Evaluation of Project ECHO All Ireland Institute of Hospice and Palliative Care (AIIHPC) Nursing Home Project (Phase 3)

February 2020
<table>
<thead>
<tr>
<th>Academic Research Team</th>
<th>Milford Hospice Care Centre and All Ireland Institute Palliative Care (AIIHPC) Team</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Professor Alice Coffey</strong>&lt;br&gt;Professor of Nursing and Midwifery, Department of Nursing and Midwifery and Health Research Institute University of Limerick</td>
<td><strong>Dr. Martina O’Reilly</strong>&lt;br&gt;Head of Education, Research and Quality, Milford Care Centre</td>
</tr>
<tr>
<td><strong>Dr. Pauline Meskell</strong>&lt;br&gt;Senior Lecturer, Department of Nursing and Midwifery, University of Limerick</td>
<td><strong>Ms. Helen Flanagan</strong>&lt;br&gt;Nurse Tutor/Staff Nurse, Milford Care Centre</td>
</tr>
<tr>
<td><strong>Ms. Maria Bailey</strong>&lt;br&gt;Lecturer, Department of Nursing and Midwifery, University of Limerick</td>
<td><strong>Dr. Cathy Payne</strong>&lt;br&gt;Programme Manager&lt;br&gt;All Ireland Institute of Hospice and Palliative Care</td>
</tr>
<tr>
<td><strong>Dr. Eileen Carey</strong>&lt;br&gt;Lecturer, Department of Nursing and Midwifery, University of Limerick</td>
<td><strong>Ms. Karen Charnley</strong>&lt;br&gt;Director,&lt;br&gt;All Ireland Institute of Hospice and Palliative Care</td>
</tr>
<tr>
<td><strong>Ms. Jane O’Doherty</strong>&lt;br&gt;Research Assistant, Department of Nursing and Midwifery, University of Limerick</td>
<td></td>
</tr>
</tbody>
</table>

**Acknowledgements**

The authors wish to thank the Health Service Executive (HSE) who commissioned this work for use by All-Ireland Institute of Hospice and Palliative Care (AIIHPC). Thanks to all staff from nursing homes, nursing home managers/directors of nursing, education providers and specialist palliative care team members who have taken part in this research.

**Recommended Citation**

Coffey, A., Flanagan, H., O’Reilly, M., O’Reilly, V., Meskell, P., Bailey, M., Carey, E., O’Doherty, J., Payne, C. and Charnley, K. (2020) *Evaluation of Project ECHO All Ireland Institute of Hospice and Palliative Care (AIIHPC) Nursing Home Project (Phase 3). Dublin: Health Service Executive.* Available at:
Contents

List of Tables ........................................................................................................................................... v
List of Figures .......................................................................................................................................... v
Abbreviations ........................................................................................................................................... vi
Executive Summary ................................................................................................................................. vii
Background and Context ......................................................................................................................... ix
Outline of the report ................................................................................................................................ x
Chapter 1. Project ECHO (Phase 3)........................................................................................................ 1
Chapter 2. Evaluation Methodology ...................................................................................................... 3
  2.1 Design of the Evaluation .................................................................................................................. 3
  2.2 Ethical Approval ............................................................................................................................... 4
  2.3 Participants ..................................................................................................................................... 4
  2.4 Data Collection Methods ............................................................................................................... 4
    2.4.1 Project ECHO (Phase 3) Session evaluation-online survey ....................................................... 4
    2.4.2 Focus Group Interviews ........................................................................................................... 5
    2.4.3 General Practitioner Telephone Interviews ............................................................................. 5
    2.4.4 Site Profile and Resident Referral/ Transfer Forms .................................................................. 5
  2.5 Data Analysis .................................................................................................................................. 6
    Summary ........................................................................................................................................... 7
Chapter 3. Findings of the Evaluation of Project ECHO (Phase 3) ......................................................... 8
  3.1 Reach: Site and participant information: ......................................................................................... 8
    3.1.1 Site profile results ..................................................................................................................... 8
    3.1.2 Project ECHO (Phase 3) Education session attendance ........................................................... 11
    3.1.3 Focus Group demographic data ............................................................................................... 11
    3.1.4 Telephone Interviews ............................................................................................................. 12
  3.2 Efficacy- the impact of ECHO education on participant learning outcomes .................................... 13
    3.2.1 Project ECHO Session evaluation - survey .......................................................................... 13
    3.2.2 Focus Group participants’ perspectives on the impact of Project ECHO (Phase 3) education ....... 14
  3.3 Adoption: barriers and facilitators to operationalizing the palliative care approach in practice ....... 15
    3.3.1 Project ECHO educational session evaluation ......................................................................... 15
3.3.2 Focus Group participant views on barriers and facilitators to providing best care at EoL .......................... 17
3.4 Implementation of Project ECHO (Phase 3) education in practice ............................................................ 18
  3.4.1 Resident Referrals / Transfers .................................................................................................................. 19
  3.4.1.1 Resident Outcomes recorded .............................................................................................................. 24
3.5 Maintenance: refers to the extent in which the Project ECHO (Phase 3) education programme is sustained over time .................................................................................................................. 25

Limitations ......................................................................................................................................................... 28
Discussion and Conclusion ............................................................................................................................. 29
References .......................................................................................................................................................... 32
Appendix 1. Packs sent to Nursing Homes ...................................................................................................... 34
Appendix 2. Consent form to participate in Project ECHO (Nursing Homes) .................................................... 44
Appendix 3. Site Profile ....................................................................................................................................... 45
Appendix 4. Resident Referral Forms .................................................................................................................. 47
Appendix 5. Pack for ECHO sites (Time points and Post) ................................................................................ 51
Appendix 6. Educational Session Evaluation Survey (via Survey Monkey) ....................................................... 52
Appendix 7. Participant Information Sheet and Consent Form (Focus Groups) .................................................. 55
Appendix 8. Staff Demographics (Focus Group) ............................................................................................... 56
Appendix 9. Focus Group Interview Guide ........................................................................................................ 61
Appendix 10. GP Interviews: Information Sheet and Consent Form ................................................................. 62
Appendix 11. GP Interview Questions ................................................................................................................ 65
List of Tables

Table 1. Educational topics ................................................................................................................. 2
Table 2. RE-AIM Framework ................................................................................................................... 3
Table 3. Site profile results (One month Pre-Project ECHO education commenced and one month Post Project ECHO education) ........................................................................................................... 10
Table 4 Project ECHO education session attendance ............................................................................ 11
Table 5 Focus group participant demographics and attendance .............................................................. 12
Table 6. Knowledge development during Project ECHO & how it can impact practice ......................... 16
Table 7 Resident transfer to hospital per time point .............................................................................. 20
Table 8. Primary reason recorded for transfer to acute hospital ............................................................... 20
Table 9. Who instigated the referral to hospital? .................................................................................... 21

List of Figures

Figure 1. Participants' perceptions on the presentation and case studies .................................................. 13
Figure 2. Residents in receipt of care from SPC team at time of transfer Pre, during and Post Project ECHO ... 22
Figure 3. Were residents expressed wishes regarding emergency transfer to hospital documented? ....... 23
Figure 4. Documented residents expressed their wishes regarding EoL care ........................................ 23
Figure 5. Resident DNR in place at time of transfer to hospital Pre during and Post ECHO education? ....... 24
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACP</td>
<td>Advanced Care Plan</td>
</tr>
<tr>
<td>AIHPC</td>
<td>All-Ireland institute of Hospice and Palliative Care</td>
</tr>
<tr>
<td>CNS</td>
<td>Clinical Nurse Specialist</td>
</tr>
<tr>
<td>CKD</td>
<td>Chronic Kidney Disease</td>
</tr>
<tr>
<td>COPD</td>
<td>Chronic Obstructive Pulmonary Disease</td>
</tr>
<tr>
<td>CPR</td>
<td>Cardiopulmonary Resuscitation</td>
</tr>
<tr>
<td>CVD</td>
<td>Cardiovascular Disease</td>
</tr>
<tr>
<td>DON</td>
<td>Director of Nursing</td>
</tr>
<tr>
<td>ECHO</td>
<td>Extension for Community Healthcare Outcomes</td>
</tr>
<tr>
<td>ED</td>
<td>Emergency Department</td>
</tr>
<tr>
<td>EoL</td>
<td>End of Life</td>
</tr>
<tr>
<td>GP(s)</td>
<td>General Practitioner(s)</td>
</tr>
<tr>
<td>HSE</td>
<td>Health Service Executive</td>
</tr>
<tr>
<td>NH(s)</td>
<td>Nursing Home(s)</td>
</tr>
<tr>
<td>MDT</td>
<td>Multidisciplinary Team</td>
</tr>
<tr>
<td>RE-AIM</td>
<td>Reach, Effectiveness, Adoption, Implementation and Maintenance</td>
</tr>
<tr>
<td>SPC</td>
<td>Specialist Palliative Care</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
</tr>
<tr>
<td>UHL</td>
<td>University Hospital Limerick</td>
</tr>
<tr>
<td>UL</td>
<td>University of Limerick</td>
</tr>
<tr>
<td>UNM</td>
<td>University of New Mexico</td>
</tr>
</tbody>
</table>
Executive Summary

Introduction

The report outlines an evaluation of Project ECHO All Ireland Institute of Hospice and Palliative Care (AIIHPC) Nursing Home Project (Phase 3), hereafter named Project ECHO (Phase 3). People are living longer with increasingly complex care needs and it is expected that the number of people living in residential care will rise. To enable more people to have better quality care in their normal place of residence, the Health Service Executive in Ireland (HSE 2014) advocates a palliative care approach. In addition, the Irish National Standards for Residential Care Settings for Older People, state that each resident should ‘receive palliative care based on their assessed needs, which maintains and enhances their quality of life and respects their dignity’ (HIQA, 2016, p.12). A palliative care approach is informed by knowledge and practice of palliative care principles (HSE 2014), therefore, staff providing care need to be appropriately educated and have the knowledge, skills and competencies in the palliative care approach to support residents with palliative care needs. To support nursing home staff education in this regard, the HSE funded three phases of the ECHO AIIHPC nursing home project designed to improve staff knowledge and skills in the care and management of patients with a wide range of palliative healthcare needs. Our Lady’s Hospice and Care Service and St. Francis Hospice Dublin facilitated Phases 1 and 2 respectively and Phase 3 was facilitated by Milford Care Centre, Limerick as the hub, linked with nursing homes in the Midwest area of Ireland.

Aim of the evaluation

The aim of this research was to evaluate the processes and impact of Project ECHO (Phase 3), from the perspectives of all stakeholders involved. Our objectives were: to determine whether Project ECHO (Phase 3) met participants learning needs for palliative care education; to explore the perceived impact that Project ECHO (Phase 3) had on participant learning and on the operationalisation of a palliative care approach in clinical practice. In addition we reported on the patterns of resident transfers to hospital, specialist palliative care and documentation of resident wishes within the participating nursing homes over the course of the programme.

Methodology

The RE-AIM framework was used to structure this evaluation and data were collected using a mixed methods approach. Surveys were used to capture nursing home referral data, demographic information and educational session participant evaluations. Four focus group interviews were then conducted to capture the experiences and perceptions of Project ECHO (Phase 3) from the perspectives of nursing home frontline staff, nursing home managers / directors of nursing and palliative care education providers.

Key Findings

Twelve nursing homes participated in Project ECHO (Phase 3). Data from session evaluations and from focus group analysis showed that the programme was well received and had a positive impact on participants learning, and knowledge in palliative care approaches. Participants particularly valued shared experiences and virtual learning network but some areas of improvement were suggested. There were indicators of a move towards a more palliative care approach in the patterns in resident transfers to hospital and documentation of resident wishes from Pre to Post ECHO education period. Recommendations are made for the future of Project ECHO education (see findings and recommendations at a glance page viii.)
Findings and Recommendations at a glance

**Findings**

**Reach**
- Twelve nursing homes (n=366 staff) participated. There was reduction in session attendance over time. High level of interest in the programme but issues with timing and connectivity.

**Efficacy**
- Positive impact on learning.
- More confidence in EoL discussions and increased clinical knowledge.
- Challenges in engagement with the ECHO programme particularly for G.Ps
- Staff call for support in dealing with grief.

**Adoption**
- Project ECHO facilitated knowledge sharing between NH and palliative care specialists.
- Barriers to adoption were NH staff turnover and communication issues between residential and acute care.

**Implementation**
- Participants reported key points of knowledge that they implemented in their clinical settings.
- The pattern of resident transfers show a decrease in mean from Pre to Post ECHO programme.
- An increase in documented resident wishes for ED, end of life wishes and in DNR in place.

**Maintenance**
- The development of 'virtual networks' between NH’s and Palliative care specialists was seen as a positive outcome.
- The programme was managed very well but timing of the programme delivery was challenging.

**Recommendations**

**Reach**
- Given the HSE emphasis on a Palliative Care approach in residential care, Project ECHO AINHPC Nursing Home should be extended to all residential care settings & through professional networks.

**Efficacy**
- Strategies are needed on site to support staff in NH’s to engage with the programme.
- Provision of ECHO education through the professional networks such as ICGP. Consider including support for staff in dealing with grief and death of residents.

**Adoption**
- Agreed strategies within NH for the dissemination of learning and educational resources where there is high staff turnover. Encourage the involvement in the ECHO programme of staff in acute care to improve communication between settings.

**Implementation**
- Further research is needed in nursing homes post ECHO Education programme to explore the implementation of learning from the ECHO programme (in action) in the clinical setting, to examine the process and contextual factors involved.

