

NHS Education for Scotland

Board Paper Summary

1. Title of Paper

Knowledge into Action: Report on Implementation 2012-2013.

2. Author(s) of Paper

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3. Purpose of Paper

This report summarises how NES Knowledge Services has made progress in implementing the national Knowledge into Action strategy during 2012-2013.

4. Key Issues

Activity has focused on operational "business as usual" service maintenance alongside service development, in the following areas:

1. **Strategic leadership:**

- Establishing national Health and Social Services Advisory Board, chaired by the Scottish Government Director of Health and Social Care Integration.
- Defining an integrated implementation approach to delivery on national knowledge strategies for health and social care.
- Strengthening collaboration with Healthcare Improvement Scotland in programme of work to embed knowledge in safety and improvement initiatives
- Establishing collaboration with NHS 24's Scottish Centre for Telehealth and Telecare and the Scottish Social Services Council to design and deliver a multi-agency technology-enabled learning development plan, supported by the national eHealth Strategy Board as an integral element of eHealth and Telehealthcare strategy.

2. **Knowledge: Delivering Knowledge Network resources and technology**

- Increase of 85290 visits (16.5%) to the Knowledge Network compared with 2011-12.
- Health and social care staff downloading 820,151 fulltext articles during 2012/13.
- Creation of a multidisciplinary Subscriptions Advisory Panel to help evaluate and prioritise Knowledge Network subscriptions to maintain spend within budget.
- With NES NMAHP, delivering portals for Self-Directed Support and Carers.
- Providing the national online library catalogue to support 25,000 loans to staff across Boards and voluntary agencies during 2012/13.
- Administration of NES Moodle and LearnPro systems to deliver eLearning to NHSScotland;
- Launch of Quality Improvement Hub website and Hub digital strategy.
- Scoping of open access publishing opportunities.
- Delivery of elearning module and toolkit for copyright management

- Collaborative leadership with NHS 24 and SSSC in multi-agency technology-enabled learning developments, integrating with national eHealth and Telehealthcare initiatives.

3. Implementation: equipping staff with tools, skills and expert support to translate knowledge into practice.

- Answering 7,406 enquiries about Knowledge Network services during 2012/13.
- Providing knowledge in “actionable” formats for use in frontline care – e.g. mobile app for sepsis diagnosis and management; mobile clinical enquiry service; clinical decision support demonstrator.
- During 2012/13 supporting creation of 48 communities of practice, using online community and social networking tools in quality improvement, patient safety, dementia, palliative care and other priority areas.
- In the same period training 3,356 health and social care staff in finding, sharing and using knowledge through Knowledge Network services.
- Providing a capability framework, self-assessment tool and learning opportunities to support librarians to modernise and extend their role in translating knowledge into practice.
- Lean redesign of common library service processes to support more efficient and effective working nationally – e.g. online document requesting, sourcing and summarising evidence to support national programmes in sepsis, palliative care guideline development and practice-based small group learning.

4. Research, impact and evaluation

- National Knowledge Advisory Board is supporting definition of national projects to deliver measurable impact on practice and outcomes in four health and social care priority areas – implementing knowledge from adverse events; early years; person-centred care; and supporting people with multiple conditions.
- Working with evaluation experts in Health Scotland and University of Edinburgh, testing a framework and toolkit to measure impact of Knowledge into Action support on knowledge, attitudes, practice and decisions, and contribution to healthcare outcomes.
- Playing an active role in defining the role of the new Scottish Improvement Science and Knowledge Translation Collaborating Centre – a collaboration across NES, Chief Scientist Office and the Scottish Funding Council.
- Reviewing, sharing and spreading evidence on knowledge translation approaches.

5. Educational Implications

The Knowledge into Action approach demonstrates one opportunity to support the 2020 Workforce Vision by providing staff with equal access to learning and development resources, supporting them in work-based learning and effective use of technology to support new models of care.

It is also anticipated that NES will include a number of ambitions in relation to becoming more digitally adept as part of its new Strategic Framework which will include looking at opportunities to better manage, align and integrate the Knowledge Network, alongside other NES digital offerings.

