

NHS funded Library and Knowledge Services in England



Value Proposition: The gift of time

A report to Health Education England
by EconomicsByDesign
November 2020



“ Every day across the healthcare sector in England more than a million decisions are made a day that have a profound and lasting impact on people’s lives and which influence the quality of healthcare and the cost of services. ”

<https://kfh.libraryservices.nhs.uk/about-kfh/a-million-decisions-a-day/>

“ Evidence does not speak for itself but needs to be mobilised at the right time, and through the right people, to make a difference in decision making. ”

*National Institute for Health Research, 2013 p11.
Quoted in Knowledge for Healthcare strategy*

Key Messages

1. The NHS Library and Knowledge Services operate across a diverse and complex customer base.
2. The services provided take the 'heavy lifting' out of getting evidence into practice and give the 'gift of time' to healthcare professionals.
3. Informed decisions improve outcomes, quality of care, patient experience, resource utilisation and operational efficiencies. This is best achieved when healthcare professionals are supported by the right knowledge services, with the right resources and with the right teams and roles.
4. When supported by high-performing Library and Knowledge Services, NHS provider organisations are able to demonstrate how they are meeting their statutory obligations to use evidence to inform practice and hence improve their CQC ratings.
5. The core value proposition is simple: The service provides healthcare professional staff with time-saving accelerated access to better quality evidence. This enables the NHS to meet its statutory obligations to utilise evidence from research. It enables healthcare professionals to use their time more effectively to drive improvements against the NHS quadruple aim *.

*<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4226781/>

Key Messages

6. Case studies of high performing NHS Library and Knowledge Services demonstrate two key enablers for benefits realisation: that the service has a clear strategic leadership role in knowledge management and mobilisation, and is integrated with service delivery.
7. There is a growing and consistent body of robust international evidence to support this Value Proposition.
8. Recently published research from the NHS suggests similar benefits do exist for the NHS.
9. Assuming findings from the international literature are applicable to the NHS, the service is potentially already generating an overall economic benefit of £132m per annum for the NHS, delivering a net economic benefit of £77m per annum. This could increase to £106m per annum were target staff ratios for librarians achieved.*
10. Further high-quality NHS based research will help to quantify the 'gift of time' for healthcare professionals and the associated quality improvement benefits for patients, provided by NHS Library and Knowledge Services staff.

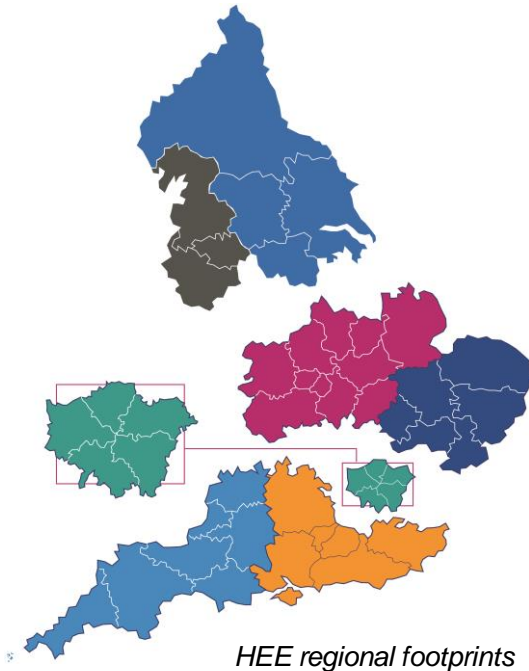
Scope: This report draws on robust published research and selected case studies from the NHS to describe, and model the potential economic value of a well-run NHS Library and Knowledge Service to its users and funders. Valuation methods used for Key Finding 9, are consistent with the H.M. Treasury Green Book. *This is not primary research.*

**this represents a financial value of economic benefits rather than NHS budgetary impact*

1. NHS Library and Knowledge Services operate across a diverse and complex customer base

Geographies

Informing the NHS in England



System roles



Research



Care delivery

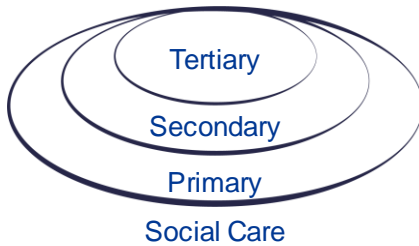


Education and training

1. A diverse and complex customer base

Care settings

Board to bedside



To community



Therapy areas



Treatment



Conditions



Self care and prevention

Multiple healthcare professionals and patients



Shared decision making



2. The service provided takes the ‘heavy lifting’ out of getting evidence into practice, and gives the ‘gift of time’ to healthcare professionals