**Maintenance**
- Timing of programme delivery to be considerate of optimum staff availability.
- A designated staff member /champion within each NH site to disseminate information and resources to staff on site.
- CPD points to be given for participation.
Background and Context
According to the Central Statistics Office, the number of residents aged 65 years and older in nursing homes (NHs) in Ireland was 22,762 persons in 2016 (Central Statistics Office [CSO] 2016). With an increasing ageing population, it is expected that the number of people who move into residential care will continue to rise and people are living with increasingly complex care needs. Planning care around people’s needs and preferences will enable their care choices to be met, allow individuals to live and die where they choose, and avoid emergency hospital admission (Hewison et al., 2009). It is essential for staff to facilitate each resident's personhood (Maher and Harley 2015). Providing care to older people requires particular expertise (Phelan and McCormack 2016) as this has impact on care outcomes and care quality (Heath 2010). The National Standards for Residential Care Settings for Older People in Ireland, state that each resident receives palliative care based on their assessed needs, which maintains and enhances their quality of life and respects their dignity (HIQA, 2016, p12). Therefore, staff in residential care also need competencies in the palliative care approach in order to support people with palliative care needs, i.e. healthcare needs related to a life-limiting illness. The Health Service Executive (HSE) promotes the palliative care approach as a vital and integral part of all clinical practice, whatever the illness or its stage, informed by a knowledge and practice of palliative care principles (Health Service Executive [HSE] 2014). This includes clinical practice in residential care to enable more people to have better quality care in their normal place of residence.

Project ECHO All Ireland Institute of Hospice and Palliative Care (AIHPC) Nursing Home, was designed to improve staff knowledge and skills in the care and management of patients with a wide range of palliative healthcare needs. Palliative care education is facilitated using ECHO (Extension for Community Healthcare Outcomes) methodology. This is a tele-mentoring programme, developed in the School of Medicine University New Mexico (UNM). It involves a collaboration between peers and specialists to address particular health care needs using technology and existing resources to magnify the capacities of the health care workforce. With the use of video-conferencing technology, participants benefit by receiving evidence-based, best practice guidance from specialists, and case-based learning from presentations along with opportunities for live questions and answers. This model was shown, through peer review, to be an effective way of addressing knowledge gaps of healthcare professionals (Ní Cheallaigh et al., 2017).
The first phase of Project ECHO education programme was delivered in 2017, by Our Lady’s Hospice & Care Staff to staff of NHs on the Southside of Dublin. Evaluation of the effectiveness of Phase 1 showed that staff confidence and self-efficacy improved. Subsequently, the HSE funded two further phases: Phase 2 delivered by two sites; Our Lady’s Hospice and Care Service and St Francis Hospice in Dublin and involved NHs across Dublin. Phase 3 (subject of this evaluation), was delivered via Milford Care Centre and involved 12 nursing homes in the Midwest area.

Outline of the report

Chapter 1. Provides a description of Project ECHO (Phase 3) education programme and the delivery of the programme

Chapter 2. Outlines the study design and methodologies utilised including sample, data collection methods and data analysis.

Chapter 3. Findings and recommendation from the programme evaluation are presented using the RE-AIM framework
Chapter 1. Project ECHO Education Programme (Phase 3)

Each of the three phases to date of Project ECHO AIIPHC Nursing Home consisted of a structured process of delivery. This Phase 3 has followed the processes in Phases 1 and 2, where an initial face-to-face workshop was held with participating sites and ten education sessions were provided via video conferencing over a period of five months using topics identified by participants, to encourage adoption of a palliative care approach. Prior to commencement of the programme, participating nursing homes identified study topics based on their learning needs. Then on agreed dates and times, the Milford Care Centre palliative care team and other invited experts entitled ‘The Hub’ would join the participating nursing homes (‘the spokes’) on a live video conference to discuss their chosen topics and provide case presentations.

Pre – programme preparation:

1. An invitation and information about the Project ECHO (Phase 3) education programme (Appendix 1) was issued to nursing homes:

All the staff of fifteen Nursing Homes within the Milford Care Centre catchment area in Limerick were invited to participate in Project ECHO (Phase 3) along with allied health professionals and GP’s that attend the nursing homes. The AIHPC link person at Milford Care Centre sent a letter of invitation to the Nursing Home Managers, and an information pack (Appendix 1) was provided; along with a consent form (Appendix 2) to participate in project ECHO (Phase 3) education and evaluation. Nursing Home Managers were also asked to nominate a representative to attend the introductory workshop at Milford Care Centre.

2. Introductory workshop:

This workshop was arranged prior to the commencement of the programme. Nominated staff from participating nursing homes (NH) came together for one day, with the Hub organisers, to develop the educational topics to be covered during the programme. Participants were given the opportunity to work in small groups and collaborate with each other to develop the topics for the educational sessions.

As part of the ECHO education programme participating NHs were also invited to prepare and present a relevant case for discussion at one of the sessions. Decisions were made on a date for each NH presentation and on the hub members that would join each panel for the topic discussion.

The topics chosen by participants in Project ECHO (Phase 3) for the ten educational sessions are listed in Table 1.
Table 1. Educational topics

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Educational Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8th May 2019</td>
<td>Breathlessness management in Type 2 respiratory failure</td>
</tr>
<tr>
<td>2</td>
<td>22nd May 2019</td>
<td>Bereavement support for residents &amp; staff on the death of a resident</td>
</tr>
<tr>
<td>3</td>
<td>5th June 2019</td>
<td>Anticipatory prescribing at end of life-when to initiate</td>
</tr>
<tr>
<td>4</td>
<td>19th June 2019</td>
<td>Assessing (total) pain in residents with cognitive impairment/communication issues</td>
</tr>
<tr>
<td>5</td>
<td>3rd July 2019</td>
<td>Management of acute confusional state/delirium+- dementia</td>
</tr>
<tr>
<td>6</td>
<td>17th July 2019</td>
<td>Palliative care needs assessment-assessing the changing needs of a palliative resident</td>
</tr>
<tr>
<td>7</td>
<td>31st July 2019</td>
<td>Advanced care planning-initiating conversation on planning for end of life-when and how</td>
</tr>
<tr>
<td>8</td>
<td>14th Aug 2019</td>
<td>Appropriateness of artificial hydration at end of life</td>
</tr>
<tr>
<td>9</td>
<td>28th Aug 2019</td>
<td>Managing family conflict-understanding projected anger at staff</td>
</tr>
<tr>
<td>10</td>
<td>11th Sept 2019</td>
<td>Management of a fungating wound</td>
</tr>
</tbody>
</table>

3. Programme Delivery

The Project ECHO (Phase 3) education programme was delivered fortnightly over ten 90-minute video/teleconferencing live interactive sessions between May and September 2019. The hub site was Milford Care Centre and spokes were the participating nursing homes. A recording of the live sessions was made available after each session via key code to participant nursing homes, for staff who were unable to attend. A link to the recorded educational sessions was also made available to the GP’s attending residents in the nursing homes who expressed a wish to participate in the educational initiative.

The educational delivery of the programme was completed in September 2019.
Chapter 2. Evaluation Methodology

The overall aim of this research was to evaluate the processes and impact of Project ECHO (Phase 3) from the perspectives of participants and providers of the educational programme.

Objectives

- To determine whether Project ECHO (Phase 3) education met the participant learning needs for palliative care education
- To explore the perceived impact of Project ECHO (Phase 3) had on participant learning and the operationalisation of a palliative care approach in practice
- To describe the participant site profiles; the patterns of hospital transfers; referrals to Specialist Palliative Care (SPC) and recording of resident wishes including Advance Care Planning each site pre, during and post the Project ECHO (Phase 3) educational programme

2.1 Design of the Evaluation

The design of this evaluation was informed by best practice in evaluative research. A mixed-method approach underpinned by the RE-AIM framework (Reach, Effectiveness, Adoption, Implementation and Maintenance) (Green and Glasgow 2006) was used. This framework places emphasis on the potential implications for delivering interventions in applied settings (Green and Glasgow 2006). The five dimensions, of the RE-AIM framework are listed below in Table 2.

Table 2. RE-AIM Framework

<table>
<thead>
<tr>
<th>Reach: the proportion of the target population that participated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy: the success rate if implemented as in guidelines; defined as positive outcomes minus negative outcomes (impact on target groups).</td>
</tr>
<tr>
<td>Adoption: proportion of settings, practices and plans that adopt the programme (participation rates and representativeness of the service settings)</td>
</tr>
<tr>
<td>Implementation: The extent to which the programme is implemented as intended in the real world (level and consistency of delivery components)</td>
</tr>
<tr>
<td>Maintenance: Extent to which the programme is sustained over time (sustaining into the future at individual and organisational level)</td>
</tr>
</tbody>
</table>

The mixed method approach involved a combination of quantitative and qualitative approaches to add scope, breadth and comprehensiveness to the evaluation (Patton 2002; Twycross and Shorten 2014). It is argued that a mixed-method approach complements and enriches different data sets (Creswell et al., 2011; Johnson et al., 2007). Strengths of a mixed-methods approach combine using numbers to add precision to narrative descriptions and using narratives to add meaning to measured phenomena. Additionally, a mixed-methods approach can answer a
broader range of research questions providing insights that may have been missed using a single method approach.

2.2 Ethical Approval

Ethical approval was obtained from the University Hospital Limerick (UHL) Clinical Research Ethics Committee (REC Ref: 032/19). The researchers ensured that ethical principles pertinent to the research were followed.

2.3 Participants

All managers and staff of fifteen nursing homes (NHs) within the Milford Care Centre catchment area (Midwest), along with allied health professionals and GP’s who attended the NHs were invited to participate in the education programme sessions and the evaluation. The participating nursing home managers were each invited to complete a site profile survey pre and post Project ECHO (Phase 3) programme and to complete survey forms on resident referral / transfer (Appendix 4) pre, during and post the programme. Following the ECHO education participating NH staff (NH Managers, Clinical Nurse Managers, Staff Nurses, Healthcare Assistants and Allied Health Professionals) and those involved in providing the education (the Hub) were invited to take part in follow up focus group interviews. GPs who expressed an interest in participating in the programme were invited to take part in a follow up telephone interview.

2.4 Data Collection Methods

To meet the objectives of the evaluation, data were collected between May and November 2019:

Objectives 1 & 2: To determine whether Project ECHO education met the participant learning needs for palliative care education and to explore the perceived impact of Project ECHO on participant learning and the operationalisation of a palliative care approach in practice data were collected via:

2.4.1 Project ECHO (Phase 3) Session evaluation-online survey

The Project ECHO (Phase 3) educational programme was delivered fortnightly over a period of ten sessions from May–September 2019. Participants attended via live video link and each session was recorded. A recording of each session was subsequently made available via a key code to NH staff and GPs that could not attend at the time of the live session. Following each live session, all attendees were invited to complete an online evaluation of the educational session using Survey Monkey (see Appendix 6).
2.4.2 Focus Group Interviews

One month following the tenth and final educational session of Project ECHO (Phase 3), participants involved, were invited to participate in focus group interviews, namely: NH Managers; Staff Nurses; Health Care Assistants; Allied Health Professionals; providers of specialist palliative care (including those involved in the provision of education sessions and those who received referrals) (Appendix 7 and 8). Focus groups were guided by a semi-structured interview schedule (Appendix 9) and audio recorded. Questions related to participants’ views of Project ECHO (Phase 3) overall; the process of topic selection, and patterns of session attendance including facilitators and challenges. Participants were also asked about any new skills or knowledge they had gained and any observations they made during the programme about end of life care or palliative care practice implementation in practice. Participants were also asked about the current facilitators or barriers to providing optimum (best possible) care at end of life in everyday practice and their recommendations for Project ECHO education in the future.

2.4.3 General Practitioner Telephone Interviews

Telephone Interview schedules (Appendix 10 and 11) were prepared for data collection from General Practitioners (GPs) who were linked with the NHs. Those GP’s who expressed an interest at the outset in attending the Project ECHO (Phase 3) educational sessions were provided with a link to the recorded sessions and were also invited to participate in telephone interviews once all sessions were complete. Telephone interviews were deemed appropriate, as researchers were cognisant of the limited availability of GPs for attendance at focus groups.

2.4.4 Site Profile and Resident Referral/Transfer Forms

**Objective 3: To describe the participant site profiles pre Project ECHO (Phase 3) and the patterns of hospital transfers, referral to Specialist Palliative Care (SPC) and advance care planning in each site pre, during the and post Project ECHO (Phase 3) programme data were collected via:**

A site profile form (Appendix 3) and a Resident Referral/Transfer form (Appendix 4).

The information sought on the site profile form included: total number of residents per site; number of residents who had their end of life (EoL) wishes documented; number of residents who had a ‘do not resuscitate’ order (DNR) in place; number of residents who had been referred to Specialist Palliative Care and the number of resident deaths. This information was collected at one-time point pre-Project ECHO (Phase 3) education commencement and at a time point one-month post ECHO Project ECHO (Phase 3) education.

The Resident Referral/Transfer form was used to collect data on resident referrals and/or transfers to hospital pre Project ECHO (Phase 3) education for a retrospective one-month prior
to commencement of the ECHO programme and subsequently monthly during the programme and at one-month post Project ECHO (Phase 3) education.

On each Resident Referral / Transfer form the following data for each resident referral / transfer was sought:

- Date and time of emergency transfer to hospital
- Primary reason for referral
- Residents primary diagnosis
- Who instigated the referral?
- Number times (if any) that the resident had been admitted to hospital in the last year as an emergency
- Is the resident currently in receipt of care from the Specialist Community Palliative Care Team?
- What was the outcome to the resident’s transfer to hospital?
- Had the resident or proxy expressed their wishes regarding emergency transfer to hospital? If yes, what were these wishes?
- Had the resident or proxy expressed their wishes and/or care received at the end of life? If yes, what were these wishes?
- Was there a Do Not Resuscitate (DNR) order in place prior to transfer?