6. Financial Implications

In the medium term, financial implications of future opportunities in key technology-enabled learning developments such as a national Learning Management System, educational Internet broadcasting etc, need to be considered and appropriate funding sources identified. However, our draft strategic ambition to optimise the way in which we manage and develop our digital educational services offers the potential for us to achieve improvements in quality and efficiency through better aligning those services.

7. Which NES Strategic Objective(s) does this align to?

1. We will deliver consistent evidence based excellence in education for improved care.
4. We will provide education in quality improvement for enhanced patient safety and people's experience of services.
5. We will develop our support for workforce redesign.
6. We will provide integrated education to support models of care which are closer to people in their communities.
8. We will develop flexible, connected and responsive educational infrastructure which covers people, technology and educational content.

As noted above, it is also anticipated that NES will include a number of ambitions in relation to becoming more digitally adept as part of its new Strategic Framework. These are likely to include areas such as optimising the way in which we manage and develop our digital educational services, improving accessibility to and engagement with our digital educational materials, and remaining aware of and responding creatively to leading edge developments in technology and its use for the delivery of education.

8. Impact on the Quality Ambitions

As recognised in the Knowledge into Action strategy, translating knowledge into practice, planning and policy is integral to delivering safe, effective, person-centred care.

9. Recommendation(s) for Decision

The Board is invited to note the information contained in this paper

NES
July 2013
BD/AW

Knowledge into Action: Report on Implementation 2012-2013

1. Purpose

1.1 This report summarises progress by NES Knowledge Services in implementing the national Knowledge into Action strategy (1) during 2012-2013.

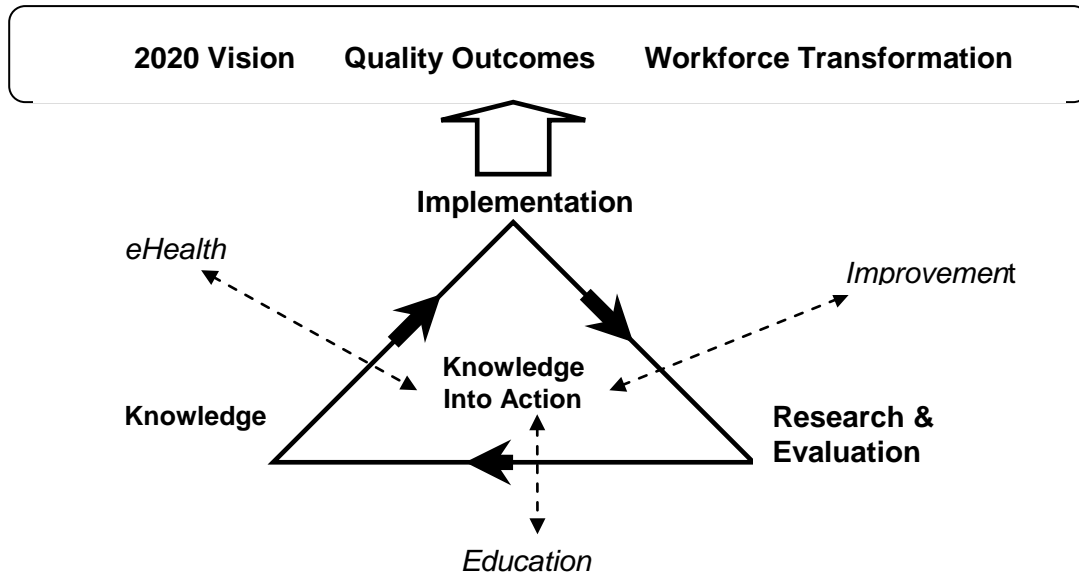


Figure 1: Three elements of Knowledge into Action, collaborating with education, improvement and eHealth to support Quality Outcomes and the 2020 Workforce Vision

2. Strategic Position

2.1 Knowledge into Action provides an integrated strategic framework to guide NES Knowledge Services in continuously adapting and developing, to support the challenges facing the health service and its workforce. Currently, we align with the 2020 Vision of integrated health and social care by combining our knowledge strategies for health and social services (1,2), under a single national Knowledge Advisory Board chaired by the Scottish Government Director of Health and Social Care Integration. Within NHSS, Knowledge into Action is sponsored jointly by NES and Healthcare Improvement Scotland - a strong collaboration to apply knowledge to support safe, effective and person-centred care. We are also partnering with NHS 24's Scottish Centre for Telehealth and Telecare, and with the Scottish Social Services Council to develop a technology-enabled learning action plan that will support use of technology across the health and social care workforce. This is a core element of the 2020 Workforce Vision, as is the Knowledge into Action principle of embedding knowledge in day to day work. This technology-enabled learning action plan has now been acknowledged by the national eHealth Strategy Board as an integral part of eHealth and Telehealthcare Delivery Plans.