A team of specialist health librarians and embedded knowledge specialists supported by paraprofessionals:

- **Specialist librarians**

One qualified librarian or knowledge specialist per 1250 WTE NHS staff – HEE recommended minimum ratio



- **Physical library**

A physical library space supported by a high performing library management system for accessing books, journals and a collaborative learning environment



- **Digital access**

Digital access to high quality evidence



Providing knowledge for healthcare and 24/7 access to evidence:

- Evidence searches and evidence summaries
- Horizon and innovation scanning
- New evidence alerts
- Training in evidence searching, critical appraisal and health literacy
- Critical review
- Knowledge mobilisation and knowledge sharing
- Knowledge asset management
- Network access to complementary experts
- Access to a physical space and associated resources providing
 - Journals and books
 - Specialist digital content and decision support tools
 - Space for research
 - A collaborative learning environment
 - A quiet study space

To healthcare professionals, students on placement and their patients and carers, across a range of organisations:

- Primary care practices
- NHS Trusts
- Local authorities (public health)
- Clinical commissioning groups
- Strategic Transformation Partnerships, Integrated Care Systems, Integrated Care Partnerships
- Primary care networks
- AHSNs
- Ambulance Trusts
- Third sector e.g. hospices



3. Informed decisions improve outcomes, quality of care, patient experience, resource utilisation and operational efficiencies. This is best achieved when healthcare professionals are supported by the right knowledge services, with the right resources and with the right teams and roles

Providing knowledge for healthcare and 24/7 access to evidence...

...to inform and critically review activities by NHS staff and learners such as:

- Maintaining up-to-date guidelines and policies
- Developing proposals for service redesign
- Developing proposals for workforce redesign
- Undertaking a quality improvement project
- Commissioning services for a population
- Making a business case for investment
- Undertaking a clinical or operational audit
- Providing care to a specific patient
- Providing evidence-based information resources for patients
- Answering questions from a patient
- Undertaking course-work /study
- Engaging in continuous professional development
- Undertaking research/ publications
- Preparing for teaching/ presentation

...which results in value improvements including:

Clinical practice examples:

- Reduction in 'harmful' or 'never events' (and associated medical negligence costs)
- Reduction in inappropriate care (overuse, underuse, misuse)*
- Reduction in variations in care*
- Shift to more cost-effective care pathways for people with long-term conditions, older people with frailty and complex needs, services for people at end of life*

Operational examples:

- Improved utilisation of estates and facilities
- More effective and efficient procurement
- More effective and efficient administration and management

*<https://www.kingsfund.org.uk/publications/better-value-nhs/summary>

4. When supported by high-performing Library and Knowledge Services, NHS provider organisations are able to demonstrate how they are meeting their statutory obligations to use evidence to inform practice and hence improve their CQC ratings

There is a statutory duty for the NHS in England to:

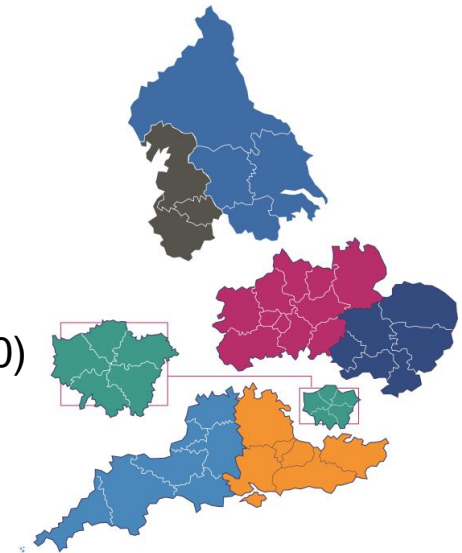
“ promote research and innovation and the use of research evidence in decision making. ”

The Health and Social Care Act 2012

This must be applied across:

- 44** STPs / ICS
- 191** CCGs (April 2019)
- 223** NHS Trusts (October 2019)
- 6813** GP practices (February 2020)

- Many different health and care professions
- Multiple clinical contexts and care settings
- Multiple organisational contexts
- Multiple operational contexts



HEE regional footprint



CQC key line of enquiry: ‘Is it effective?’ KLOE E1. Are people’s needs assessed and care and treatment delivered in line with current legislation, standards and evidence-based guidance to achieve effective outcomes?