Once the nursing homes had provided informed consent to participate, each participating NH received a pack for each time point containing the Resident Referral / Transfer forms (Appendix 4) and stamped addressed envelopes for return to the UL Researchers. The first and last pack (at time point 1 and post-echo) also included the site profile (Appendix 3). When the Project ECHO (Phase 3) education programme began, each site then received one survey pack per calendar month, over the four months (time points) during the programme. For each resident referral, a form was to be completed and returned to the research team in University of Limerick (UL). A final pack of forms was distributed to participating sites for completion one-month post Project ECHO (Phase 3) education programme. If no transfers occurred for a site during these times, sites were asked to record (no transfers) on the resident transfer form and return via post or inform researchers via email.

2.5 Data Analysis
Quantitative data obtained were analysed using the Statistical Package for the Social Sciences (SPSS version 25.0). Both descriptive and inferential statistics were used in the analysis and description of the data set through the use of univariate and bivariate statistics. Descriptive statistics (frequencies, frequency per cents, measures of central tendency, and measures of variability) were used to summarise demographic data and results from the instruments used in the study. Charts and tables are used throughout the report to display data. Qualitative data
analysis uses latent content analysis, which refers to analysis of the underlying meaning of the text and identified themes in the participants’ responses (Bengtsson 2016; Krippendorff 2004; Silverman 2016). Data from the open-ended questions within the educational session evaluations and the focus groups were combined for analysis. One researcher transcribed the interviews verbatim. Following this, each of the four members of the research team initially reviewed the transcripts individually coding the content of the answers under the fifteen questions outlined in the interview guide. A consensus meeting was then held whereby coding and content analysis was discussed and themes were agreed.

Summary

In this chapter we have introduced the evaluation design and research methodology used to conduct an evaluation of Project ECHO (Phase 3). The underpinning RE-AIM framework and mixed methods approach has been outlined and described. In the next chapter the findings from the evaluation are reported and presented using the RE-AIM framework structure.
Chapter 3. Findings of the Evaluation of Project ECHO (Phase 3).

This chapter presents a description of the findings of quantitative and qualitative data analysis. Results are reported using the structure of the RE-AIM framework.

3.1 Reach: Site and participant information

*Reach is the proportion and representativeness of individuals who participate in a given initiative* (RE-AIM 2020).

3.1.1 Site profile results

Fifteen nursing homes initially agreed to participate in the Project ECHO (Phase 3) programme but two exited early and one exited at time point three of the programme due to time constraints. The remaining twelve participating nursing homes completed and returned a site profile form in April 2019 prior to commencement of the ECHO programme and again, at one-month post Project ECHO (Phase 3). In the site profile forms, participating nursing homes were invited to report on: (1) current number of residents residing at their unit at their site, (2) the number of residents that had their expression of wishes documented in relation to End of Life (EoL) care including preferences for medical interventions, (3) the number of current residents with a Do Not Resuscitate (DNR) order in place, (4) the number of referrals to community palliative care services and (5) the number of resident deaths.

As can be seen in Table 3, for the Pre Project ECHO (Phase 3) site profile data was returned by all participating sites (N=12) and the total number of residents in the participating nursing homes ranged between 18 and 96. Post- Project ECHO (Phase 3) the site profile questionnaires were only returned by N=6 of the twelve participating sites and the total number of residents in these nursing homes ranged between 20 and 68 residents. Interestingly, there was a large reduction (approx. 50%), in the total number of residents between Pre and Post Project ECHO Education in two of the sites and a large increase (approx. 50%), in the number of residents between Pre and Post Project ECHO Education in another two sites, while the remaining two sites had similar total resident numbers reported. In the month prior to the commencement of ECHO education, resident deaths ranged from 0- 4. Over the course of the programme, resident deaths ranged from 1-17. The highest number of resident deaths N=17 were reported in two participating sites; one of these sites also recorded the greatest reduction in total resident numbers between Pre and Post Project ECHO education and the other site reported the greatest increase in total resident numbers Pre and Post Project ECHO education. Any missing data were recorded as M. The percentage of residents with expressed wishes recorded at each site ranged from 22% - 100% of the total number of residents at the site. The number of residents with recorded DNR orders in place also varied between sites with the percentage of the total number of residents ranging from 7% to 69%. The reported number referred to Community Palliative Care services in the month prior to ECHO education was low ranging from 0-3 residents.
In the post- Project ECHO (Phase 3) site, six of the twelve participating sites only returned profile data. At one month, Post ECHO (Phase 3) education the total number of residents in the participating nursing homes ranged between 20 – 68 resident.

As seen in Table 3, missing data were recorded as M. The percentage of residents with expressed wishes recorded at this time point ranged from 34% - 100% of the total number of residents at the site. The number of residents with recorded DNR orders in ranging from 5% to 95%. The reported number referred to Community Palliative Care services in the six months since the programme began, ranged from 0-7 residents. Comparative Pre and Post Project ECHO education data (seen in Table 3) shows an increase in the reported percentage of residents that had expression of wishes recorded at four out of the six sites and an increase in the percentage of residents with DNR recorded in three of the six sites. The number of residents referred to SPC had increased in four of the sites from Pre to Post Project ECHO education and in two of the sites; the number of referrals remained unchanged.
Table 3. Site profile results (One-month Pre-Project ECHO education commenced and one month Post Project ECHO education)

<table>
<thead>
<tr>
<th>Sites</th>
<th>Pre-ECHO</th>
<th>Post-ECHO</th>
<th>Pre-ECHO</th>
<th>Post-ECHO</th>
<th>Pre-ECHO</th>
<th>Post-ECHO</th>
<th>Pre-ECHO</th>
<th>Post-ECHO</th>
<th>Pre-ECHO</th>
<th>Post-ECHO</th>
<th>Pre-ECHO</th>
<th>Post-ECHO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=</td>
<td>N=</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>1</td>
<td>60</td>
<td>37</td>
<td>14 (23)</td>
<td>37 (100)</td>
<td>14 (23%)</td>
<td>35 (95)</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>45 M</td>
<td>37(82)</td>
<td>M 10 (22%)</td>
<td>M 2</td>
<td>M 2</td>
<td>M 2</td>
<td>M 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>57 M</td>
<td>46(86)</td>
<td>17 (30%)</td>
<td>12 (26)</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>30 M</td>
<td>30 (100)</td>
<td>16 (53%)</td>
<td>M 3</td>
<td>M 0</td>
<td>M 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>25 M</td>
<td>16 (64)</td>
<td>M 8 (33%)</td>
<td>M 1</td>
<td>M 1</td>
<td>M 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>37 M</td>
<td>22 (59)</td>
<td>M 19 (51%)</td>
<td>M 0</td>
<td>M 2</td>
<td>M 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>96 M</td>
<td>21 (22)</td>
<td>21 (22%)</td>
<td>M 28</td>
<td>M 4</td>
<td>M 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>18 M</td>
<td>17 (94)</td>
<td>2 (11%)</td>
<td>18 (51)</td>
<td>M 0</td>
<td>M 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>28 M</td>
<td>23 (82)</td>
<td>M 10 (36%)</td>
<td>M 1</td>
<td>M 2</td>
<td>M 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>24 M</td>
<td>9 (37)</td>
<td>6 (25%)</td>
<td>42 (62)</td>
<td>2</td>
<td>7</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>61 M</td>
<td>42 (69)</td>
<td>42 (69%)</td>
<td>M 3</td>
<td>M 0</td>
<td>M 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>54 M</td>
<td>25 (46)</td>
<td>4 (7%)</td>
<td>1 (5)</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M: Data missing – no data returned for this time period
3.1.2 Project ECHO (Phase 3) Education session attendance

Project ECHO (Phase 3) Education sessions were delivered over the summer months from May to September 2019. At each educational session, the Hub recorded attendance. The total number of attendees over the ten sessions was n=366 (Mean 36.6). As seen below in Table 5, there was a reduction in numbers attending sessions over the course of the programme with lowest at session held in August.

Table 4 Project ECHO education session attendance

<table>
<thead>
<tr>
<th>Session</th>
<th>Number of attendees (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 May</td>
<td>65</td>
</tr>
<tr>
<td>2 May</td>
<td>59</td>
</tr>
<tr>
<td>3 June</td>
<td>41</td>
</tr>
<tr>
<td>4 June</td>
<td>30</td>
</tr>
<tr>
<td>5 July</td>
<td>39</td>
</tr>
<tr>
<td>6 July</td>
<td>33</td>
</tr>
<tr>
<td>7 August</td>
<td>28</td>
</tr>
<tr>
<td>8 August</td>
<td>25</td>
</tr>
<tr>
<td>9 August</td>
<td>20</td>
</tr>
<tr>
<td>10 September</td>
<td>26</td>
</tr>
</tbody>
</table>

3.1.3 Focus Group demographic data

Following completion of Project ECHO (Phase 3) education, participants were invited to participate in focus group interviews. A total of n=18 participated in four focus groups (one with NH managers, one with frontline staff, one with a mix of frontline staff and NH managers and one with ECHO education providers/specialist in palliative care). Following informed consent each participant completed a staff demographic questionnaire prior to the interview.

Table 6 below outlines the participants’ role in the ECHO programme; usual occupation, the length of time involved with EoL care; the number of ECHO sessions they participated in, how often they accessed the educational sessions on the hub during the programme and post-programme. There was a good representation in the focus groups from attendees on the ECHO education programme and facilitators of the education. However, it is clear from this data that very few participants (n=4) attended all ten sessions, with mean attendance per participant being 1.7 sessions. Although the ECHO sessions were recorded and available to all who could not attend the live sessions, few participants (n=3) reported that they had accessed the ECHO education hub weekly. It is notable that 4 participants reported never having accessed the hub during the ECHO education and 9 participants never accessed since the sessions were completed.
### Table 5 Focus group participant demographics and attendance

<table>
<thead>
<tr>
<th>Role in project ECHO (Phase 3) Education</th>
<th>Role</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Attendee</td>
<td>12 (67)</td>
</tr>
<tr>
<td></td>
<td>Facilitator</td>
<td>5 (28)</td>
</tr>
<tr>
<td></td>
<td>Attendee &amp; Facilitator</td>
<td>1 (5)</td>
</tr>
</tbody>
</table>

| Usual Occupation                      | NH Manager                   | 5 (28)  |
|                                       | NH Staff/Frontline Worker   | 5 (28)  |
|                                       | Multi-disciplinary Team Member | 4 (22) |
|                                       | Other                        | 4 (22)  |

<table>
<thead>
<tr>
<th>Length of time working in EoL Care</th>
<th>Mean = 12.28 years</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Number of Project ECHO (Phase 3) Sessions participants attended</th>
<th>Number</th>
<th>N=</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean: 1.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of times participants accessed the Project ECHO Education HUB during Educational Sessions</th>
<th>Number</th>
<th>N=</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Once</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Weekly</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Fortnightly</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Monthly</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of times participants accessed the Project ECHO Education HUB since Educational Sessions</th>
<th>Number</th>
<th>N=</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Once</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Weekly</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fortnightly</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Monthly</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

#### 3.1.4 Telephone Interviews

Four GPs that were linked to the participating NH’s had expressed an interest in attending the Project ECHO (Phase 3) educational sessions and were invited to take part in the evaluation via a post programme telephone interview. However, the GPs did not participate in the live sessions and reported having difficulty with access to the recorded sessions. It was not possible therefore, to evaluate the content of programme with the GPs. One of the GPs reported interest in the Project ECHO education programme but disappointment at being unable to participate due to issues with internet connectivity in the geographical area.
3.2 Efficacy- the impact of ECHO education on participant learning outcomes

Efficacy refers to impact of an intervention on important outcomes, which includes possible negative effects (RE-AIM 2020).

3.2.1 Project ECHO Session evaluation - survey

As part of the session evaluations, participants were asked their opinions on the case studies and presentation format. As seen in figure 1 below participant responses were largely very complimentary, with a high percentage (>70%) selecting the option of agreed to all of the statements with the exception of one. Participants found the presentations and case studies useful, relevant, and interesting. Over 80% of respondents considered that the case study sessions would positively influence their daily clinical practice. It must be pointed out that the number of responses received to session evaluations was extremely low with the highest being n=5 following session 3. This low response was despite efforts to encourage response to the online survey after all sessions.

Figure 1. Participants’ perceptions of the presentation and case studies

![Bar chart showing participant views of presentation and case studies](image-url)
3.2.2 Focus Group participants’ perspectives on the impact of Project ECHO (Phase 3) education

Focus group participants were invited to discuss their views on the topics covered in the Project ECHO educational sessions and what worked well for them. Frontline nursing staff reported that participating and attending the sessions helped them to refresh their knowledge and skills. Examples of specific changes in how they delivered EoL care were provided as in the statement below:

“That day we learned that you don’t have to increase it…(O2) the carbon dioxide could be high so just keep it down. You know these are things we learned ten years ago when we were in college but when it comes to practice, you kind of forget the important small things…just to keep it low so they’re not accumulating carbon dioxide …coming to the ECHO…it did bring it all back. Even thought it was in the very first session, but it did impact practice and nurses are now inclining not to increase the oxygen to the maximum” (Frontline Staff)

A number of participants stated that following the completion of the programme, they experienced more confidence in a number of areas for example:

‘more confident to have EoL discussions with residents and their families (Frontline staff)

Also, more confident in “engaging with the GP to get the comfort care medications ahead of time” (Frontline staff)

The impact of this confidence was clearly expressed in the following statement:

“I recently had… a resident who has a chronic illness…cystic fibrosis of the lungs and she just took a little bit of a turn but we knew it wasn’t going to be anything too acute. Instantly, now you think about referring to palliative care and let’s get the GP to write up the comfort care medications because naturally that condition can deteriorate very quickly and just the comfort around fibrosis and all of that. It was all just on the forefront of my mind anyways and that was all done within two hours. It’s great to have that comfort...to know that if this resident does deteriorate, that we have the comfort care medications” (Frontline staff)

There was evidence that attendance at the educational sessions also improved awareness, particularly in terms of residents needs for EoL care. As one participant stated:

“I have increased awareness of the need for anticipatory medication prescribing especially with residents at EOL” (nurse).

