Northern Ireland Project ECHO | **University of ULSTER** | **Northern Ireland Hospice**

Multiplying the impact of Palliative care – A six month evaluation of Project ECHO (Extension for Community Healthcare Outcomes) with community hospice nurses

Dr Clare White
Prof Sonja McIlfatrick
Dr Lynn Dunwoody
Prof Max Watson

www.nihospice.org

Acknowledgements and Declaration

Northern Ireland Hospice

www.nihospice.org

Background - Setting

Northern Ireland Hospice

- N. Ireland Hospice (NIH) - provides care to approx. 3500 patients a year across N. Ireland
- Community Hospice Nurses (CHNs) work over widespread geographical location through 9 teams (n=41)
- Increasing work load with more "complex" patients
- Ongoing expansion to patients with non-malignant disease
- Variable knowledge, skills and confidence throughout the team
- Varied access to education and limited opportunity for peer review of practice
- Increasing need for support
- Organisational need to educate workforce to ensure good clinical governance
- UK government drive to support patients to die in their own homes and facilitate patient choice
- Financial constraints

www.nihospice.org

Background– Project ECHO

Northern Ireland Hospice

- Project ECHO (Extension for Community Healthcare Outcomes)
  - *Tele-mentoring* to improve quality of care in underserved areas
  - Provides education and support, not direct patient care
  - Uses video-conferencing technology to empower clinicians to provide better care to more people, right where they live
- Used for a wide variety of diseases including hepatitis C, diabetes and asthma, and has been proven to improve care.[1]
- Provides primary care providers (the 'spokes') with evidence-based, best practice teaching from specialist mentors at a central 'hub'.

1. Arora S et al. "Outcomes of Treatment for Hepatitis C Virus Infection by Primary Care Providers" N Engl J Med. 2011 Jun;364:2199-207.
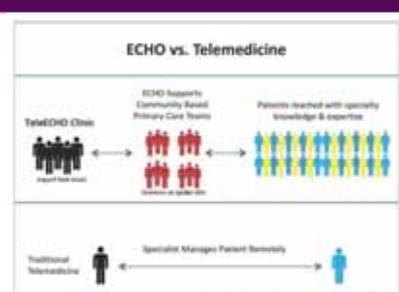
www.nihospice.org

ECHO vs Telemedicine

Northern Ireland Hospice

www.nihospice.org

Project ECHO NIH Pilot

Northern Ireland Hospice

- Six month pilot project from July to December 2014
- Weekly 2 hour session facilitated by hospice staff from the hospice 'hub' linking with the 9 teams ('spokes') of CHNs using video conferencing technology.
- Hub participants included medical staff, pharmacist and members of the multidisciplinary team.
- Each of the 9 spokes had 2-5 CHNs participating.
- Each ECHO session involved
  - reflection on learning and answering questions
  - presentation on a topic
  - 1-3 case presentations by CHNs
  - discussion by participants in all areas
- Sessions recorded so could be watched online

www.nihospice.org

Evaluation Objectives

- To determine if a 6 month pilot ECHO project improved CHN's knowledge, self-rated skills and self-efficacy in the management of palliative care patients and relatives/ carers
- To explore CHN's experiences and perceived usefulness of ECHO in meeting their palliative care educational and support needs

This is the first evaluation of the ECHO model in the UK and Europe.

www.nihospice.org

Methods

- A prospective mixed methods longitudinal cohort study
- *Stage 1*: Baseline assessment
  - demographic data
  - written knowledge assessment (multiple choice and short answer questions)
  - self-efficacy tool focusing on self rated confidence in managing different clinical and communication scenarios in five different domains
    - overarching values and knowledge, communication skills, assessment and care planning, symptom management and advanced care planning
- *Stage 2*: Assessment at end of the six month ECHO pilot
  - written knowledge assessment (with a different question order)
  - self-efficacy assessment tool
  - retrospective pre-test evaluation of self-efficacy (i.e. to reflect back and rate their self-efficacy before participation in ECHO with the benefit of hindsight)
- *Focus groups*
- Ethical approval was granted from Ulster University

www.nihospice.org

Outcome measures

- Knowledge assessment and self efficacy tool were based on local competency framework and guidelines for palliative care which reflect international recommendations
- Designed by research team
- Expert feedback
- Pilot

www.nihospice.org

Results

- 34 CHNs participated in the pre-ECHO evaluation
- 28 completing the post ECHO evaluation
  - 2 left the organisation
  - 4 maternity or sick leave during the study

		Range	Totals
Age		25-30	3
		30-40	5
		40-50	12
		50-60	8
Gender		Male	3
		Female	25
Years as a CHN		<2	7
		3-5	6
		6-10	6
		11-20	8
		21+	1
Current Band		6	13
(or nursing level)		7	14
Current Area of Work		Urban	5
		Rural	11
		Mixed	12

Knowledge Results

	Pre- ECHO		Post-ECHO			
Outcome	Mean	SD	Mean	SD	value	P value
Knowledge and skills	107	13.7	124	9.6	7.42*	0.0005

* dependent t-test

- The average knowledge score improved by 11.3% (from 71.3% to 82.7%)
- Two participants scores did not improve.

www.nihospice.org

Self- Efficacy Results

	Pre- ECHO		Post-ECHO		Retro-Pre ECHO			
Outcome	Mean	SD	Mean	SD	Mean	SD	value	P value
Self-efficacy	146	17.6	153	14.0	137	22.0	7.24^	0.01