5. The core value proposition is simple: The service provides healthcare professional staff with time-saving accelerated access to better quality evidence. This enables the NHS to meet its statutory obligations to utilise evidence from research. It enables healthcare professionals to use their time more effectively to drive improvements against the NHS quadruple aim

Individual user needs
Clinical and operational

Compared to not having a specialist library and knowledge service, this enables cost effective accelerated access to higher quality evidence which is:

- Timely**
- Relevant**
- Comprehensive**
- Quality assured**

Health system needs
Payers, providers, regulators and associated agencies and arms length bodies

Which can be used by the system to drive:

- Improvements in population health
- Safer treatment and care
- More effective, efficient, affordable prevention treatment and care
- More efficient operations
- Improved education and training opportunities for the workforce and learners
- Improved governance and risk assurance
- Improved compliance with regulation, policy and guidelines

And can be reflected positively in CQC ratings.

Health system ‘customers’
Citizens and society

So that the health system can deliver the...

NHS quadruple aim:

- Improving the health of the population
- Enhancing the experience of care for patients
- Reducing the per-capita cost of healthcare
- Improving the staff experience of providing care

- 6.** Case studies of high performing NHS Library and Knowledge Services demonstrate two key enablers for benefits realisation: that the service has a clear strategic leadership role in knowledge management and mobilisation and is integrated with service delivery.

A rapid review of three high-performing Library and Knowledge Services, as rated by HEE's assurance process, each of which is hosted in Trusts rated outstanding by the CQC:

- Surrey and Sussex Healthcare NHS Trust
- The Christie NHS Foundation Trust
- Berkshire Healthcare NHS Foundation Trust

Found that key features of a high-performing library service include:

- Positioning of Library and Knowledge Service in relation to the clinical practice guidelines committees (senior leadership role)
- That they have a leadership role in the governance and management of knowledge resources and assets (e-platforms)
- That there is specialty / departmental alignment, preferably with embedded knowledge specialists
- That they are an integral part of quality improvement teams

6. Case studies of high-performing NHS Library and Knowledge Services

Case studies of evidence searching demonstrate value of using trained librarian and knowledge specialists to undertake the search.

- Time saving accelerated access to evidence
- Benefits in patient care from utilising the authoritative information in the evidence summaries
- Better informed operational spending on equipment through improved procurement strategies

University Hospitals Coventry and Warwickshire NHS Trust
Royal Berkshire NHS Foundation Trust

Case studies of embedded specialists, demonstrate value of having a trained librarians and knowledge specialist as part of a multi-disciplinary team.

- Time saving accelerated access to evidence
- Benefits in patient care from utilising the authoritative and well targeted information and knowledge
- Strong and consistent access to up-to-date policies and guidelines for clinical governance assurance

Embedded Knowledge Specialist
University Hospitals of Derby and Burton NHS Foundation Trust

7. There is a growing and consistent body of robust international evidence to support this Value Proposition

A recently published comprehensive review of the literature found that academic libraries and special libraries generated significant return on investment. For health libraries, based on savings of time for users and expenses for organisations (for every \$1 spent, \$2.4 were generated). Studies vary in scope and methodology. ⁽¹⁾

The US Department of Veterans Affairs (VA) developed a Return On Investment tool geared specifically towards the VA hospital libraries. The first three hospitals to test the Return On Investment Analysis estimated Benefit Cost Ratios of 2.1:1 to 4.5:1. ⁽²⁾



7. There is a growing and consistent body of robust international evidence to support this Value Proposition

Professionally led library services have an impact on health outcomes for patients and may lead to time savings for health-care professionals. ⁽³⁾

The estimated time saved for clinicians varied from around 4 hours (a half-day) to months. ⁽⁴⁾

Information provided by the library service allowed them to improve patient care by avoiding the following adverse events: patient misunderstanding of the disease (23%), additional tests (19%), misdiagnosis (13%), adverse drug reactions (13%), medication errors (12%), and patient mortality (6%). ⁽⁵⁾

8. Recently published research from the NHS suggests similar benefits may exist for the NHS

A rigorous, in-depth, mixed method study of a knowledge mobilisation model designed and implemented by a clinical librarian in Wirral University Teaching Hospital NHS Trust critical care unit. ⁽⁶⁾

“ The model of knowledge mobilisation in this study helped critical care staff to **learn, develop** and **improve** the quality of their care. It nurtured an **evidence-based culture** across the department. It **generated a positive financial value** from saving staff time, supporting their professional development and improving patient care. ”

The model showed that on clinical time savings alone, the service provided a **benefit cost ratio of 1.5:1.**

Including wider benefits for staff and patients within the context of critical care, the overall **benefit cost ratio increased to 3:1.**

8. Recently published research from the NHS

An earlier NHS study showed that:

“ Clinical librarians contribute to a wide range of outcomes in the short and longer term reflecting organisational priorities and objectives.

