHO.

This phenomenological study aimed to explore the experience of participants in Project ECHO for NHs and generate an understanding of whether knowledge gained was translated into practice. Underlying research questions included:

- What are the barriers and facilitators to accessing Project ECHO?
- What is the value of participants on the community of practice?
- How can the appropriate data be obtained for evaluation from NH staff?

**METHODOLOGY**

Between 2017 and 2020, Project ECHO for NHs (care homes with onsite nurses) has delivered three programmes of palliative care education to NHs in a large city in England. Each programme consists of 20, 1.5-hour sessions with content chosen by the participants. It is run from a ‘hub’ at the local hospice and supported by knowledge experts from primary and secondary care. Local evaluation of the programme has consistently been associated with increased confidence and competence of NH staff members, although research has not yet been conducted into the impact on the wider healthcare system. We, therefore, aimed to undertake a qualitative study of staff experiences to understand the apparent benefits and explore whether knowledge gained was translated into practice.

Programme three of Project ECHO for NHs was evaluated for this study. The programme delivered sessions fortnightly to a total of 121 participants (table 1) between

| Participant role                | No registered |
|---------------------------------|---------------|
| Home manager                    | 17            |
| Deputy manager                  | 5             |
| Clinical lead nurse             | 14            |
| Registered Nurse (RGN)          | 18            |
| Senior carer                    | 8             |
| Carer                           | 49            |
| Other (chef, administrator, kitchen assistant, nursing assistant, physiotherapist) | 10 |

**Table 1** ECHO session participant demographics

| Session no | Content                                                                 | Attendance |
|------------|-------------------------------------------------------------------------|------------|
| 1          | Myth busters: Palliative and End of Life Care and DNACPR                | 43         |
| 2          | Red, Amber or Green? ‘Traffic lighting’ your residents/How do I refer to the Hospice? | 31         |
| 3          | Do I need to call 999? Planning for Out of Hours                        | 25         |
| 4          | End of life care plans made simple                                      | 26         |
| 5          | Your resident’s pressure areas and end of life care                     | 32         |
| 6          | Eating and drinking at the end of life: how do I know what’s best?     | 31         |
| 7          | Protecting your resident vs depriving liberty/Does my resident have capacity? | 14         |
| 8          | My resident: talking about Motor Neuron Disease and other neurological conditions | 16         |
| 9          | My resident and dementia                                                | 24         |
| 10         | My resident and cancer                                                  | 22         |
| 11         | My resident and heart failure/COPD                                      | 19         |
| 12         | My resident and diabetes—end of life care explained                     | 15         |
| 13         | Help! My resident feels sick                                             | 23         |
| 14         | Help! My resident has pain                                              | 21         |
| 15         | Help! My resident is breathless                                          | 25         |
| 16         | Help! My resident is agitated                                            | 12         |
| 17         | My resident and the last days of life                                   | 20         |
| 18         | Death, dying and spirituality: what do you need to know?                | 20         |
| 19         | Using your communication skills in your care home setting               | 14         |
| 20         | The Inner Chimp: Looking after yourself and your team                   | 18         |

COPD, Chronic Obstructive Pulmonary Disease; DNACPR, Do Not Attempt Cardiopulmonary Resuscitation.

**Table 2** NH curriculum for programme three of Project echo for nursing homes
October 2018 and July 2019 (see table 2 for curriculum and attendance at each session). The curriculum was decided following an initial knowledge event where NHs were given the opportunity to voice areas where they lacked knowledge and confidence. As seen in previous programmes, attendance in the sessions is strong for the first 6–7 sessions then this drops to a lower, consistent attendance.

A qualitative phenomenological evaluation of programme three of Project ECHO for NHs took place between July 2019 and September 2019 following the conclusion of the education programme. The project was registered with the hospice evaluation team and Standards for Reporting Qualitative Research reporting guidelines were used to guide the methodology and write-up.

A purposive sample of NH staff who had attended one or more Project ECHO education sessions was chosen by the researcher to ensure a representative sample of the population while ensuring information-rich cases. Participants were recruited using two methods: (1) Project ECHO participants attending a Project ECHO celebration event at the end of the programme were invited to participate in a group interview and (2) other Project ECHO participants were invited to participate in an individual interview via a gatekeeper working clinically in their NHs. Consenting participants were contacted by the researcher (JM) to arrange a time and place to conduct the evaluation.