^ one way Analysis of Variance

- Pre ECHO ($p = 0.036$) and Retro-pre ECHO ($p = 0.0005$) self-efficacy were significantly lower than Post ECHO (Post hoc Bonferroni tests)
- No significant difference between Pretest and Retro-Pretest ECHO self-efficacy ($p = 0.063$)
- All domains of self-efficacy improved (overarching values and knowledge, communication skills, assessment and care planning, symptom management, advanced care planning)

www.nihospice.org

Opinions on ECHO after 6 months

- 96% (25/26) reported gains in learning
- 89% (25/28) felt that ECHO had improved the care they provided for patients
- 82% (23/28) would recommend ECHO to other CHNs or other HCPs
- 71% (20/28) stated ECHO technology had given them access to education that would have been hard to access due to geography
- 89% (24/27) found ECHO a good medium to access teaching / education from a different location from where they worked despite 44.4% (12/27) having experienced technical difficulties
  - affected 2 out of 9 sites in particular (internet connectivity and bandwidth)
- 71% (20/28) were keen to continue to participate in ECHO sessions
- 68% (19/28) were keen for future ECHOs to be monthly

www.nihospice.org

Focus Groups

Northern Ireland Hospice

- 14 CHNs participated in 2 focus groups (2 male and 12 female)

- Four core themes emerged

www.nihospice.org

Theme 1- Overall experience and expectations

Northern Ireland Hospice

- Good concept for continuous learning

- Valuable experience that increased learning

- Fear and apprehension at start
  - lack of confidence
  - need to present cases via the technology
  - fears were allayed as the project progressed

- Importance of educator skills
  - knowledge of the subject area
  - process skills important e.g. facilitation, questioning and encouragement of learning

www.nihospice.org

Theme 2 - Benefits

Northern Ireland Hospice

- Recognition of Role
  - acknowledgment of workload
  - recognition of the CHN role from the multidisciplinary team at the central 'hub'

- Experiential learning resulting in implementation of changes in practice

www.nihospice.org

Theme 3- Challenges

Northern Ireland Hospice

- Practical concerns- timing of sessions, frequency & technological issues

- Perceived judgement and managerial demands versus learning experience

- Emotional challenges

www.nihospice.org

Theme 4- Future Strategies

Northern Ireland Hospice

- Potential for other uses of the technology- clinical supervision, support

- Cross boundary working e.g. with other specialists

www.nihospice.org

Strengths and Limitations of the Study

Northern Ireland Hospice

- Strength
  - all eligible participants for the ECHO pilot participated in the evaluation, thus reducing bias.

- Limitations
  - Same knowledge assessment paper was used for both pre and post evaluation.
  - Did not address direct impact on patient care.

www.nihospice.org

Conclusions

Northern Ireland Hospice

- The use of ECHO to deliver specialist palliative care teaching and support to CHNs over a widespread geographical area lead to statistically significant improvements in knowledge and self-efficacy following a 6 month pilot of a weekly 2 hour session.

- These findings are similar to results from other studies that have used Project ECHO for chronic pain, hypertension and diabetes.

- While other studies have been able to demonstrate improvements in patient outcomes, e.g. improved virologic response with Hepatitis C treatment, this pilot did not review the direct impact on patients and carers
  - Subjectively 89% felt that ECHO had improved the care they provided for patients

www.nihospice.org

Conclusions

Northern Ireland Hospice

- The results from this study support use of ECHO in the UK palliative care setting for CHNs by showing an impact on staff knowledge and self efficacy

- Further evaluation is needed to consider the impact of ECHO on patient outcomes in palliative care

- By demonstrating that the previously documented successes of ECHO from the US have been replicated in this study we are encouraged to believe that ECHO may be one potential solution in the UK to meet growing need under financial constraints

- At a time when health care providers are under mounting pressure to do more and spend less, this model provides a potentially affordable solution to addressing growing need.

www.nihospice.org

References

Northern Ireland Hospice

- http://echo.unm.edu/index.html Accessed 27.3.14
- Arora S, Thornton K, Murata G, et al. "Outcomes of Treatment for Hepatitis C Virus Infection by Primary Care Providers" N Engl J Med. 2011 Jun;364:2199-207.
- Colleran K, Harding E, Kipp BJ, et al. "Building capacity to reduce disparities in diabetes: training community health workers using an integrated distance learning model," Diabetes Educ. 2012 May;38(3):386-96.
- Harkins MS, Raissy H, Moseley K, Luttecke K, Arora S. "Extension for Community Healthcare Outcomes Project – Asthma Specialty Consultation Via Telehealth to Improve Asthma Care in rural New Mexico, " US Respiratory Diseases. 2011;7(1):7-9.
- Katzman JG, Comerci G, Boyle JF, et al. Innovative Telementoring for Pain Management: Project ECHO Pain. J Contin Educ Health Prof, 34: 68-75. 2014.
- Masi C, Hamlish T, Davis A, et al. Using an established telehealth model to train urban primary care providers on hypertension management. Journal of Clinical Hypertension.14(1):45-50.
- Watson M, Lucas C, Hoy A, Back I, Armstrong P. Palliative Adult Network Guidelines. 2011;Third ed.
- Palliative and End of Life Care competency Assessment Tool (2011) Based on - Living Matters: Dying Matters, a Strategy for Palliative and End of Life Care for Adults in Northern Ireland (Department of Health and Social Services and Public Safety, 2010). http://www.dhsspsni.gov.uk/8555_palliative_final.pdf Accessed 12.010.15

www.nihospice.org