Some participants reported that they had improved their knowledge and understanding of Advanced Care Planning from the ECHO sessions. Particularly the importance of revisiting the advance care plan after the initial conversation as was stressed in the following quote:

“We find that sometimes…in advanced care planning you might have that initial conversation when the person first comes to the nursing home. They would say that they want to go to hospital if they sustain a fracture, for treatment like IV antibiotics or if they had a fall and...
needed a laceration sutured. So maybe one of those events happen, then go to hospital and usually don’t have a very good experience at all. So, when they come back, it is important we revisit their end of life wishes. It’s usually the family or the resident usually coming to us to have that conversation” (Frontline staff)

The results of session evaluations and focus group discussions provide evidence that the Project ECHO educational sessions had a positive impact on the refreshment of participant’s knowledge and skills through the case studies, presentations and related discussions. From the focus group interviews, there was evidence of increased knowledge, awareness and confidence in operationalizing a palliative care approach in practice.

3.3 Adoption: barriers and facilitators to operationalizing the palliative care approach in practice

To report on results of participant perspectives on facilitators and barriers to operationalising a palliative care approach in practice, data were derived from qualitative data in session evaluations and focus group interviews.

3.3.1 Project ECHO educational session evaluation

In the educational session evaluation survey, participants were invited to list two points of knowledge gained from the Project ECHO session and briefly explain how they anticipated incorporating this into their clinical practice. Responses to the question posed were inserted to text boxes and responses were analysed using latent content analysis.

Three broad categories related to the points of knowledge identified and ways in which this knowledge could be potentially impact clinical practice.

Clinical Knowledge: Participants reported that they gained information over the ten Project ECHO sessions that helped them to improve their clinical knowledge. An example given was: increased awareness of the signs and symptoms of conditions such as delirium. They also reported that the Project ECHO sessions updated them on important skills and knowledge and increased their responsiveness to the delivery of appropriate nursing interventions for a variety of clinical situations. Examples given were: management of breathlessness; assessment of pain in cognitively impaired residents and increased awareness of when it is appropriate to consider medication deprescribing in the palliative care of residents.

Communication: Participants identified communication about EoL as an area of difficulty, particularly communicating with residents and families. They reported that the Project ECHO educational sessions helped them to become more confident in communicating with families and residents regarding their wishes for EoL care. They also acknowledged that Project ECHO education highlighted the importance of having good communication with the GP to ensure that all care including medications at end of life are planned in advance. Advance care planning was also identified as an important point of knowledge gained from the Project ECHO sessions and something that they would bring into their clinical practice.
Giving and Receiving support: Participants in Project ECHO education sessions highlighted as a point of knowledge, the importance of planning and support for resident’s wishes at EOL but they also stressed the need for staff support from management and from each other in order to have these discussions. Participants agreed that attending the Project ECHO sessions had helped them become more confident in having EoL discussions. However, it was also noted that there was very little support in place for staff in dealing with loss/grief of resident’s death. A type of debriefing process was suggested for themselves and other residents in the unit, following a residents death.

Table 6 outlines the different points of knowledge that staff identified and their intended means of embedding them into practice.

**Table 6. Knowledge development during Project ECHO & how it can impact practice.**

<table>
<thead>
<tr>
<th>Broad Category</th>
<th>Subcategory</th>
<th>How it can impact practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical knowledge</td>
<td>Increased awareness &amp; recognition signs and symptoms of clinical conditions</td>
<td>Increased knowledge and skills &amp; awareness of the appropriate nursing interventions in response to clinical conditions</td>
</tr>
<tr>
<td></td>
<td>Use of medications to manage conditions at EoL</td>
<td>Increased knowledge and skills &amp; awareness of appropriate interventions and EBP multidisciplinary decisions</td>
</tr>
<tr>
<td>Communication</td>
<td>Advanced care planning</td>
<td>Increased familiarity and confidence to have these conversations with residents/family</td>
</tr>
<tr>
<td></td>
<td>Communication between staff, residents and their families</td>
<td>Increased confidence and awareness of need for MDT communication to optimise patient care planning &amp; EoL decision making</td>
</tr>
<tr>
<td></td>
<td>Communication between staff and the GP</td>
<td>Increased confidence with communication between NH staff &amp; GPs</td>
</tr>
<tr>
<td>Giving &amp; Receiving Support</td>
<td>Staff and residents</td>
<td>Person centered needs awareness and support of both staff and residents</td>
</tr>
<tr>
<td></td>
<td>Residents and Staff support in loss and grief</td>
<td>Awareness of need to support staff &amp; residents in the event of a residents death</td>
</tr>
</tbody>
</table>
3.3.2 Focus Group participant views on barriers and facilitators to providing best care at EoL

When asked about the barriers and facilitators to providing the best care at EoL for residents, there were some differences in perspectives between frontline staff, managers and education providers.

Staff turnover

Frontline staff were concerned that a major barrier was the high level of staff turnover in the nursing homes. As one participant stated:

“You just recently trained them and for progression reasons or relocation...so you have to start again and create your champion, I found that challenging.

Yet another participant referred to the constant need to retrain staff as a barrier.

*Having new staff again...Also to retrain staff. We do have staff and we put them in the calendar roster. To reshuffle it is getting difficult and difficult every day. There is a lot of staff turnover...that’s a big issue, you know. Okay we advertise and we get staff and we train them but to retain them is an issue”.

Interdisciplinary Communication

Education providers and palliative care specialists who participated in the focus groups emphasised a lack of communication between the hospital, GP and NH as a barrier. In the following quote, a participant discussed how this would negatively affect the palliative care approach being implemented in practice.

“The communication that takes place in the hospital and how well that’s communicated to the nursing home, how well that’s appreciated by the GP. Whether he really enforces that message and whether everyone is really on the same page. That for me would feel like a great challenge” (PCS)

Another participant discussed the difficulties encountered in communicating an agreed plan of care

“I think that the stakeholders don’t necessarily engage with each other to be absolutely clear on where we are going. So key conversations may take place in the hospital but they are then not translated so there could be key conversations such about a patient’s end of life care. That is a very important letter to write to the GP so that they’re absolutely clear. If they don’t get that message. You can’t refer to the discussion with the GP in the hospital” (Education provider)

Staff / Resident relationships

Participants also argued that the lengthy relationship between staff and resident could also be a barrier. It was argued that although staff can be invested in resident’s lives for a lengthy period in residential care, it can often be difficult to identify when care needs to be escalated.

The following excerpt exemplifies this point
“You would also see in nursing homes, that for some staff, they’re hugely involved in the families because they have those residents for years and years. When a patient reaches the palliative care stage, it actually takes them to be referred to the specialist palliative care service for someone fresh to come in and look at the whole picture and say “actually if you think back now, they’ve been in hospital this many times”. So, they can be so invested in the patient for so long. They know them so well, they can’t actually see the bigger picture and it helps for a specialist to come in” (PCS)

Results show that the barriers and facilitators to adoption of a palliative care approach as identified by frontline staff and education providers/specialist palliative care differed in emphasis. From session evaluations, the Project ECHO education programme facilitated learning in clinical knowledge, communication and support that translated into a palliative care approach in practice, through the increase in knowledge skills and confidence. Barriers identified by frontline staff to adopting a palliative care approach into practice were high levels of staff turnover and need for retraining. ECHO education providers and specialist palliative care participants highlighted issues with communication between different agencies and professions and staff resident relationships in long term care as barriers to adopting this approach into practice.

3.4 Implementation of Project ECHO (Phase 3) education in practice

Evidence of the implementation of Project ECHO education in clinical practice was gleaned from analysis of the focus group interviews, where there were specific references made to how learning was or could be implemented in practice. One participant provided an example of how the Project ECHO education resources had been used in their practice area:

“We have a folder of all the project ECHO...all the case studies and presentations are there. So that’s something that they could refer to and emailed it to Eppicare for if and when we do have a fungating wound, this is how others have dealt with it. That’s something what is there like in a bank repository” (Frontline staff)

There was also evidence of mutual and reciprocal learning gained in specific areas of care within the Project ECHO education sessions. One participant, from the education, provider/palliative care specialist focus group stated:

“One of the ones that stood out to me was assessment of pain of people with cognitive impairment and their (NH Staff) in-depth knowledge of their resident and assessment of distress in somebody who’s got cognitive issues. I think it would far surpass what a specialist palliative care service would be providing because they have the expertise around dementia care. You know, I think we have a lot to learn around that. I was very impressed by some of the case studies” (Education providers/palliative care specialists)

There was evidence that the Project ECHO education programme also served to identify the potential to build on the mutual rapport and learning between palliative care specialists and
nursing homes. This potential for collaborative learning and future engagement is evident in the following statement:

“But certainly one of the things that I got out of ECHO was, that there was potential that we could potentially build on some of the stuff we had addressed and you’d love to use this technology down the line to engage with nursing homes because I think there was a network and a collaboration. I think it would be good to harness that for the future” (Education providers/palliative care specialists)

3.4.1 Resident Transfers to hospital

Data relating to resident transfer to acute hospital, referral to specialist palliative care, who instigated the transfer, reason for transfer, primary diagnosis, recording of resident expressed wishes for emergency transfer and for EoL care and existence of DNR orders were collected on the resident transfer forms pre during and post Project ECHO education programme.

Sixty-two transfers of residents from participating nursing homes to acute hospital care took place in the Project ECHO (Phase 3) study period. Analysis of all transfers were conducted to demonstrate whether any patterns of change occurred in number of residents transferred, reason for transfer, who instigated the transfer, and whether there was documentation of resident wishes and presence of DNR orders reported.

Nursing home sites were invited to return the number of resident transfers to acute hospital that had occurred one-month Pre Project ECHO education and for each month during (Time points 1-4), during the programme and then one month Post Project ECHO education when the programme was complete. As can be seen in Table 7, when sites reported that no transfer had occurred in the previous month this was recorded as 0 and any missing data is recorded as M. In the Pre-Project ECHO education period, all sites (n=12) responded, and the number of transfers ranged from zero to four, with a mean of 1.5 transfers. In T1, eleven sites responded and the number of transfers ranged between 1 and 4; in T2, ten sites responded, and number of transfers ranged between 1 and 2. In T3, eleven sites responded, and the number of transfers ranged 0 and 3 per site. In T4, eleven sites responded, and the number of transfers ranged from 0 and 2 per site. Post-Project ECHO education (one month), responses were received from ten sites and the number of resident transfers ranged from zero to one. As can be seen in Table 7, when comparisons were made between the mean number of resident transfers reported one month Pre Project ECHO Education, and each time point, there was a reduction during Project ECHO Education and an overall reduction from Pre Project ECHO Education to Post Project ECHO education period (mean1.5 – 0.3).
Table 7 Resident transfer to hospital per time point

<table>
<thead>
<tr>
<th>Sites</th>
<th>Number of resident transfers in Pre-ECHO (one month)</th>
<th>Number of resident transfers</th>
<th>Number of resident transfers</th>
<th>Number of resident transfers</th>
<th>Number of resident transfers</th>
<th>Number of resident transfers Post ECHO (one month)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of resident transfers in T1</td>
<td>Number of resident transfers in T2</td>
<td>Number of resident transfers in T3</td>
<td>Number of resident transfers in T4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>M</td>
<td>1</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>2</td>
<td>M</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>M</td>
<td>M</td>
<td>1</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>1.5</td>
<td>1.3</td>
<td>0.6</td>
<td>0.9</td>
<td>0.5</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Table 8. Primary reason recorded for transfer to hospital

<table>
<thead>
<tr>
<th>Reason For Transfer</th>
<th>Pre ECHO (1 month)</th>
<th>T1 1 month</th>
<th>T2 1 month</th>
<th>T3 1 month</th>
<th>T4 1 month</th>
<th>Post ECHO 1 month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sepsis</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>Fall</td>
<td>1 (5)</td>
<td>1 (6)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1 (17)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Delirium</td>
<td>1 (34)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>2 (18)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Cardio-respiratory symptoms</td>
<td>0</td>
<td>8 (50)</td>
<td>4 (50)</td>
<td>1 (9)</td>
<td>2 (33)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Pain</td>
<td>0</td>
<td>1 (6)</td>
<td>0 (0)</td>
<td>1 (9)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Other</td>
<td>10 (56)</td>
<td>6 (38)</td>
<td>4 (50)</td>
<td>6 (53)</td>
<td>3 (50)</td>
<td>3 (100)</td>
</tr>
<tr>
<td>Total recorded</td>
<td>18</td>
<td>16</td>
<td>8</td>
<td>11</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 8 shows the primary reason recorded for resident transfer Pre Project-ECHO (Phase 3) education, at each time point during and Post Project-ECHO (Phase 3) x 1 month. Cardio-respiratory symptoms or ‘other’ accounted for the majority of recorded reasons for resident transfer to hospital across time points. When ‘other’ was specified, the reasons included weakness on one side of the body; raised blood sugars; seizures; vomiting and unresponsive episodes. There was no statistical significance between time points and the reasons for referral ($p=0.586$).
Primary diagnosis of residents transferred

The primary diagnosis recorded for residents who were transferred to hospital varied across all time points. The main diagnoses recorded were chronic conditions such as chronic obstructive pulmonary disease (COPD), chronic kidney disease (CKD) and cardiovascular disease (CVD). Other primary diagnoses included breast cancer, brain cancer, stroke, dementia, diabetes type 1 and 2.