A semistructured interview schedule was developed in collaboration with the hub team (online supplemental material) to give structure to the interview but also to allow enough flexibility for individuals to discuss their experiences. Brief demographic data were also collected.

Interviews and the group interview were conducted by JM, a leadership fellow seconded to the project, who had not met the participants prior to data collection. Written consent was gained from all participants.

Interviews were transcribed verbatim and inductive, line-by-line coding took place, followed by categorisation. Themes were then formed from these categories and based on the initial research questions using an inductive, iterative approach with the raw data. Participants were unavailable to provide checking so transcripts were sent to an independent researcher (LS) and themes examined to reduce researcher bias. Data saturation was reached with no new themes occurring after interview number eight.

RESULTS

Eleven participants were approached for individual interview and nine consented. Two participants also attended a group interview out of 20 invited. Lack of time was the reason given for inability to participate in interview. Interviews lasted between 20 and 30 min and the group interview 65 min. Demographic data are presented in table 3.

Themes revealed by content analysis of the transcribed data are depicted in table 4.

Themes were led by the research questions and interview schedule, however, content was taken purely from the raw data and identified as important to participants due to repetition throughout the same interview, and in multiple transcripts, across multiple professions.

Barriers to accessing Project ECHO

Timing

Participants raised several barriers to engagement in the sessions, the main barrier being time. The afternoon timing of the sessions appeared to suit most NHs, however, a majority of participants reported that they would prefer sessions to be 60 rather than 90 min due to clinical pressures.

| Study no | Age   | Job role          | Length in current nursing home | Full or part time | Length of time in a nursing home setting | No of ECHO sessions attended |
|----------|-------|-------------------|--------------------------------|-------------------|-----------------------------------------|-----------------------------|
| 001      | 26–35 | Clinical manager  | Less than 1 year               | Full time         | 1–2 years                               | Less than 5                 |
| 002      | 46–55 | Home manager      | 6–10 years                     | Full time         | More than 10 years                      | Less than 5                 |
| 003      | 56–65 | Clinical manager  | 6–10 years                     | Full time         | More than 10 years                      | 5–10                        |
| 004      | 46–55 | Home manager      | Less than 1 year               | Full time         | More than 10 years                      | 5–10                        |
| 005      | 46–55 | Carer             | 3–5 years                      | Full time         | 6–10 years                              | Less than 5                 |
| 006      | 56–65 | Deputy Manager    | More than 10 years             | Part time         | More than 10 years                      | 16–20                       |
| 007      | 36–45 | Head Chef         | 6–10 years                     | Full time         | More than 10 years                      | 11–15                       |
| 008      | 56–65 | Carer             | 1–2 years                      | Part time         | 1–2 years                               | Less than 5                 |
| 009      | 36–45 | Nurse             | 6–10 years                     | Full time         | More than 10 years                      | 16–20                       |
| 010      | 56–65 | Home manager      | 3–5 years                      | Full time         | 3–5 years                               | 5–10                        |
| 011      | 36–45 | Nurse             | Less than 1 year               | Full time         | 3–5 years                               | Less than 5                 |

Table 4 Themes and subthemes

| Theme                                      | Subtheme         |
|--------------------------------------------|------------------|
| Barriers to accessing Project ECHO         | Timing           |
|                                           | Staffing         |
|                                           | Information Technology |
| Facilitators to accessing Project ECHO     | Relevance        |
|                                           | Peer Support     |
| Community of practice                     | Communication    |
|                                           | Dissemination of learning |

ECHO, Extension for Community Health Outcomes.
Staffing pressures compounded time pressures, meaning that on occasions participants either couldn’t attend sessions, or felt they were leaving their clinical areas short when they did attend.

‘We are always short staffed but are always expected to attend the training so the fact you have left one carer per house does sit in the back of your mind.’ — Participant 005

Information technology
Another significant barrier raised was the use of information technology (IT) equipment to deliver training. This provided a barrier to accessing sessions as not all staff were able to access a computer. Some staff were uncomfortable being on camera or faced competing priorities which meant participation in a session was difficult.