2.2 Within NES, it is anticipated that the refresh of our Strategic Framework will include key ambitions in relation to becoming more digitally adept; including optimising the management and delivery of our digital services and improving accessibility of and engagement with, our digital educational offerings. The action plan being developed around this will include a review of how the Knowledge Network is best aligned with other parts of NES to take these ambitions forwards.

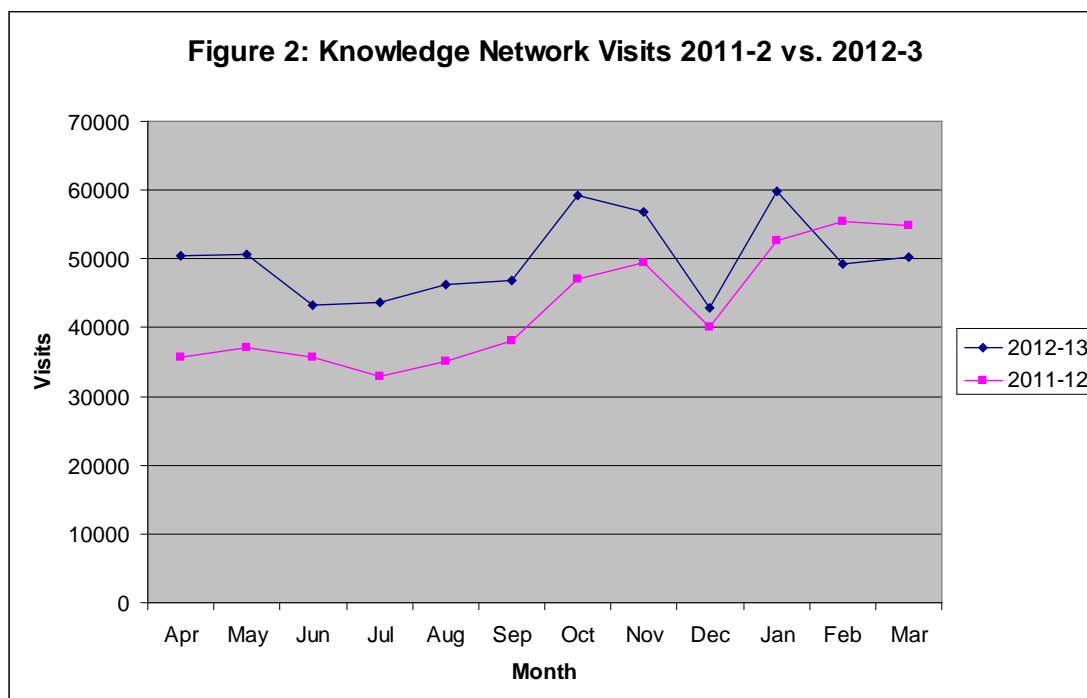
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3. Knowledge – activities and achievements

3.1 The “Knowledge” element of the Knowledge into Action cycle encompasses The Knowledge Network’s information and learning resources, and the technology which delivers them.

3.2 Usage of The Knowledge Network

The Knowledge Network supported 2.69 million page views¹ over 2012-13, with a 16.5 % increase in visits² compared with compared with 2011-2012 – 599,348 compared with 514,058 (see figure 2) .



Health and social care staff downloaded 820,151 full text articles - on average 68,000 per month, and an estimated 24% increase on 2011-2012³. We have established a multidisciplinary Subscriptions Advisory Panel chaired by the Deputy Director of Finance to help us create an evaluation framework for Knowledge Network subscriptions. This will form the basis of prioritising subscriptions to manage them within available budget in line with the needs of the healthcare workforce budget as costs continue to rise. We have worked with Higher Education colleagues from Universities Scotland to analyse the potential for efficiencies and improved access through collaborative purchasing.