These include direct contributions to choice of intervention (36%) diagnosis (26%) quality of life (25%), increased patient involvement in decision making (26%) and **cost savings and risk management** including avoiding tests, referrals, readmissions and reducing length of stay (28%).”⁽⁷⁾

9. Assuming findings from the international literature are applicable to the NHS, the service is potentially already generating an overall economic benefit of £132m per annum for the NHS, delivering a net economic benefit of £77m per annum.*

The overall cost of the service in 2019 was **£54m**

A benefit: cost ratio of **2.4** suggests a value of **£132m** per annum

This generates a net additional benefit of **£77m** per annum

**this represents a financial value of economic benefits rather than NHS budgetary impact*

9. This could increase to £106m per annum were target staff ratios for librarians achieved*

A recent HEE review of the ratio of qualified librarians and knowledge specialists to NHS staff suggested **large variation across the country**.

The review included a recommendation for a move from the current average of **1 qualified librarian or knowledge specialist for every 1730 NHS staff** to a target of **1 for every 1250 staff** in line with HEE recommendations.

This would represent a **38% increase** in qualified librarians and knowledge managers over time.

Considering the cost of this increase, and the potential return on investment, it is estimated that the net benefit of the service (in time savings for users and expenses for organizations) would increase from **£77m to £106m per annum***.

**this represents a financial value of economic benefits rather than NHS budgetary impact*

10. Further high-quality NHS based research will help to quantify the 'gift of time' for healthcare professionals and the associated quality improvement benefits for patients, provided by NHS Library and Knowledge Services staff

- The quantitative value-proposition analysis is based on a relatively simple modelling exercise to demonstrate the potential **economic value of the library** and knowledge services to the NHS, based solely on the value of staff time saved (and associated expenses).
- It does **not include the wider value** of improved access to higher quality evidence and the impact this has on patient outcomes and experience, operational efficiency and workforce development.
- Its main premise is that the findings from robust research published in the international literature about the value of library services to healthcare providers, supported by robust research for a particular use case from the NHS, **can be generalised**, and can potentially be applied to the NHS.



10. Further high-quality NHS-based research will help to quantify the 'gift of time'

- Should the findings from existing published research be accepted, then the focus of attention for the NHS should be on **ensuring that the library and knowledge service is properly resourced and well managed** in line with recommendations and policies developed by HEE – measured by the Quality and Improvement Outcomes Framework.
- If NHS specific primary research evidence is required to expand the evidence base, this could be achieved through **a focused and well-designed research study**. This could be achieved through a comparative summative evaluation - designed with controls to mitigate the risk of bias - and utilising mixed-method research to isolate and attribute the relative economic benefit of the service across the portfolio of required knowledge services.



References

- 1) The International Federation of Library Associations and Institutions (IFLA) '**Library Return on Investment - Review of Evidence from the Last 10 Years**' – 16 July 2020
- 2) Source: Karen Jemison, Ed Poletti, Janet Schneider, Nancy Clark and Ron Drew Stone (2009) '**Measuring Return on Investment in VA Libraries**' Journal of Hospital Librarianship,9:4, 379-390, DOI: [10.1080/15323260903253803](https://doi.org/10.1080/15323260903253803)
- 3) Alison L. Weightman* and Jane Williamson†, on behalf of the Library and Knowledge Development Network (LKDN) Quality and Statistics Group, *Information Services, Cardiff University, Cardiff, †North Central London Strategic Health Authority, London, UK, (2005) '**The value and impact of information provided through library services for patient care: a systematic review**'
- 4) Pip Divall, Cathryn James, Mic Heaton, Alison Brettle. (2020) '**The impact of Clinical Librarian Services: A UK wide project**' (unpublished)
- 5) Joanne Gard Marshall, PhD, AHIP, FMLA; Julia Sollenberger, MLS, AHIP, FMLA; Sharon Easterby-Gannett, MLIS, AHIP; Lynn Kasner Morgan, MLS; Mary Lou Klem, PhD, MLIS; Susan K. Cavanaugh, MS, MPH; Kathleen Burr Oliver, MSLS, MPH; Cheryl A. Thompson, MSIS; Neil Romanosky, MCIS, MLIS; Sue Hunter, MLIS (2019) '**The value of library and information services in patient care: results of a multisite study**' DOI: <http://dx.doi.org/10.3163/1536-5050.101.1.00>
- 6) Dr Girendra Sadera; Victoria Treadway; Dr Sioban Kelly; Dr Jayne Garner; Dr Ned Hartfiel; Dr Catherine Lawrence; Professor Rhiannon Tudor Edwards (2019) '**The clinical librarian as a knowledge mobiliser: A mixed-methods intervention study developing and evaluating the effectiveness and return on investment of a knowledge mobilisation model tailored to critical care.**'
- 7) Alison Brettle, Michelle Maden and Clare Payne (2016) '**The impact of clinical librarian services on patients and health care organisations.**' HILJ. DOI: 10.1111/hir.12136