‘The barriers for us was about having the equipment, IT equipment, and it was because most of the PCs had been in the admin offices, my office, or administrator’s office. So it meant that, on the day, even though you’d earmarked that session for no disturbing, if I’d got a meeting prior and it ran over, it ran over.’ — Participant 002

‘As soon as I say it’s on camera they’re not interested.’ — Participant 009

Facilitators to accessing project echo
Relevance
Individuals felt that the subjects covered were relevant to them as NH staff, importantly topics were perceived as relevant not just to clinical staff but to all staff in the NH setting. This helped them to engage in the learning process.

‘It doesn’t matter whether it was a nurse, or administrator, or a carer, everything was relevant, everybody could identify with it.’ — Participant 002

Participants found the case-study aspect of ECHO sessions particularly helpful and enjoyable and felt that there was always something they could take from these to apply to their own residents.

‘The case presentations are good because it makes it real life doesn’t it? And it also means that you’ll hear the presentation and you’ll think ‘Oh yeah, that’s what we’re going through as well’. So you do learn a lot from that.’ — Participant 010

Peer support
NH staff enjoyed the peer-support that participating in ECHO sessions delivered. This made them feel less isolated and provided reassurance that they were not alone in dealing with the complex cases faced in an NH setting.

‘It was about sharing best practice and knowing we were not in it alone. It was good to be able to see other homes who have gone through similar, sharing their experiences (…). There are support networks there.’ — Participant 004

Value of community of practice
All participants described ECHO for NHs creating a ‘community of practice’ which they defined as bringing together other NHs and professionals. This occurred between individual homes, within homes, and with other professionals such as hospice staff.

‘It’s nice to share stories and learn from others so it was rewarding, every session you pick up something as there is always something new to learn. It was good that there was a variety of experts on the panel.’ — Participant 004

Although participants enjoyed engaging with the community of practice in the sessions, they reported that they had not continued this engagement outside of the ECHO programme, although they felt they could if needed.

‘I haven’t needed to contact other care homes yet. It certainly could happen, it has been nice when we have logged in to the sessions and other care homes have sent a chat message through saying ‘hello’,’ — Participant 002

Despite not actively contacting other NHs outside of the ECHO sessions, interacting with professionals at different homes has helped to break down communication barriers on other occasions by providing familiarity and mutual discussion topics.

‘I had another home come to assess one of my residents a few weeks ago potentially to move there because it’s closer to family and she came in and said ‘I know you. You’re from ECHO’. And we would just then instantly click on and we knew who the other one was.’ — Participant 009

Communication with NHs and data extraction
Communication with NHs
Evaluating the ECHO Programme is an important feature of ongoing programme development and improvement. However, NHs differed in how they wanted to receive information from the central hub, and in how ECHO should be evaluated. When effective communication with NHs was explored with participants, there was a lack of consensus regarding how they wanted to receive information and complete evaluations of ECHO. Most homes agreed that the best way to collect information about any change in practice as a result of the ECHO programme was to ask participants for examples.
‘Yes, people don’t tend to complete these if they are sent online. I have completed paper copies before but I have also known that people have completed them but not sent them back to you.’ ~ Participant 006

‘I think electronically be easier than being given a paper form, because they’ll probably lose it.’ ~ Participant 001

**Dissemination of learning**

Participants identified difficulties with accessing data to demonstrate dissemination of learning or change in practice. Although some NHs printed out the session slides for staff to access, most participants reported more informal dissemination of learning. Information learnt may have not been relevant at the time, however participants reported storing knowledge to provide positive role modelling alongside supervision and teaching when an appropriate situation arose.

‘It’s an ongoing thing, because if somebody comes in and you get a situation, then you tend to find that you talk to them about it. So it’s not a case of doing a formal teaching.’ ~Participant 003

**DISCUSSION**

This qualitative study aimed to explore the experience of participants in Project ECHO for NHs and to gain an understanding of whether knowledge gained was translated into practice. Our findings found that ECHO is generally well received by NHs and can lead to enhanced education, a supportive community of practice and meaningful peer support. However, barriers to participation and continued engagement remain.