Who instigated the transfer to hospital?

For residents transferred to hospital, respondents were asked to indicate the professional who instigated the transfer. Table 9 outlines the variation and change in the professional who instigated the resident referral at the different time points of the Project-ECHO programme. Pre-Project-ECHO (Phase 3) until T4, the professional mainly referring residents to hospital was reported as NH staff. The number of transfers instigated by NH staff over the time period ranged between 40 and 58. The transfers in the Post-Project-ECHO period that reported this were all instigated by the GP (n=3). There was no statistical significance between time points and the professional who instigated the transfer to hospital (p=0.570).

Table 9. Who instigated the transfer to hospital?

<table>
<thead>
<tr>
<th>Professional who instigated Transfer</th>
<th>Pre ECHO 1month</th>
<th>T1 1month</th>
<th>T2 1month</th>
<th>T3 1month</th>
<th>T4 1month</th>
<th>Post ECHO 1month</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%) (%)</td>
<td>N (%) (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>Nursing Home staff</td>
<td>9 (50)</td>
<td>9 (56)</td>
<td>4 (50)</td>
<td>6 (55)</td>
<td>3 (50)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>GP</td>
<td>6 (33)</td>
<td>5 (32)</td>
<td>3 (38)</td>
<td>3 (27)</td>
<td>2 (33)</td>
<td>3 (100)</td>
</tr>
<tr>
<td>Out of hours doctor</td>
<td>2 (11)</td>
<td>1 (6)</td>
<td>1 (12)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Member of the community palliative care team</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1 (9)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Unsure</td>
<td>0 (0)</td>
<td>1 (6)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (6)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1 (9)</td>
<td>1 (17)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Total recorded / timepoint</td>
<td>18</td>
<td>16</td>
<td>8</td>
<td>11</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

Residents in receipt of care from specialist community palliative (SPC) team

In the site profile forms, the number of residents currently in receipt of care from the specialist community palliative (SPC) team was recorded. In the pre-ECHO site profile, the number of residents in receipt of care from SPC team ranged from 0-3 and post-ECHO, this ranged from 0-7 residents.
Figure 2 shows the numbers of residents overall in receipt of care palliative care one-month, pre-Project ECHO (Phase 3) education programme and one-month post Project ECHO (Phase 3) education programme.

In resident transfer forms, for each resident transfer to hospital, respondents were invited to record whether the resident was currently in receipt of care from the SPC team at the time of transfer. Figure 2 shows the percentage residents transferred at each time point who were or were not in receipt of care from the SPC team at time of transfer. As can be seen in Figure 2, 89% of residents transferred to hospital pre ECHO education were recorded as not in receipt of care from SPC team. There was little variation in these results over the time points 1-4 as the majority of residents transferred over this period and Post ECHO all residents transferred were recorded by staff, as not in receipt of care from SPC. No statistical significance exists between time points and whether a resident was in receipt of care from SPC team (P=0.744).

**Figure 2. Residents in receipt of care from SPC team at time of transfer Pre, during and Post Project ECHO**

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>11%</td>
<td>6%</td>
<td>13%</td>
<td>9%</td>
<td>17%</td>
<td>0%</td>
</tr>
<tr>
<td>No</td>
<td>89%</td>
<td>81%</td>
<td>87%</td>
<td>91%</td>
<td>83%</td>
<td>100%</td>
</tr>
<tr>
<td>Unsure</td>
<td>0%</td>
<td>13%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Documentation of resident wishes regarding emergency transfer to hospital**

On the resident transfer form for each resident transferred to hospital Pre during and Post Project ECHO education programme respondents were asked to state yes or no whether the transferred resident’s expressed wishes regarding emergency transfer to hospital were documented. Figure 3 shows that the documentation of resident expressed wishes regarding emergency transfer to hospital was variable across time points. However, one-month Post Project ECHO education, responses show that 100% of residents transferred at this time had their wishes for emergency transfer to hospital documented. The following statements exemplify residents wishes specified on the transfer form; *resident wished to be transferred for active management of their condition; wished to be transferred for CPR, Only wished to be transferred if their health deteriorates.*
Figure 3. Were residents expressed wishes regarding emergency transfer to hospital documented?

![Figure 3](image.png)

Documentation of residents expressed wishes regarding end of life care

On the transfer, form for each resident transferred to hospital Pre, during and Post the Project ECHO education programme, respondents were asked to record whether there was documentation of residents expressed wishes regarding end of life (EoL) care. Figure 4 shows a wide range and variability across the time points. However, there is a notable increase in the documentation of residents expressed wishes regarding EoL care from 33% pre-Project ECHO education to 67% Post Project ECHO education. The specific resident’s wishes recorded in relation to EoL care included: to be kept comfortable; EoL care to be within the NH; no further transfer to hospital; to be pain free and to be actively treated for as long as possible.

Figure 4. Documented residents expressed their wishes regarding EoL care

![Figure 4](image.png)
Do Not Resuscitate Order (DNR) in place

In the site profile forms Pre and Post Project ECHO education respondents were invited to indicate the number of residents with a Do Not Resuscitate Order (DNR) in place. In the pre-ECHO education site profiles the number of residents who had a DNR ranged from 4-42 and from 1-42 in the post-ECHO site profile.

In each resident referral/transfer form, the presence or absence of a Do Not Resuscitate Order (DNR) at the time of resident transfer to hospital was also sought. Figure 5 below shows that from Pre Project ECHO Education to Post Project ECHO education, of the total transfers to hospital (n=62) there was a steady decrease in the number of residents that were reported not to have a DNR in place at time of transfer (n=15 Pre ECHO to n=1 Post ECHO).

Figure 5. Resident DNR in place at time of transfer to hospital Pre during and Post ECHO education

3.4.1.1 Resident outcomes recorded following transfer to hospital

Resident not admitted and returned to the NH following transfer to the acute hospital:

Pre-Project ECHO (Phase 3) education period 17% (n=3) of residents were seen in ED, not admitted and returned to the NH. This varied throughout the timepoints and in the post-Project ECHO (Phase 3) education, 67% (n=2) of residents seen in ED were not admitted and returned to the NH.

Resident admitted to hospital:

In the Pre-Project ECHO (Phase 3) education period 61% (n=11) of residents transferred to hospital were admitted and 67% Post-Project ECHO. This varied throughout the timepoints. For those that were admitted, the length of stay in hospital ranged between 1 and 5 days.
Resident admitted to hospital and died in hospital

In the Pre-Project ECHO (Phase 3) education 17% (n=6) of residents who were admitted to hospital died. This varied through the programme (13% in T1, 25% in T2, 9% in T3 and 17% in T4). Residents spent a median of 8.8 days in hospital before they died. In Post-Project ECHO education period there was no report of residents transferred to hospital that died in hospital.

Summary

It is evident from the qualitative data presented that participants in the Project ECHO (Phase 3) education programme reported implementing their knowledge gained in different ways in their real world of practice. Although data on patterns of transfer to hospital and the documentation of resident wishes cannot be attributed directly to the Project ECHO (Phase 3) education programme, it is notable that there was an overall reduction in the mean number of resident transfers to hospital from the Pre Project ECHO Education to Post Project ECHO education period. It is also noteworthy that in the post Project ECHO (Phase 3) education period, 100% of residents transferred to hospital had DNR recorded and had their wishes for emergency transfer and EoL care documented.

3.5 Maintenance: refers to the extent in which the Project ECHO (Phase 3) education programme is sustained over time

In the focus group discussions, participants were invited to offer their opinions on the structure and process of the Project ECHO (Phase 3) education programme and provide their views on how the programme should develop in the future. Themes that emerged were: timing of the programme; creating a virtual network; format for the future; disseminating and sharing with colleagues.

Timing of the programme

The delivery of Project ECHO (Phase 3) education during the summer was challenging and thought by participants to impact negatively on their ability to participate. For sustainability of the programme, participants felt that timing should be taken into consideration. As one participant stated:

“I would just go back to the time of year…. The summer is always a challenge with annual leave and given the afternoons if people have a half day, they are taking that half day to be with children or whatever. So, I would agree with it starting in September (Frontline staff)

There was general agreement that the summertime was not ideal.

“For me personally, I thought it being on in the summertime, it’s all holidays…people are on annual leave…I think maybe if it was a different time of the year ….a different time of the year, it might have suited just a little bit better” (Frontline staff)
Creating a virtual network

A positive result of the programme identified by participants was the creation of a ‘virtual network’ for facilitators and frontline staff to learn from one another. There were calls to continue this local virtual network going forward to enable further engagement, sharing of skills, ideas, practices and evidenced based information. The value of learning from one another was emphasised as in the quote below:

“they’ve got the expertise around dementia care. You know, I think we have a lot to learn around that. I was very impressed by some of the case studies” (Education providers/palliative care specialists)

Yet another participant added that

“you’d love to use this technology down to line to engage with nursing homes because I think there was a network and a collaboration. I think it would be good to harness that for the future” (Education providers/palliative care specialists)

Palliative care specialists also emphasised that importance of having this network to enable the staff in the nursing homes to contact them more easily for discussions around concerns they may have about a resident and EoL care.

As one participant, stated:

“Because often all they need is reassurance they they’re doing the right thing. Lots of times they have the skill sets and they know what they need to do. They just feel that it’s out of their area or that they need to be an expert on it. We are almost going back in and saying “no guys. Ye have done an incredible job, great job and keep doing that”. It doesn’t take up a lot of our time actually. You’d rather someone ring and ask that question so you can reassure them or if they were completely off the mark, then you can recognise then that there’s a need for more input and more engagement. That can be arranged and I can always arrange for that to happen down the road” (Education provider-palliative care specialist)

Format for the future

In the focus groups, there was a consensus that the process of delivery of the Project ECHO (Phase 3) education and the manner in which it was managed was very effective. Some discussion ensued around the topics how they were chosen with participants suggesting that more time was needed in the nursing homes to discuss the suggested topics with other staff on site. Participants suggested that future ECHO education workshops could address this by advising attendees to have discussions on potential topics with colleagues within sites before they attended the introductory day.

As one participant stated:
“Now the only thing about that process is that it was perfect, but if I were to know more about it, I would have liked to been able to ask the girls on the ward what topics they would have liked covered. And then brought that into the process” (Frontline staff)

There was one suggestion that the format of the programme could also incorporate a conference on a particular topic or subject of concern applicable to a number of Nursing Homes as this would limit the amount of time taken to answer phone queries from individual sites on similar issues.

“I was just kind of thinking, you know, could that shape project ECHO going forward, if you had 5 phone calls to the physio department...should we do a project ECHO conference and invite people to attend on a particular subject? You know, rather than doing it in the same structure that we did it this time? And if there is phone calls coming in, do we have the resources to that we can do a 30 minute case presentation and do a session and invite 15 nursing homes to attend.” (NH manager)

Disseminating and sharing with colleagues

There was much discussion on how information about the programme was disseminated and shared throughout the nursing homes. While some staff enjoyed having web seminars rather than needing to attend a study day, they also suggested that resources from the programme should also be made available in hard copy within the sites for reference.

There were also some on site issues and challenges identified with regard to attending the video seminar as stated in the following quote;

“I think it’s a new thing now having the web seminars and trying to get it into your head that you’re away at a study day which is normally very...there’s a formality around it. Whereas you’re attending a study day that is a little bit more impromptu and you’re in the building but bells are going off in the background. I think it is the environment that is distracting (Frontline staff)

Getting information and resources about the Project ECHO (Phase 3) education programme to staff was also discussed as this was managed in different ways by the different nursing homes:

“For me, I know I tried to channel the information through and I know that people did see the signs everywhere. People were enquiring about it so knowing and being aware of the seminars were not an issue from a manager’s point of view in our home” (Frontline staff)

A number of sites printed out material as stated below:

“We have a folder of all the project ECHO...all the case studies and presentations are there. So that’s something that they could refer to” (Frontline staff)

The project coordinator within the hub was seen as an integral part of getting the information about the programme disseminated to the spokes. It was viewed as very effective to have a designated local person for contact.
“yeah we were well informed with (name) being appointed as the coordinator and having a person locally. We got information from yourself and (name) on the programme and (name) being able to answer any questions” (NH Managers)

It is clear from the evaluation that the timing of Project ECHO programme facilitation needs to be considerate of staff preferences and availability. A positive outcome from the programme was the creation of ‘a virtual network’ of nursing home staff and palliative care specialists that could continue to connect and grow to increase knowledge and mutual learning in the future. Participants suggested that more time could have been afforded to the choosing of educational topics on site, and to cover more issues generally occurring in NHs. It is clear that the information about the Project ECHO (Phase 3) education programme and resources from the sessions were shared and managed within the NHs, in different ways and that may have resulted in some staff being unaware of the full programme expectations or content.