3.3 Knowledge Portals – supporting integration and improvement

In partnership with colleagues in NES and in Social Services, we have supported the 2020 Vision by delivering Knowledge Portals for Self-Directed Support⁴ and for Carers⁵. We have worked with colleagues in Healthcare Improvement Scotland, Health Scotland, and the Quality and Efficiency Team in Scottish Government to launch and then enhance the Quality

¹ A page view is a request to load a single page of an Internet site.

² A visit is a group of interactions that take place on the website from the same uniquely identified individual (identified by ip) within a given timeframe. Within the NHS network, shared ip ranges mean that recorded visits are often underestimates.

³ These figures do not include journals accessed outside the major collections.

⁴ www.knowledge.scot.nhs.uk/home/portals-and-topics/self-directed-support.aspx

⁵ www.knowledge.scot.nhs.uk/home/portals-and-topics/equal-partners-in-care.aspx

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Improvement Hub website⁶ as the primary vehicle for delivery of Hub products and services. We have produced a three-year digital strategy to guide future development of the Hub (3).

3.4 Open access publishing – spreading improvement knowledge

We have begun to scope use of The Knowledge Network to enable open access publishing⁷. The proposed “SPEAK Out” platform - *Sharing Practice Experience and Knowledge in Scotland’s Health and Social Services* - aims to capture, share and disseminate accounts of frontline improvement, learning and innovation in Scotland’s health and social services. We have appointed Professor Kevin Rooney, a national lead in patient safety, and Audrey Birt, chair of The Alliance and a national lead for person-centred care, to act as co-editors of this service during an initial evaluation phase.

3.5 Copyright management

We continue to provide copyright advice and support to NHS Boards consequent upon the Scottish Government decision not to renew the Copyright Licensing Agency Licence for copying of print materials in April 2011, as part of transitioning the service to use of electronic knowledge via The Knowledge Network as the primary resource. We coordinate and monitor use of the Scottish Government funds assigned to support Boards in obtaining copyright permission for the small proportion of articles not available in fulltext through The Knowledge Network. During 2012-13 we produced a rapid elearning module and an online copyright management toolkit covering print, electronic and audiovisual copyright issues. We also scoped requirements for a national copyright permissions repository.

3.6 NHSScotland Library Management System

NES Knowledge Services continues to provide the national online Scottish Health Libraries Catalogue (SHEL CAT⁸). This supports library services across NHS Boards and voluntary organisations to reduce duplication, improve efficiency and improve use of their local resources through a shared online catalogue. Approximately 25,000 new loans to healthcare staff were recorded throughout the year, with 1200-1500 items being renewed each month via Shelcat.

4. Implementation – activities and achievements

4.1 The essence of Knowledge into Action is to move beyond provision of knowledge to support healthcare staff to apply knowledge in frontline practice and service improvement.

4.2 Providing knowledge in “actionable” formats for use in frontline care.

During 2012-2013, we improved provision of knowledge in “actionable” formats for use in decision-making in frontline clinical care, in the following ways:

- Development of a mobile app for detection and management of sepsis. This has been a partnership with the Sepsis Improvement Collaborative.
- Production of a mobile version of the CLEAR online Clinical Enquiry service. This enables clinicians in community, rural and acute settings to request evidence searches and summaries from the librarian network to support questions about patient care.
- Roll-out of our decision support browser plug-in. This provides a quick search of local and national guidelines, pathways and protocols. For example, it is now installed in 9,000 computers across NHS Tayside.

⁶ www.qihub.scot.nhs.uk

⁷ **Open access** is the practice of providing unrestricted access via the Internet to peer-reviewed articles.

⁸ www.shelcat.org

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- Collaborating with clinical and eHealth teams in NHS Tayside to integrate the EBMEDS decision support platform with the SCI-Diabetes clinical system and incorporate 19 decision support scripts. This will now form the basis of an evaluated improvement project during 2013-14.