Our findings indicate positive outcomes from Project ECHO for NHs. A community of practice that encourages peer support has been created during sessions allowing a safe space for participants to share learning and experiences. Further thought should be given to how this community of practice can be empowered to share knowledge outside of sessions. Scheduling further sessions to encourage continued engagement has been suggested in the literature, however, this has not been actively evaluated. An issue also arises about who would facilitate these sessions. Previous palliative care education programmes in care homes have benefited from dedicated facilitators to encourage regular meetings and dissemination of learning. A facilitator could encourage ongoing communication with other NHs, and could assist with more formal knowledge translation, to ensure dissemination of learning. Participants in our study also reported the benefit of informal dissemination of knowledge as and when the time arises, which indicates that more formal facilitation may not be necessary in all cases. Informal knowledge translation such as this also makes short-term evaluation of the efficacy of the programme difficult, as it may be many months before participants consolidate or deliver on the education received during the programme. It would be beneficial to investigate participant knowledge and confidence in 6–12 months to understand whether the learning has had a positive impact on resident care.

ECHO methodology dictates that participants choose their curriculum within a designated subject in order to encourage engagement and participation. Our data suggest that even though there was a varied cohort, participants found the education relevant and could frequently relate didactic teaching and case studies to residents in their own homes. This helps to address the perceptions of irrelevance that have been reported previously in care home end of life training.

Reported barriers are consistent with the literature on palliative care education in NHs. Participants prefer shorter sessions to limit the demand on their caseload, however there is a delicate balance between time and curriculum content. ECHO sessions worldwide vary from 60 to 120 min; further research could seek to explore the impact of session length on attendance, particularly if a shorter session improves attendance due to reduced time/staffing pressures. Although ECHO sessions place demands on time, the methodology means that there is no need to travel for training generating a potential overall time saving. Another method to improve engagement would be providing shorter programmes to reduce the pressure on NH staff. Attendance figures dropped following session 6/7, therefore, shorter programmes of this length may be more acceptable. It is not known why the numbers fall after this number of sessions therefore future evaluation should investigate this further.

One notable finding was that IT barriers were related to accessing equipment and issues with being on camera, rather than difficulty using the technology. Most participants could be considered ‘digital immigrants’; they did not grow up with technology, however, they were still able to engage with sessions. This could be due Project ECHO’s focus on accessibility, however, as this was programme three of a series, it could also be due to familiarity with the process of accessing the sessions. It is also recognised that participants who felt less comfortable with the technology might have stopped accessing the sessions during programme one or two. Increased uptake of video technology during the COVID-19 pandemic may reduce this problem in future. In fact, Project ECHO has shown that technology can be used successfully to bring together communities of practice for education and peer-support without the need for face-to-face interactions which is proving to be instrumental as social distancing measures prevail.
Limitations

Interviews were conducted by a researcher working within the ECHO team, but unfamiliar to the participants. This allowed for enough understanding about ECHO methodology, but may have inadvertently led to bias. The use of purposive sampling may also have caused bias as, although the researcher attempted to gain a representative sample, this was not random and only included participants who attended two or more sessions therefore some important barriers to attendance may have been lost. To reduce any potential researcher bias, analysis and outcomes were discussed with an independent researcher (LS). It is recognised that this qualitative work is based on one NH education programme, and therefore, findings may not be generalisable, however, it is expected that when contextualised with other literature, the results will assist others with designing Palliative care education for NHs.

This programme of Project ECHO was delivered exclusively for NHs as it was identified that NHs had the highest 1-year mortality (30.8%). Future programmes will be rolled out to include care homes without onsite nurses and while it is anticipated that this will have similar outcomes, caution should be taken not to generalise findings to this population.

Conclusion

Project ECHO is an accessible and acceptable way of delivering Palliative care education to NHs. Project ECHO methodology ensures that participants are engaged and learn within a supportive community of practice but dissemination of this knowledge to peers requires further investigation. The results highlight barriers faced by participants include time, staffing pressures and familiarity with the technology and that engagement with NHs should occur both electronically and paper based. Further research should assess the impact of Project ECHO on clinical outcomes and transferability to other locations and settings.

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Contributors JM was the lead researcher, conducted and analysed the interviews and was the primary author. CG was the main supervisor on the project. She also assisted with analysis and categorisation of the data and editing the manuscript. LG and EW were part of the steering group and were involved in editing the manuscript. HC was part of the steering group. PT was involved with editing the manuscript. LS provided theme checking in line with the raw data. Laura McTague and Sam Kyeremateng are not included as authors but were supportive of the project and gave guidance in relation to Project ECHO and the evaluation.

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