Limitations of the study

There are some limitations to this evaluation of Project ECHO (Phase 3). The main limitation being the response rate. Over the course of the programme, despite planned and agreed timepoints and reminders, there was a drop off in resident transfer forms returned to the research team from NHs and this impacts the completeness of results in relation to the pattern of resident transfers and any comparisons between results Pre during and Post Project ECHO education. In addition, even though a dedicated co-ordinator from the ‘hub’ contacted attendees and outlined the process of completing the evaluation forms after each live educational session and a follow up reminder was also sent to attendees, there was a very limited number of session evaluation surveys returned. Therefore it is difficult to generalise from the findings due to lack of representation. Nevertheless, the inclusion of qualitative focus group discussions provided very rich insights into the impact of the Project ECHO (Phase 3) education programme as it enabled the voice of frontline staff as well as NH managers and education providers/palliative care specialists to be captured in this evaluation.
Conclusion and recommendations
The Project ECHO education programme utilises video-conferencing technology where participants benefit by receiving evidence-based, best practice guidance from specialists, and case-based learning from presentations. Project ECHO (Phase 3) education was facilitated by Milford Care Centre in Limerick as the ‘hub’ and connected virtually with twelve Nursing Homes in the Midwest region (spokes) to provide education in the palliative approach to care over ten live sessions from May – September 2019. This evaluation was underpinned by the RE-AIM framework, and adopted a mixed methods approach that included surveys (site profiles, resident transfer information, participant demographics and session evaluation) and focus groups with participants and educators Pre during and Post the Project ECHO (Phase 3) education programme. The key findings are presented using the RE-AIM framework:

Reach:
Twelve nursing homes participated with a total of n=366 participants, ranging from 20-65 at individual sessions. Although there was a high level of interest in the programme, there was a reduction in session attendance over time. From analysis of the focus group discussions, participation was influenced by staff availability, timing of the programme and connectivity. There was a lack of GP engagement with the programme due in some part to difficulty with internet connectivity and the timing of the live sessions. Similar challenges to GP engagement with education were highlighted in previous research (Dowling et al, 2018).

Efficacy:
Nursing home participants reported a positive impact on their learning and increased knowledge and skills through shared experiences in the educational sessions. They reported improved confidence in having EoL care discussions with residents and family members. Participants identified a need for improvements in support for frontline staff to attend and also support with what was termed ‘debriefing’ when dealing with grief when resident deaths occur.

Adoption:
Participants reported that the Project ECHO (Phase 3) education programme facilitated increased clinical knowledge, and more confidence in the practice of a palliative approach in residential care particularly in communicating with residents and with GP’s. They specifically highlighted increased knowledge and confidence in areas such as pain and medication management and advanced care planning. There are similarities here to findings reported by Dowling et al. (2018) in their study of Project ECHO (Phase 1) where the authors measured success by quantifying gains in all nursing home staff confidence. In their study, there was a significant increase in average confidence reported by all staff from 27% pre- to post Project ECHO education (Phase 1) (6.4 [SD = 1.4] to 8.1 [SD = 2.1], p < 0.005) and the gains in confidence persisted at six weeks (Dowling et al, 2018). However, challenges were identified in relation to the staff escalation of resident care needs. Barriers reported by Dowling et al (2018) to operationalising the learning from the
ECHO Phase 1 programme into practice included staff turnover and a lack of communication between NH, GP and acute hospitals.

**Implementation:**
Over the course of the Project ECHO (Phase 3) education programme in session evaluations, participants reported that they had gained key points of knowledge from the programme that they implemented in their clinical settings. The findings reported in McMullan and Watson (2017) in their quantitative study in Northern Ireland, were that statistically significant improvements in knowledge and self-efficacy occurred and the authors recommended ECHO education as a tool that could support change in service delivery and systems integration. Specific key points of knowledge reported by participants in this present study related to refreshed knowledge on signs and symptoms of clinical conditions and confidence in medication management. There is evidence that increasing the education and competence of staff in nursing homes to provide end of life care and better adherence to residents’ advance care plans and resident wishes may reduce unnecessary transfers to the acute hospital (Kirsbom et al., 2017). Pre Project ECHO (Phase 3) education and over the course of the programme, the pattern of resident transfers from the residential sites to acute care was recorded on survey questionnaires returned from each site at four time periods. Although the survey response was low, when comparisons are drawn between Pre and Post ECHO Education there was a reduction in the mean number of resident transfers to hospital. Interestingly, the majority of resident transfers were instigated by NH staff. This may have stemmed from nursing home staff becoming more aware and having more knowledge through the ECHO education to identify resident needs for an appropriate transfer to hospital. For example, the main reason for transfers reported were cardio-respiratory symptoms, or ‘other’, which may indicate that an acute episode of care was required. Results also show an increasing pattern of documented resident wishes in relation to emergency transfer and EoL care and a decrease in the number of residents with DNR orders recorded as not in place on transfer over the Project ECHO (Phase 3) education time period. This demonstrates a move towards a palliative approach to care where residents are provided with opportunities for discussion about their care preferences and preferences are documented.

**Maintenance:**
Our results show that the creation of the virtual network through the Project ECHO (Phase 3) education programme was seen as a very positive outcome and participants called for this to continue in order to sustain engagement and learning. The management of programme delivery was deemed to be effective and the co-ordinator role integral to this. However, the timing of the ECHO programme during the summer months was challenging for staff. Issues were also identified with communication and variation in the dissemination of information and resources from the Project ECHO (Phase 3) education within the different sites. There were calls from the participants to maintain the learning network that was developed via the Project ECHO programme and to extend the connection between the hub and spokes beyond the education programme sessions into online fora for ongoing case discussions and shared learning.
RECOMMENDATIONS

Reach:
- This programme facilitates and encourages a Palliative Care approach in NHs and given the emphasis in the Irish Health Services on promoting a Palliative Care approach in residential care our results indicate that the Project ECHO AIIHPC Nursing Home project should be extended to all residential care settings.
- Consider reaching out with ECHO education programmes to other HCPs that attend nursing homes such as GPs and out of hours medical staff through their national networks.

Efficacy:
- Support strategies are needed in residential care settings to support all staff to engage more with the programme citing the positive impact on their knowledge, confidence and clinical practice. This could involve the further development of the virtual learning environment with available infrastructure.
- There is also a need to develop programmes delivered on site to support NH staff in dealing with grief and death of residents.

Adoption:
- Since the community SPC team already have an established relationships with the nursing homes, the role of the community SPC team in recruitment of nursing homes in the first instance should be considered, as well as their role in encouraging and maintaining engagement with the Project ECHO programme and embedding and modelling changes in practice.
- To overcome barriers to adopting the learning from Project ECHO education in practice, we recommend that prior to the commencement of the programme, there would be agreed strategies within NH for the dissemination of learning and educational resources within their site particularly in circumstances where there is high staff turnover.

Implementation:
- Further research is needed in NHs post the Project ECHO education programme, to observe and explore the implementation of learning outcomes from the programme (the palliative care approach) in the clinical setting, and to examine the processes and contextual factors involved.
- Staff reported improvements in confidence and competence in relation to communication with residents about EoL care and wishes. There is a need to conduct further research to examine the relationship between staff competence and measurable outcomes for residents such as compliance with resident’s wishes and reductions in unnecessary transfers to hospital.

Maintenance:
- The timing of programme delivery needs to be reconsidered to take account of optimum staff availability.
- A designated staff member /champion within each NH site is recommended to manage the dissemination of information and resources to staff on site.
- Incentives for all staff and particularly G.Ps to attend ECHO Education such as CPD points.
- Further site preparation is necessary prior to the Project ECHO education programme commencement e.g. sites that express an interest in registration for the programme could receive a video message with a detailed overview of the programme, outlining the programme learning outcomes, the time commitment and expectations of participants, the resources and infrastructure needed.
References


RE-AIM (2020) *What is RE-AIM?*, available: http://www.re-aim.org/about/frequently-asked-questions/ [accessed 20 Jan 2020].


Appendix 1. Packs sent to Nursing Homes

Project ECHO AIIHPC

This pack contains important information to assist you in the development of your Knowledge Network
Contents

Contact details for Project ECHO AIIHPC Team .................................................................40
Overview of Project ECHO ....................................................................................................41
What is ECHO? .....................................................................................................................41
   Project Background .........................................................................................................41
   2017 Project ECHO AIIHPC Demonstration Project .........................................................42
ECHO Core Team-Roles and Responsibilities .................................................................43
   Administration Role ........................................................................................................43
   IT Role ............................................................................................................................43
   ECHO Facilitator Role ....................................................................................................44
Technology .......................................................................................................................45
Equipment .......................................................................................................................47
Checklist- for ECHO AIIHPC Nursing Home Project Phase 3 .........................................47
**CONTACT DETAILS FOR PROJECT ECHO AIHPC TEAM**

**PROJECT ECHO AIHPC – PROJECT MANAGER**

Dr Cathy Payne  
Programme Manager AIHPC, c/o Education & Research Centre, Our Lady’s Hospice & Care Services, Harold’s Cross, Dublin D6W RY72.  
T: +353 (0) 1 491 2948  
Mob: +44 (0)7703342266  
Email: cpayne@aiihpc.org

---

**PROJECT ECHO AIHPC - ADMINISTRATION**

Bernadette Pirihi  
Administration Support AIHPC, c/o Education & Research Centre, Our Lady’s Hospice & Care Services, Harold’s Cross, Dublin D6W RY72  
T: +353 (0) 1 491 2948  
Email: bpirihi@aiihpc.org

---

**PROJECT ECHO AIHPC - IT SUPPORT**

For issues with Zoom software please contact:  

Gareth Wescott  
Digital Manager and Developer, AIHPC, c/o Education & Research Centre, Our Lady’s Hospice & Care Services, Harold’s Cross, Dublin D6W RY72  
T: +353 (0) 1 491 2948  
E-mail: gwescott@aiihpc.org

---

36
What is ECHO?

Project ECHO (Extension for Community Healthcare Outcomes) is a pioneering telementoring programme which was developed in the School of Medicine at the University of New Mexico (UNM).

- Project ECHO is a tool which can assist in the development of capacity for safe and effective treatment of chronic, common, and complex diseases especially in rural and underserved areas while monitoring outcomes to ensure quality of care.
- The ECHO model is designed to address the growing demand for secondary care services and is focused on increasing capacity within primary care, through de-monopolisation of specialist knowledge and improving relationships across primary and secondary care.
- Project ECHO uses technology and existing resources to magnify the capacities of the health care workforce, build a bridge across health care settings, and truly providing health care without barriers.
- The model has been shown, through peer review, to be an effective way of addressing the knowledge gap that all healthcare professionals face due to the exponential growth in medical knowledge. With the use of video-conferencing technology, participants benefit by receiving evidence-based, best practice guidance from specialists, and case-based learning from presentations along with opportunities for live questions and answers.

Project Background

Project ECHO® was launched in 2003 by Sanjeev Arora, a liver disease specialist at the University of New Mexico Health Sciences Center in Albuquerque. Dr Arora was frustrated that he could serve only a fraction of the hepatitis C patients in that state who needed treatment. An estimated 36,000 New Mexicans had the disease, but only 5 percent were being treated. In the entire state of New Mexico, just two clinics had the necessary treatment expertise. New Mexico desperately needed more providers capable of managing hepatitis C in their local communities.

Accordingly, Dr Arora created a free, virtual clinic to mentor community providers in how to treat hepatitis C. In Albuquerque, he assembled a multidisciplinary specialist team—including himself, a psychiatrist, a pharmacist, a nurse, and a social worker—to host weekly teleECHO clinics via videoconference for primary care providers from around the state.

After the first Hepatitis C TeleECHO Clinic launched, the wait time for hepatitis C treatment in New Mexico dropped from eight months to two weeks. More than 500,000 miles of patient treatment travel were avoided and the quality of care (as demonstrated in a study published in the New England Journal of Medicine) was excellent, as good as care provided in the university’s specialty clinic.

2017 Project ECHO AIIHPC Demonstration Project

In 2017 AIIHPC received funding from the Health Service Executive to work in partnership with Our Lady’s Hospice & Care Services to pilot the use of the Project ECHO® model across nursing homes within south Dublin.

Although participation in the evaluation was low and this is a recognised limitation of the findings, there was a broad welcoming of the project and a recognition of its potential to positively influence nursing home practice and support staff to deliver a palliative approach to resident’s needs. Additionally, the project had a demonstrable and statistically significant sustainable effect of nursing home staff’s...
confidence in supporting the palliative care needs of residents. Nursing home staff and palliative care professionals worked together to foster a spirit of peer-learning and reflection in determining best care and treatment for residents and their families. This model was recognised to have strong transferability beyond palliative care.

A second phase of Project ECHO AIIHPC commenced in February 2018 and extended invitations out to the remaining homes within Dublin, jointly supported by the multidisciplinary palliative care teams at St Francis Hospice and Our Lady's Hospice & Care Services. Evaluation of this phase is focusing on the clinical impacts of participation, including referral patterns to specialist palliative care, out of hour’s emergency contacts and unplanned acute care transitions.