Annex 1

**Value for NHS Trusts
and primary care**

**Value for integrated
care systems**

**Value for national
health and care
bodies**

Value for NHS Trusts and primary care

The Library and Knowledge Service has the potential to take the 'heavy lifting' out of getting evidence into practice and give the 'gift of time' to healthcare professionals. Benefits include:

- **Saves considerable time** for healthcare clinical staff who need access to evidence to deliver care
- **Saves considerable time** for healthcare managers who need access to evidence to improve the operational efficiency and financial management of the provider
- **Saves considerable time** for healthcare professional leaders who want to improve population health, treatment and care pathways
- **Provides assurance** to regulators that the organisation is meeting its obligations to use evidence to inform decisions
- **Provides additional benefits** that come from healthcare professionals at the provider having access to better evidence, this could include improvements to patient care, patient safety, patient satisfaction, operational efficiency and workforce development

To maximise these benefits, the organisation needs to invest in, and work with, the Library and Knowledge Service to ensure it is:

- **Adequately resourced** in line with HEE recommendations
- **Positioned correctly** from a governance and assurance and physical perspective to be strategically effective for the Trust and the wider health system and aligned with health system goals
- **Empowered** to support the organisation to adopt best-practice guidelines from NICE and to adhere to CQC standards and requirements
- **Well managed** in line with HEE policies and standards - Knowledge for Healthcare

Value for Integrated Care Systems

Based on evidence from elsewhere the Library and Knowledge Service has the potential to take the heavy lifting out of getting evidence into practice and give the 'gift of time' to healthcare professionals. Benefits include:

- **Saves considerable time** for healthcare clinical staff who need access to evidence to deliver care
- **Saves considerable time** for healthcare managers who need access to evidence to improve the operational efficiency and financial management of the provider
- **Saves considerable time** for healthcare professional leaders who want to improve population health, treatment and care pathways
- **Provides assurance** to regulators that the organisation is meeting its obligations to use evidence to inform decisions
- **Provides additional benefits** that come from healthcare professionals at the provider having access to better evidence, this could include improvements to patient care, patient safety, patient satisfaction, operational efficiency and workforce development

To maximise these benefits, the ICS needs to ensure that system partners collectively invest in collaborative library service delivery underpinned by sufficient resources:

- Which are **aligned with strategic goals** for place-based systems (including effective treatment, workforce, and population health)
- Which **supports not just community and acute staff but staff based in primary care and local authorities** (population health)
- Which provides a platform for supporting **evidence-based** integration with social care
- Which is **positioned correctly** from a governance and assurance and physical perspective to be strategically effective for the providers and the wider health system and aligned with health system goals
- Which supports the system to adopt **best-practice** guidelines from NICE and to adhere to CQC standards and requirements
- Which are **well managed** in line with HEE policies and standards - Knowledge for Healthcare

Value for national health and care bodies

Based on evidence from elsewhere the Library and Knowledge Service has the potential to take the heavy lifting out of getting evidence into practice and give the 'gift of time' to healthcare professionals. Benefits include:

- **Saves considerable time** for healthcare clinical staff who need access to evidence to deliver care
- **Saves considerable time** for healthcare managers who need access to evidence to improve the operational efficiency and financial management of the provider
- **Saves considerable time** for healthcare professional leaders who want to improve population health, treatment and care pathways
- **Provides assurance** to regulators that the organisation is meeting its obligations to use evidence to inform decisions
- **Provides additional benefits** that come from healthcare professionals at the provider having access to better evidence, this could include improvements to patient care, patient safety, patient satisfaction, operational efficiency and workforce development

To maximise these benefits system governance agencies need to incorporate within their assurance and performance processes, measures to show that providers invest in high quality library service delivery underpinned by sufficient resources:

- Which are **aligned with the quadruple aim**
- Which support the **system as a whole**
- Which are **positioned correctly** from a governance and assurance and physical perspective to be strategically effective for the provider and the wider health system and aligned with health system goals
- Which supports the system to adopt **best-practice** guidelines from NICE and to adhere to CQC standards and requirements
- Which are **well managed** in line with HEE policies and standards - Knowledge for Healthcare