4.3 Communities of practice and social networking

Knowledge into Action recognises that improving practice often depends on sharing and spreading knowledge through people networks. During 2013-14, we provided training and support to help groups of health and social care staff create 48 new communities of practice in priority areas - including dementia, sepsis, oral health, acute care of older people, and reducing harm in care (see annex 1). We enabled the Leading Quality Network to establish its online presence within the Quality Improvement Hub website, bringing together safety and improvement communities. We have trained 85 people to use online community and social networking to administer and facilitate communities and networks. We provided advanced training in community of practice facilitation for a cohort of five librarians, created an online toolbox for social media and refreshed our guidance and training on community of practice development within The Knowledge Network⁹.

4.4 User support, marketing and training in use of knowledge resources

4.4.1 User support, marketing and training in use of knowledge resources are essential to enable staff to use knowledge effectively in practice and improvement. During 2012-13, we continued to provide our 9 am -5 pm helpdesk for Knowledge Network users, answering a total of 7,406 enquiries (average 617 per month), approximately 50% on use of subscription resources. We received 247 expressions of thanks and praise from users during the last 5 months of 2012-13 when we starting collating this data.

4.4.2 We send tweets from the Knowledge Network twitter account on most working days and have 343 followers. Quarterly newsletters and monthly resource spotlights are issued to a mailing list of 2,151 people.

4.4.3 We provided Webex and face to face training in use of Knowledge Network portals and services, and in the skills of translating knowledge into practice, to 3,356 health and social care staff. Six training packages with optional voiceovers, speaking notes, exercises and narrated films, have been produced to support cascade of Knowledge Network training.

4.4.4 In collaboration with the national Health Literacy Action Group and the NES educational lead for person-centred care in NES, we commissioned a scoping study of workforce development needs to support health literacy among patients and public. We also worked with colleagues in the voluntary sector and public libraries to organise a series of three multi-agency study days on the role of library and information staff in helping people to gain personal meaning from information for health and wellbeing ("bibliotherapy").

4.4.5 All training sessions have been positively evaluated for immediate reaction and impact on practice. Annex 2 provides examples of user feedback.

4.5 Developing and coordinating the librarian network to facilitate translation of knowledge into action.

4.5.1 A core role for NES Knowledge Services is professional leadership, role development and coordination for the NHSScotland librarian network. Under the auspices of Knowledge into Action, in consultation with this network, we have developed an evidence-based capability framework (6) to modernise the librarian role. The overall aim is to realise the full potential of this skilled workforce, re-engineering the traditional librarian role to collaborate

⁹ www.knowledge.scot.nhs.uk/home/communities.aspx

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with colleagues in improvement, education and eHealth, as a network of facilitators for translating knowledge into frontline practice and improvement. This will be the national “knowledge broker network” described in Knowledge into Action strategy (1). We have produced an online self-assessment tool to map capabilities across the national librarian network. This will inform future learning and development plans to revitalise the librarian role to become more action-focused and directly relevant to practitioner and service needs.

4.5.2 We have coordinated face to face and online networking opportunities for NHSS librarians, and have organised LEAN reviews of common processes to support more efficient and effective working nationally. For example, we have designed a new national online system for NHSS staff to request documents not available in fulltext through The Knowledge Network. In partnership with Healthcare Improvement Scotland, we have coordinated expert evidence searching and summarising by librarians across NHS Boards to support national initiatives including the sepsis and VTE Improvement Collaborative, updating of the national palliative care guidelines, and practice-based small group learning in general practice. To build system-level awareness and organisational support for Knowledge into Action, we continue to hold bi-monthly WebExes for NHS Board Executive Leads for Knowledge into Action, and organised two national engagement events for practitioners and senior managers, attended by over 200 people.

5. Research, Impact and Evaluation – activities and achievements

5.1 Knowledge into Action Evaluation Framework

5.1.1 The central premise of Knowledge into Action is applying knowledge translation approaches to contribute to measurable improvement in practice and healthcare outcomes. Annex 3 provides live examples of how the Knowledge into Action approach is delivering impact in areas such as diabetes, palliative care, stroke, and care at home.