Resources:

ECHO [Internet]. [cited 2018 Jul 24]. Available from: https://echo.unm.edu/


The following roles are undertaken by the ECHO Project team

**Administration Role**

- **Training day**
  The Administrator will:
  - organise venue & catering
  - e-mail agenda & invite to all participants
  - print training packs and provide administration support
  - disseminate & collect pre-ECHO evaluation forms
  - produce and disseminate training programme to all participants. This will include dates, times, curriculum topics & spoke case presenters (as agreed at the training day)

- **ECHO Sessions**
  In advance of each ECHO session the Administrator will:
  - Remind the educator and case presenters to submit their materials 10 days before the scheduled ECHO session
  - Send the case presentations to the facilitator to check and verify with relevant experts
  - E-mail the agenda, didactic teaching and case presentations to all participants 7 days before each ECHO session
  During the ECHO sessions the Administrator will:
  - Record attendance at the ECHO session
  - Assist the facilitator in facilitating the session
  - Make a record of documents/guidelines etc. mentioned during the ECHO session
  After the ECHO sessions the Administrator will:
  - Advise AIIHPC of relevant documents/guidelines etc. mentioned during the ECHO session to be uploaded to the online learning platform
  - Issue attendance certificates to participants (after post ECHO evaluation submitted by individual)

**IT Role**

- **Initial Spoke set-up**
  Prior to the training day the IT lead will:
  - discuss IT requirements with spokes and download of Zoom software
  - organise site visit/telephone support as required
  - run trial sessions of Zoom with participants to make sure everything is working well
  - provide participants with log in to avail of recordings and resources uploaded to the Palliative Hub Learning Platform and ECHO online learning platform

- **ECHO Sessions**
  During the ECHO sessions, the IT lead will:
  - open the video and telephone links a few minutes before the session is due to start and monitor problems that arise with connections
  - communicate with spokes directly if there are problems and ensure that the technology remains invisible
  - Ensure the didactic teaching presentation, case studies and other relevant information is uploaded to the ECHO laptop for use in the ECHO session
  - ensure the didactic teaching presentation, case studies and other relevant information is appropriately displayed during the ECHO session
  - record ECHO sessions and upload them along with other information arising from the clinic such as the power point presentation onto a protected space on the Palliative Hub Learning Platform and ECHO online learning platform with support from AIIHPC
**ECHO Facilitator Role**

- **Initial Spoke set-up**
  
  Prior to the training day the ECHO Facilitator will:
  - lead in the identification & recruitment of spokes
  - lead in building the hub team organise site visit/telephone support as required
  - co-facilitate the focused study day with identified spoke members to agree the dates, times and curriculum topics
  - identify appropriate educators for each ECHO session depending curriculum topic. The presenter for the tele-echo requires specialised knowledge in the area, and good crisp presenting skills. It is important that the presentation is clear, that slides are not overpopulated, that around one slide a minute is the baseline number for a presentation and that there is some identification with the needs of the clinicians at the spokes.
  - identify appropriate hub team for each ECHO session depending curriculum topic. The hub team should be multidisciplinary in nature and ideally be formed from those who have attended the focus group session and awareness training on ECHO

- **ECHO Sessions**

  During the ECHO sessions, ECHO Facilitator will:
  - welcome early arrivers as they sign on
  - eliminate/reduce environmental distractions by encouraging participants to turn of pagers/cell phones, avoid paper shuffling, turn off loud fans
  - communicate ground rules, reminding all participants about confidentiality at each session
  - move the session along in an efficient and relaxed manner, providing a neutral perspective
  - ensure that the sessions start and finish in time, keeping the session focused on the subject of discussion
  - ensure that all participants have equal opportunities to participate and feel that their input is valued, with an emphasis on co-management and collaboration
  - monitor problems that arise with connections, communicate with spokes and ensure that the technology remains invisible
TECHNOLOGY

Zoom software

Zoom is the software that is used by Project ECHO® (Extension for Community Healthcare Outcomes) to run its network meetings. Project ECHO® holds a license with Zoom until 2019.

Zoom uses low bandwidth and is also encrypted to meet stringent confidentiality data laws (HIPPA compliant). It allows individuals and groups to connect and has the following capacities:

- Video conferencing
- Mobile and web access
- In the cloud, so very little software needs to be downloaded
- Up to 100 participants
- Compatible with iOS, Android, Windows, H.323/SIP, Telephone
- All that it requires to work is a broadband connection

How?

The ECHO Network administrator will send you an invitation by email to each of the Network meetings a couple of days before. This invitation will include a link that you either click on or insert into your web address bar.

The first time that you do this Zoom will load to your machine and this takes two minutes or so. Once this has happened you will be invited to sign into the meeting with your name or the name of your group. Once you click you are in!

Open Zoom - If you have not done so already, you will need to install Zoom on your PC. To do this, go to [www.zoom.us](http://www.zoom.us) and download it. Once it is installed, click on the Zoom icon.

Once in Zoom, you will have the option to Join a meeting or Sign in.
NB: You should only need to sign in if you are hosting a meeting.

If you have been invited to attend a meeting, and have been given a meeting ID number, you DO NOT need to sign in and can just click to Join a meeting.

Joining a meeting - Prior to the meeting, you will receive an email containing details of the time and date of the meeting, and any documentation required. The email will also contain instructions to access the meeting, including a 10 digit Meeting ID number.

Click Join a meeting - Type in the 10 digit Meeting ID number and your name.

Going into Zoom should activate your webcam (if you have one) automatically and you will see the video screen (If not, check that it is plugged in and connected to the PC)

To prevent audio feedback we ask that whenever you are not actually speaking that you mute your microphone. You can do this by either pressing the remote button of your audio device, by pressing the button on the device itself or by clicking on the mute icon at the bottom left side of your screen.

Before your first meeting proper we would ask you to connect and make sure everything is working well. This should have been done when your webcam was installed.

It is important that everybody else can see you so please make sure everyone can be seen by the camera, even the shyest!

The quality of the images and sound will depend on your broadband speed. If there are lots of other people in your centre accessing broadband when your ECHO Network is running you may find that images become jumpy or that the sound gets broken.

In such circumstances you can try switching off your vision by clicking on the appropriate icon at the bottom of the screen. This will allow you to be heard and to see but not to be seen which may help with your audio signal.

If you are having problems during the network session then please phone and ask to speak to the IT assistant for the ECHO Network (see page 3 for details).

It will also be helpful for the IT assistant for your network to have a phone number to contact at your spoke if they wish to contact you during a session.
Equipment

The key requirement for spokes is a broadband connection capable of streaming a video without too much stuttering and a webcam with microphone and speakers. If purchasing a webcam we recommend a plug and play model which does not require you to load software onto the computer. If it is likely that a group of more than three will be using the spoke consistently then consider purchasing a large screen/monitor and a camera with a wide field of vision.

CHECKLIST - FOR ECHO

The following steps are necessary when starting up the ECHO

- Engagement with all potential hub members and spokes
- Identification of a suitable day for an information induction session for all hub and spoke members. During this day participants will:
  - meet other spoke and hub members
  - learn more about Project ECHO AIHPC and the Nursing Home project
  - agree on best time and dates to run ECHO sessions
  - agree curriculum topics
  - agree dates for participants to submit case presentations
  - complete pre-ECHO documentation and agree a contract of participation

Identify equipment needs and arrange for distribution and set up of webcams as required in advance of ECHO start date
Appendix 2. Consent form to participate in Project ECHO (Nursing Homes)

Consent form To Participate in Project Echo Phase 3

According to the information on project ECHO sent to you, there are criteria that your nursing home agrees to prior to taking part in this project.

Nursing homes agree to engage in all aspects of the project including:

- Nursing home management agree to support this project and evaluation.
- Nursing staff agree to completing data collection forms 1 & 2 (pre during and up to one month post project ECHO programme).
- Representatives from the nursing home (one nurse manager/one staff nurse/ one health care assistant) attend a project ECHO introduction day.
- Nursing Home management agree to release of nursing staff to attend 10 fortnightly sessions.
- To ensure that staff who have not been able to attend the live sessions have access to the recorded sessions.
- Having a dedicated room to enable staff attendance to online education sessions.
- Have the appropriate IT equipment to participate in the education sessions.
- Agree that one representative from each category of staff in the nursing home (nurse manager/staff nurse/ health care assistant) will attend a focus group on completion of the educational sessions.

By signing this consent for you are acknowledging that you have agreed to participate in this project and meet the above criteria.

Signature of Director of Nursing ____________________________

Signature of Project facilitator ____________________________
# Appendix 3. Site Profile

**SITE PROFILE PROJECT ECHO AIIHPC FORM 2**

Information on current residents residing in the nursing home. To be completed for a single day in April and a single day in September 2019.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Date of completion of form</td>
<td></td>
</tr>
<tr>
<td>2. Total number of residents residing in the nursing home/unit</td>
<td></td>
</tr>
<tr>
<td>3. Total number of current residents who have a documented expression of their wishes regarding care at the end of life, including their preferences for medical interventions</td>
<td>Completed with the resident ________</td>
</tr>
<tr>
<td>4. Total number of current residents who have a Do Not Resuscitate (DNR) order in place</td>
<td></td>
</tr>
<tr>
<td>5. Total number of referrals to community palliative care services since March 2019</td>
<td></td>
</tr>
<tr>
<td>6. Total number of resident deaths since March 2019</td>
<td></td>
</tr>
</tbody>
</table>
If there is any other information that you think is important or relevant please state in this box
# Appendix 4. Resident Referral Forms

## RESIDENT REFERRAL / TRANSFER

Data collected on Resident Referral / Transfer from Nursing Home to Hospital pre ECHO X 3 months, monthly during facilitation of project ECHO and x 1 month afterwards

<table>
<thead>
<tr>
<th>1) Date and time of emergency transfer to hospital: (24 hr period)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2) What was the <strong>primary reason</strong> for transfer / referral to hospital?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Please tick <strong>one</strong>)**</td>
</tr>
<tr>
<td>Sepsis</td>
</tr>
<tr>
<td>Fall</td>
</tr>
<tr>
<td>Delirium</td>
</tr>
<tr>
<td>Cardio – respiratory symptoms</td>
</tr>
<tr>
<td>Family request</td>
</tr>
<tr>
<td>Pain</td>
</tr>
<tr>
<td>Other (please specify)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3) What was the resident’s primary diagnosis?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
4) Who instigated the transfer/referral to hospital? (please tick one)

<table>
<thead>
<tr>
<th>Option</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing home staff</td>
<td></td>
</tr>
<tr>
<td>GP</td>
<td></td>
</tr>
<tr>
<td>Out-of-hours Doctor</td>
<td></td>
</tr>
<tr>
<td>Member of community palliative care team</td>
<td></td>
</tr>
<tr>
<td>Family</td>
<td></td>
</tr>
<tr>
<td>Unsure</td>
<td></td>
</tr>
<tr>
<td>Other (please state)</td>
<td></td>
</tr>
</tbody>
</table>

5) Including this transfer, how many times had the resident been admitted to hospital in the last year as an emergency?

6) Is this resident currently in receipt of care from the specialist community palliative care team?

<table>
<thead>
<tr>
<th>Option</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Unsure</td>
<td></td>
</tr>
</tbody>
</table>
7) What was the outcome to the resident’s transfer to hospital?

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Description</th>
<th>Number of Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Returned to nursing home seen in ED and not admitted to hospital</td>
<td>☐</td>
</tr>
<tr>
<td>2</td>
<td>Admitted to the hospital then returned to nursing home</td>
<td>☐</td>
</tr>
<tr>
<td>3</td>
<td>If admitted to hospital please specify <strong>number of days</strong> in hospital prior to return to nursing home</td>
<td>☐</td>
</tr>
<tr>
<td>4</td>
<td>Admitted to hospital and died in hospital</td>
<td>☐</td>
</tr>
<tr>
<td>5</td>
<td>If died in hospital please specify <strong>number of days</strong> in hospital until death</td>
<td>☐</td>
</tr>
<tr>
<td>6</td>
<td>Other (please state)</td>
<td>☐</td>
</tr>
</tbody>
</table>

8) Had the resident or proxy expressed their wishes regarding emergency transfer to hospital

<table>
<thead>
<tr>
<th>Response</th>
<th>Yes ☐</th>
<th>No ☐</th>
<th>Unsure ☐</th>
</tr>
</thead>
</table>

Is yes, what were these wishes?

9) Had the resident or proxy expressed their wishes and/or care received at the end of life

<table>
<thead>
<tr>
<th>Response</th>
<th>Yes ☐</th>
<th>No ☐</th>
<th>Unsure ☐</th>
</tr>
</thead>
</table>

Is yes, what were these wishes?
10) Was there a Do Not Resuscitate (DNR) order in place prior to transfer?

- Yes
- No
- Unsure

If there is any other information that you think is important or relevant please state in this box
Appendix 5. Pack for Nursing Home ECHO Education sites (At time points and Post ECHO)

Dear Director of Nursing/Person in Charge,

We would like to thank for your participation in the evaluation of the ECHO project and for returning the first batch of forms for analysis. This envelope contains ten resident referral/transfer forms and four stamped addressed envelopes for return of forms over the coming months. Please return completed resident referral/transfer forms in a stamped addressed envelope on the last Friday of each month, for the next four months. If you have had no transfers during the month, please let us know by putting this in writing and posting it back in the stamped addressed envelope provided for that month.

We would also appreciate if you could complete the session evaluation (via Survey Monkey) after each session.

If you require more transfer forms, please contact the research assistant Jane.ODoherty@ul.ie, for further forms and she will arrange them to be sent to you.

If you have any queries, please do not hesitate to contact me.

Kindest Regards,

Professor Alice Coffey
Appendix 6. Educational Session Evaluation Survey (via Survey Monkey)

ECHO SESSION EVALUATION FORM

After each ECHO session, a short evaluation survey will be sent out to all spoke participants by the AIIHPC administrator. The anonymised responses will then be shared with the facilitator and steering group (see example below) and will form part of the overall evaluation of the ECHO project.