5.1.2 To demonstrate impact in a rigorous way, in addition to building knowledge infrastructure as described above, we have also worked with experts in evaluation in Health Scotland and University of Edinburgh to produce an evaluation framework and toolkit for Knowledge into Action. This framework uses a combination of logic modelling and contribution analysis to measure direct and indirect impact of knowledge support at different levels, and to identify contextual barriers and enablers of change (4).

5.1.3 We applied the initial version of this framework to assess impact of the 17, 3-month long tests of change developed during the Knowledge into Action review phase in early 2012. All projects improved **reach** – i.e. stakeholder engagement; over half showed positive **reactions** – i.e. user satisfaction. Most improved stakeholder **knowledge and skills**. Even in this short timescale, two demonstrated **impact on clinical practice** – e.g. in 26% of cases expert searching changed diagnosis or treatment and in 71% of cases the answer was helpful for the patient. We also used the principles of this framework to evaluate use of the Social Services Knowledge Scotland portal and to identify areas for improvement.

5.2 High impact national Knowledge into Action projects

Most importantly, through the national Knowledge Advisory Board, we have identified sponsors from Healthcare Improvement Scotland, The Alliance, SSSC and the Care Inspectorate to support national Knowledge into Action projects which will use Knowledge Network technology and the national librarian network, and use the evaluation framework, to deliver measurable improvement in four national priority areas for health and social care –

- 1) implementing knowledge from adverse events;
- 2) early years;

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- 3) person-centred care;
- 4) supporting people with multiple conditions.

5.3 Building the evidence base for knowledge translation

5.3.1 We recognise the vital role of evaluation and research in building the evidence base for what works in translating knowledge into a competent, confident and flexible workforce, and in improving delivery of care. To this end, we have played an active role in defining the role of the new Scottish Improvement Science and Knowledge Translation Collaborating Centre – a collaboration across NES, Chief Scientist Office and the Scottish Funding Council – and issuing the call for HEI/NHSS applications.

5.3.2 We have organised webinars by researchers in knowledge translation and quality improvement including Professor Jeremy Grimshaw, Professor Kate Gerrish and Brent James, an international leader in healthcare improvement from Intermountain Healthcare.

5.3.3 We have commissioned academic experts in knowledge translation to update our evidence review on methods which support implementation of knowledge by individual practitioners, teams and systems, and to consult with stakeholders on needs and opportunities for improving use of knowledge to support national healthcare priorities, including particularly the evolving needs of multi-agency community planning partnerships. We had a poster on Knowledge into Action accepted for the 2012 ISQUA conference, and an oral presentation at the international Evidence 2012 conference. We are supporting a PhD student at University of Strathclyde to analyse how NHSScotland communities of practice influence healthcare delivery.

6. Summary and Recommendations

This report is designed to give the Board an update on progress in implementing Knowledge into Action during 2012-13.

The Board is invited to note the content of this report.

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7. References

- 1) NHS Education for Scotland and Healthcare Improvement Scotland. (2012) *Getting Knowledge into Action to Improve Healthcare Quality: Report of Strategic Review and Recommendations*. Edinburgh, NHS Education for Scotland.
<http://www.knowledge.scot.nhs.uk/media/CLT/ResourceUploads/4016980/20120805%20K2A%20short%20report%20for%20Board%20distribution%20v2%200.pdf>
- 2) Scottish Government: *Knowledge into Practice: a strategy and action plan for embedding knowledge into practice in Scotland's social services, 2012-2015* (2012)
www.scotland.gov.uk/Publications/2012/10/4809/downloads#res-1
- 3) NHS Education for Scotland (2013). *Towards a Digital Strategy for the Quality Improvement Hub 2013-2016*.
- 4) University of Edinburgh (2013). *Evaluation of Knowledge into Action – a framework and tools*. Chapter 7 in *Knowledge into Action for NHSScotland: methods, strategic national projects and an evaluation framework. A report for NHS Education for Scotland and Healthcare Improvement Scotland*.
- 5) Scottish Government (2012) *A National Telehealth and Telecare Delivery Plan for Scotland to 2015: Driving Improvement, Integration and Innovation*. Edinburgh: Scottish Government.
<http://www.scotland.gov.uk/Resource/0041/00411586.pdf>
- 6) NHS Education for Scotland. *A Capability Framework for NHSScotland's Knowledge Broker Network*. Edinburgh: NHS Education for Scotland. 2012
<http://www.widgetlibrary.knowledge.scot.nhs.uk/media/WidgetFiles/1003508/20121008%20Capability%20Framework%20for%20the%20Knowledge%20Broker%20Network%20.pdf>

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Annex 1 Online communities of practice created during 2012-13

Aberdeen Dental School Dental Nursing Diploma
Aberdeen Dental School NEBDN Dental Sedation Nursing
Adults with incapacity (Scotland) act 2000: A course for dental practitioners
Behavioural Family Therapy
Borders Research Forum
Community Hospital Improvement Network
Delivering Quality through Midwifery Leadership
Demand Capacity Activity & Queue (DCAQ) in Mental Health
Dementia Ambassadors
Dementia Champions
Dementia Research
Dementia Supporting Change
Dental Administrators
Dental Team CPD Symposium: Managing the Heavy Metal Generation
Equality and Diversity Trainers
Extraordinary Everyday
Highland Lymphoedema Network
Infection Control Network for Care Homes (NHS Borders)
Leading Quality Network
Learning & Development Leads Network
Maternity Care Community
National Carer Organisations Training Consortium
National Improvement Advisors Network
National Neurological Advisory Group
NES Oral Health Improvement
NES Pharmacy Professional Advisory Group
NHS Forth Valley Practice Education Hub
NHS Scotland Energy & Natural Resources Sub-Group
Occupational Therapy in Addictions Specialist Interest Group (OTASIG)
Older People Collaborative
Palliative and end of life care in dementia
Practice Educators
Reducing A&E Attendances
Reducing Harm Improving Care
SAS Educational Adviser Network
ScotSTAR Implementation Programme
Scottish Antimicrobial Prescribing
Scottish Dental Clinical Effectiveness Programme (SDCEP)
Scottish Dental Hygiene / Therapy Vocational Training Programme
Scottish Dental Postgraduate Remote & Rural Fellowship
Scottish Oral Health Improvement Network
Scottish Patient Safety Programme for Mental Health
Scottish Pulmonary Rehabilitation Action Group (SPRAG)
Stakeholders
START learning and teaching in dentistry
Trainers in Problem Solving Therapy with Older Adults Community
TRAMS
Volunteering in NHS Scotland

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Annex 2: User feedback on Knowledge Network training

I think it will replace my use of GP notebook as a resource for finding quick clinical answers.

Easier access to guidelines, latest literature findings.

I will be able to easily access the SSKS website and use the knowledge I receive from journals etc, to improve my practice.

Use the service in day to day practice to answer clinical questions and help with patient care.

Will certainly use Knowledge Network as a first point of investigation of clinical problems.

Now use as first port of call for information instead of GP notebook.

I will try to incorporate into consultation when patients ask about areas I do not know well.

Useful resource for evidence base and also the apps for BNF handbook etc. I will use this as a resource -to provide reliable information .

Single source for updates and guidelines. To have access to a wider range of journal articles is vital to my work

Fantastic place to keep up to date with knowledge and research.

Better able to access to journals. Find searching for journals much easier than before = more efficient.

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Annex 3: Live examples of Implementing Knowledge to Deliver Quality Outcomes

Seventeen demonstrators conducted during the Knowledge into Action review in 2011 and the first half of 2012 demonstrated impact on practice at several levels:

- *All improved stakeholder engagement.*
- *Over half showed positive user satisfaction.*
- *Most improved stakeholder knowledge and skills.*
- *Two demonstrated impact on clinical practice – e.g. in 26% of cases expert evidence searching changed diagnosis or treatment and in 71% of cases the answer was helpful for patient care.*

The following case studies illustrate Knowledge into Action approaches. They describe initiatives already underway that indicate how the Knowledge Broker Service and learning technology infrastructure can benefit practitioners and service users, locally and nationally:

Case study 1: Improving long term diabetes care.

This example illustrates how knowledge broker support and learning technology help to embed knowledge in routine frontline practice by creating knowledge in actionable formats (pathways and decision support) and using social networking tools to share experience.