Example survey

1. Please rate the Education presentation on 'xxx'?

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The presentation</td>
<td>The presentation</td>
<td>The presentation</td>
<td>The presentation</td>
</tr>
<tr>
<td>was useful to me</td>
<td>was useful to me</td>
<td>was useful to me</td>
<td>was useful to me</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>Somewhat disagree</td>
<td>Somewhat agree</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>The presentation</td>
<td>The presentation</td>
<td>The presentation</td>
<td>The presentation</td>
</tr>
<tr>
<td>was relevant</td>
<td>was relevant</td>
<td>was relevant</td>
<td>was relevant</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>Somewhat disagree</td>
<td>Somewhat agree</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>The presentation</td>
<td>The presentation</td>
<td>The presentation</td>
<td>The presentation</td>
</tr>
<tr>
<td>was interesting</td>
<td>was interesting</td>
<td>was interesting</td>
<td>was interesting</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>Somewhat disagree</td>
<td>Somewhat agree</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

Please comment

* 2. Please rate Case Presentation 1
* 3. Please rate Case Presentation 2

<table>
<thead>
<tr>
<th>The case presentation was useful</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The case presentation was useful Strongly disagree</td>
<td>The case presentation was useful Somewhat disagree</td>
<td>The case presentation was useful Somewhat agree</td>
<td>The case presentation was useful Strongly agree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The case presentation was relevant</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The case presentation was relevant Strongly disagree</td>
<td>The case presentation was relevant Somewhat disagree</td>
<td>The case presentation was relevant Somewhat agree</td>
<td>The case presentation was relevant Strongly agree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The case presentation was interesting</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The case presentation was interesting Strongly disagree</td>
<td>The case presentation was interesting Somewhat disagree</td>
<td>The case presentation was interesting Somewhat agree</td>
<td>The case presentation was interesting Strongly agree</td>
</tr>
</tbody>
</table>
Please comment

* 4. List 2 points of new knowledge for you from the ECHO session and briefly explain how you plan to embed them in your clinical practice.

* 5. What was the most beneficial aspect of ECHO for you personally and professionally?

* 6. What was the least beneficial aspect of ECHO for you?

* 7. Are there any ways ECHO could be improved for you?

* 8. Please use the space below to add any other comments or suggest topics for future ECHO sessions.

Done
Appendix 7. Participant Information Sheet and Consent Form (Focus Groups)

PARTICIPANT CONSENT FORM

Participant Name:

Study Title: EVALUATION OF PROJECT ECHO AIHPC PROGRAMME ON CARE PROCESSES AND OUTCOMES FOR RESIDENTS NEARING THE END-OF-LIFE.

Name of Chief Investigator: Professor Alice Coffey

Contact Number for Chief Investigator: 061 234279 / 0860498148

AGREEMENT TO CONSENT

The research project and the procedures associated with it have been fully explained to me. All procedures have been identified, and no guarantee has been given about the possible results. I have had the opportunity to ask questions concerning all aspects of the project and any procedures involved. I am aware that participation is voluntary and that I may withdraw my consent at any time. I am aware that my decision not to participate or to withdraw will not have any consequences to me. Confidentiality of records concerning my involvement in this project will be maintained in an appropriate manner. When required by law, the records of this research may be reviewed by government agencies and sponsors of the research.

I understand that the sponsors and investigators have such insurance as is required by law in the event of injury resulting from this research.

I, the undersigned, hereby consent to participate as a subject in the above-described project. I understand that if I have any questions concerning this research, I can contact the Chief Investigator listed above. I understand that the Clinical Research Committee of University of Limerick Hospital Group, Mid-West region has approved the study. Answer yes or no or insert tick boxes.

☐ I have read and understand the study:
☐ I agree to participate in this research
☐ I agree to allow my interview/focus group to be audio-recorded:
☐ I grant permission for the data collected to be used in this research only and for future research publications and project report:
☐ I understand that my anonymized data will be stored at University of Limerick for seven years as per regulations:

Chief Investigator Signature: _____________________ Date: _________
Signature of Study Participant: _____________________ Date: _________
Dear Colleague,

Thank you for participating in this Evaluation of Project Echo AIIHPC Programme on Care Process and Outcomes for Residents Nearing the End-of-Life. We are interested in your views and perceptions of the programme as well as your recommendations for improvements. We would appreciate if you would complete this questionnaire.

Thanking you. Regards.
Demographic Information

1. In what capacity are you responding to this survey?
☒ As an ECHO session attendee
☒ As an ECHO session facilitator
☒ As an ECHO session supporter/link person

☐ If supporter/link person, please specify: ____________________________

2. Which of the following best describes your current occupation?
☒ Nursing Home Manager
☒ Nursing Home Staff/Frontline Worker
☒ Providers of Specialist Palliative Care/Clinical Nurse
☒ Specialist Multi-disciplinary Team Member

☐ If Multi-disciplinary Team Member, please specify: _______________________

☐ Other

☐ If other, please specify: ____________________________________________

Length of time in Employment
3. Please state your length of time in employment focused on End of Life Care
Please indicate by Number of Years: ___/Months: ___

Level of Expertise in End of Life Care

4. On a scale of Number 1 – 10 (1 = least expertise, 10 = greatest expertise) please rate your level of expertise in End of Life Care
Please indicate by Number: ___
ECHO Educational Sessions

5. How many ECHO sessions did you participate in?
Please indicate by Number of sessions:______

- Please comment on any aspects of your attendance and/or non-attendance at ECHO sessions:

6. During the Educational Sessions how frequently did you access the ECHO section on the Palliative Care Hub?
Never Once Daily Weekly Monthly

- Please comment on any aspects of your usage of the ECHO section of the Palliative Care Hub which were positive or which created difficulty and if possible provide recommendations for improvements to this resource:

7. Since completion of the Educational Sessions how frequently have you accessed the ECHO section of the Palliative Care Hub?

Never Once Daily Weekly Monthly

- Please comment on any aspects of your usage of the ECHO section of the Palliative Care Hub since completion of the Educational Sessions:
To facilitate discussion at the focus group interview the following presents a list of the Educational Topics/Sessions:

<table>
<thead>
<tr>
<th>Week</th>
<th>Educational Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Breathlessness management in Type 2 Respiratory failure</td>
</tr>
<tr>
<td>2</td>
<td>Bereavement Support for residents &amp; Staff on the death of a resident</td>
</tr>
<tr>
<td>3</td>
<td>Anticipatory Prescribing at End of Life - when to initiate</td>
</tr>
<tr>
<td>4</td>
<td>Assessing (total) pain in residents with cognitive impairment/communication issues</td>
</tr>
<tr>
<td>5</td>
<td>Management of acute confusional state/delirium +/- dementia</td>
</tr>
<tr>
<td>6</td>
<td>Palliative Care Needs Assessment - assessing the changing needs of a palliative resident</td>
</tr>
<tr>
<td>7</td>
<td>Advance care Planning - initiating conversation on planning for end of life - when and how</td>
</tr>
<tr>
<td>8</td>
<td>Appropriateness of artificial hydration at end of life</td>
</tr>
<tr>
<td>9</td>
<td>Managing family conflict - Understanding projected anger at staff</td>
</tr>
<tr>
<td>10</td>
<td>Management of a fungating wound</td>
</tr>
</tbody>
</table>
Appendix 9. Focus Group Interview Guide

FOCUS GROUP INTERVIEW

Welcome / Introduction to the focus group session
Signing of consent forms
Participants are invited to complete demographic questionnaire with list of topics covered over 10 sessions

Questions
1. What initial information did you receive about the programme?
2. If you were involved in the process of identifying topics for education sessions, what are your thoughts about this process?
3. In relation to the topics covered in the programme what in your opinion worked well
4. What could be changed?
5. In relation to the programme delivery, timing etc. – what in your opinion worked well
6. What could be changed?
7. Discuss any challenges to attending the education sessions
8. What facilitated you to attend?
9. How have you used the information, skills, knowledge learned?
10. Have you observed any differences in End of Life / Palliative care practice or processes during the ECHO programme and / or since completion of the programme.
11. What aspects (if any) of the ECHO programme would you keep?
12. What aspects (if any) of the ECHO programme would you exclude?
13. If you were designing a programme in the future can you tell me a bit about how it should be developed.
14. What in your opinion are current barriers to providing optimum (best possible) care at end of life in your everyday practice
15. What in your opinion are current facilitators to providing optimum (best possible) care at end of life in your everyday practice

Invite participants to add any comments / additional thoughts about the ECHO Programme

Summary and Close
Dear Health Care Professional,

You are invited to participate in a Telephone Interview as part of the following study:

EVALUATION OF PROJECT ECHO AIIHPC PROGRAMME ON CARE PROCESSES AND OUTCOMES FOR RESIDENTS NEARING THE END-OF-LIFE.

The purpose of the Interview

The interview is part of a larger study to evaluate the impact of the project ECHO education programme. Over 10 session, project ECHO has facilitated the roll out of education on a palliative care approach in your area of practice. This education was based on the learning objectives identified by staff at commencement of the project ECHO educational programme. The purpose of this interview is to gain insight into participants understandings, experiences and perceptions of providing a palliative care approach / processes in your everyday practice.

Who is conducting the study?

This research is being conducted a team of researchers at the Department of Nursing and Midwifery at University of Limerick and Milford Care Centre.

Deciding to Participate

In order to decide whether you want to be a part of this research study, you should understand enough about its risks and benefits to make an informed judgment. This process is known as informed consent. This participant information leaflet gives you detailed information about the research study and the research team will discuss the study with you in detail before you make a decision. When you are sure you understand the study and what will be expected of you, you will be asked to sign the consent form (attached) if you wish to participate.

What does participation involve?

If you decide to participate, you will take part in a telephone interview at a time suitable to you. The interview will be guided by a semi structured schedule and will last approximately 30 minutes. The questions and prompts will be purposely broad to allow you to begin the conversation at any point of importance to you.
Questions relating to the specific evaluation objectives will be asked, if not addressed during the natural dialogue of the interviews. You will be provided with opportunities to discuss the experience of the interview and issues raised at the end of the process.

With your consent the interview will be audio recorded. Participation is voluntary and you can withdraw or refuse to take part in the study without consequences. All information recorded will be pseudo anonymized. Transcripts will be coded therefore your individual contribution at interview will not be identifiable.

Who might benefit from the results of this research? The results of this study, will inform the evaluation of the Project ECHO education programme.

Data Protection

The purpose of processing this data is for scientific research purposes related to this study only. This data will be stored for seven years as outlined by the University of Limerick data protection guidelines. As part of this project, consent to participate will be obtained. Participants have a right to lodge a complaint with the Data Protection Commissioner if they wish. They also have a right to request access to their data and a right to restrict to the processing of this data but data will be anonymised and cannot be linked to an individual person. Participants also have a right to any inaccurate information about them corrected or deleted but this data will be anonymised and will be unable to be linked to an individual. Anonymised data on participants can be moved from one controlled to another upon participants request. There will be no automated decision making, including profiling as part of this project. There will be no further processing of this data for the purpose of any other projects and in any other country.

Data Controller’s/Joint Controller’s Identity: Professor Alice Coffey

Data Controller’s/Joint Controller’s Contact Details: alice.coffey@ul.ie

Data Protection Officer’s Identity: UL Data Protection Officer

Data Protection Officer Contact Details: Dataprotection@ul.ie Or 061 233767

If you have any questions about this study, please contact:

Professor Alice Coffey alice.coffey@ul.ie
PARTICIPANT CONSENT FORM

Participant Name:

Study Title: EVALUATION OF PROJECT ECHO AIIHPC PROGRAMME ON CARE PROCESSES AND OUTCOMES FOR RESIDENTS NEARING THE END-OF-LIFE.

Name of Chief Investigator: Professor Alice Coffey

Contact Number for Chief Investigator: 061 234279 / 0860498148

AGREEMENT TO CONSENT

The research project and the procedures associated with it have been fully explained to me. All procedures have been identified, and no guarantee has been given about the possible results. I have had the opportunity to ask questions concerning all aspects of the project and any procedures involved. I am aware that participation is voluntary and that I may withdraw my consent at any time. I am aware that my decision not to participate or to withdraw will not have any consequences to me. Confidentiality of records concerning my involvement in this project will be maintained in an appropriate manner. When required by law, the records of this research may be reviewed by government agencies and sponsors of the research.

I understand that the sponsors and investigators have such insurance as is required by law in the event of injury resulting from this research.

I, the undersigned, hereby consent to participate as a subject in the above-described project. I understand that if I have any questions concerning this research, I can contact the Chief Investigator listed above. I understand that the Clinical Research Committee of University of Limerick Hospital Group, Mid-West region has approved the study. Answer yes or no or insert tick boxes.

☐ I have read and understand the study:
☐ I agree to participate in this research
☐ I agree to allow my interview/focus group to be audio-recorded:
☐ I grant permission for the data collected to be used in this research only and for future research publications and project report:
☐ I understand that my anonymized data will be stored at University of Limerick for seven years as per regulations:

Chief Investigator Signature: _____________________ Date: __________

Signature of Study Participant: _____________________ Date: __________
Appendix 11. GP Interview Questions

GP INTERVIEW GUIDE

Welcome / Introduction
Signing of consent forms
Participants are invited to complete demographic questionnaire with list of topics covered over 10 sessions

Questions
1. What initial information did you receive about the programme?
2. If you were involved in the process of identifying topics for education sessions, what are your thoughts about this process?
3. In relation to the topics covered in the programme what in your opinion worked well
4. What could be changed?
5. In relation to the programme delivery, timing etc – what in your opinion worked well
6. What could be changed?
7. Discuss any challenges to attending the education sessions
8. What facilitated you to attend?
9. How have you used the information, skills, knowledge learned?
10. Have you observed any differences in End of Life / Palliative care practice or processes during the ECHO programme and / or since completion of the programme.
11. What aspects (if any) of the ECHO programme would you keep?
12. What aspects (if any) of the ECHO programme would you exclude?
13. If you were designing a programme in the future can you tell me a bit about how it should be developed.
14. What I your opinion are current barriers to providing optimum (best possible) care at end of life in your everyday practice
15. What I your opinion are current facilitators to providing optimum (best possible) care at end of life in your everyday practice

Invite participants to add any comments / additional thoughts about the ECHO Programme

Summary and Close
Evaluation of Project ECHO All Ireland Institute of Hospice and Palliative Care (AIHPC)
Nursing Home project (Phase 3)

Funded by the Health Service Executive

Published 2020