The challenge

Within General Practice in NHS Tayside, the increasing incidence of diabetes, and the growing complexity of diabetes care – over 77% of people with diabetes in Scotland have co-morbidities and 38% are taking more than 5 medications - create an imperative for real-time knowledge support to:

- Improve reliability in applying diabetes guidelines.
- Support personalised care and complex care needs – for example, arising from polypharmacy and co-morbidities which are not fully addressed by guidelines.

Finding solutions

The Tayside Clinical Guidelines and Pathways Group uses the clinical and care knowledge publisher tool within The Knowledge Network to present diabetes care pathways in a consistent format, linked to relevant evidence. With help from knowledge brokers, they use a decision support script editor available through The Knowledge Network to convert diabetes guidelines into decision support prompts which are embedded in the diabetes clinical system.

A multidisciplinary community of practice (COP), comprising members of NHS Tayside Diabetes Managed Clinical Network, general practice staff and knowledge brokers, uses The Knowledge Network's social networking tools to share experience of using the pathways and decision support, and identify where the process should be adapted to suit complex needs.

Outcome

The planned outcomes are improved clinical effectiveness; more reliable, safer care for people with diabetes, reduced likelihood of complications with fewer referrals to Diabetes Specialist Services and Renal Services, and reduced blood pressure levels among diabetes patients.

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The case studies below illustrate how the tools and support provided by the coordinated Knowledge Broker Service and Learning Technology can underpin large-scale improvement initiatives. This includes initial sourcing and creation of knowledge to drive improvement; exchange and dissemination of knowledge to refine and spread improvement, and embedding sustainable approaches through education and collaboration.

Case Study 2: Supporting long term care of stroke survivors.

Despite significant reductions in stroke incidence and mortality in Scotland since 2002, stroke remains the third greatest cause of adult mortality and the major cause of complex adult disability. Around 13,000 have stroke each year and there are over 100,000 stroke survivors, half of whom experience long term challenges related to brain injury following stroke.

The Scottish Stroke Knowledge into Action Network is an early adopter of the Knowledge Implementation model. Knowledge brokers in the NHS and voluntary sectors support nine communities of practice to create, share and apply knowledge across health, social care, and other organisations such as housing and employment support. These communities of practice support practitioners and service users to apply knowledge to improve practice and outcomes in priority areas of stroke care and prevention –atrial fibrillation, vision, mental health, employment and financial inclusion, self-management, advocacy and self directed support, physical activity, secondary prevention and inclusive communication.

Case Study 3: Supporting National Patient Safety and Quality Improvement Initiatives

The Venous Thromboembolism and Sepsis Patient Safety Programme have already tested the emergent Knowledge Implementation Service. They have used the national knowledge broker service, learning technology tools and multiple delivery channels to:

- Source and summarise evidence about interventions and implementation of safe and effective approaches.
- Create online evidence bundles within The Knowledge Network that link evidence to actions, and a mobile app for detecting early warning signs.
- Facilitate a community of practice to use social networking tools to share resources and experience.

Case Study 4: Supporting Palliative and End of Life Care

The National Palliative Care Group has used the Knowledge Broker Service in the following ways:

- a) Knowledge brokers across NHS Boards have sourced, summarised and evaluated evidence for updating the national palliative care guidelines.
- b) The Knowledge Network is being used to house the online versions of the guidelines and a mobile app is under consideration.
- c) Knowledge brokers are working with the guidelines group to use Knowledge Implementation approaches to design an educational package to support guideline implementation, including elearning and social networking opportunities.

Case Study 5: Actionable Knowledge to support Care at Home Workers

Consultation with service managers and Healthcare Associated Infection leads identified a need for care at home workers to have easy access to quick, reliable guidance on infection control precautions in the home environment. Further analysis identified that care at home workers and their team leaders would benefit from a mobile app providing evidence-based recommendations for action. This app is now under development, and a reference group has been established to guide production, testing and evaluation.

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Case study 6: Knowledge Broker Support for Practice- Based Small Group Learning

Knowledge brokers are working collectively to support practice teams to define questions about frontline care in particular topic areas. They then source and summarise evidence to support practitioners in analysing how to improve delivery of care in a range of health and wellbeing issues.