

Sustainability in Quality Improvement Spread Phase: The Beacon Site Programme, The SusQI Academy and other CSH Support

Background

The Centre for Sustainable Healthcare (CSH) has worked with healthcare providers and trusts since 2008 to create more sustainable healthcare systems using a variety of resources, networks and training programmes. The Sustainability in Quality Improvement (SusQI) Education project was initiated in 2019 to equip health professionals to innovate to produce a more environmentally, socially and financially sustainable health service. The SusQI framework provides a practical way for integrating sustainability into quality improvement methodology and is described in Appendix 1.

Despite growing concern about the climate and ecological emergency, as well as Government and NHS commitments on carbon reduction, health professionals are not yet equipped with the knowledge and skills for building sustainable healthcare. Integrating sustainability into quality improvement (QI) offers a practical way to fill this gap for both clinicians and students. It addresses environmental and ethical challenges in healthcare, provides a fresh motivation for staff to engage in QI, and directs teams towards the highest value improvements.

Testing, evaluating and spreading the SusQI approach

In 2019-2020, the SusQI Education Project supported 8 pilot projects across undergraduate and postgraduate medical, nursing and dentistry education to embed SusQI into their curriculum. The inclusion of sustainability topics was shown to enhance learners' motivation for QI, and provide them with the skills and confidence to apply a 'sustainability lens' to QI projects as well as their daily professional practice^{i ii iii}. The SusQI approach, resources and evaluation findings have been shared nationally and internationally, including at AMEE 2020 & 2021, ISQua 2021, IHI Forum 2021 and accepted for publication in *Medical Teacher* (2022).

From 2020, the SusQI Education Project moved into an 'early spread' phase, whereby a further 11 sites, now including allied health professionals, were supported to embed SusQI into their QI curriculum through the [Beacon Site Programme](#).

The SusQI Beacon Site Programme

A Beacon Site is an institution or organisation that has integrated sustainability into the way they educate and train their learners/staff in quality improvement.

Beacon Sites have been established across all four nations of the UK and also in the Republic of Ireland, working across different levels of medical, nursing and AHP education, including QI training within healthcare delivery organisations.

In 2022, CSH is moving to a more 'intensive spread' phase: further Beacon Sites are being recruited, while all Sites will continue to be provided with high-quality open-access resources. A new additional element is the enhanced support available through a new **SusQI Academy**, in addition to CSH's existing **Green Ward Competition** and **Fellows and Scholars Programme**.

Criteria for achieving 'Beacon Site' status

To be named as a 'Beacon Site', institutions/ organisations must be able to provide

- a named contact
- details of QI education and training that they provide
- evidence showing how sustainability is integrated into this training
- (optional) evidence of integration of sustainability into organisational QI practice

Details of the evidence required are given in Appendix 2.

Benefits of achieving 'Beacon site' status

Beacon Sites are recognised as leading in empowering staff and/or students to design and implement sustainable quality improvement and transformation. The NHS is committed to reaching net zero greenhouse gas emissions by 2040. Growing numbers of healthcare professionals are concerned about the global climate and ecological emergency and are seeking to align their work practices with their personal values on sustainability. Adding sustainability to quality improvement education helps to equip staff to deliver Net Zero healthcare while increasing staff and student motivation to undertake quality improvement projects (Clery et al., 2021).

Beacon Sites are able to:

- Appear as a Beacon Site on the Centre for Sustainable Healthcare's website live map ([susqi.org](https://www.susqi.org)).
- Use the Beacon Site logo for internal and external comms and educational/training materials
- Keep up-to-date with news from other Beacon Sites via the quarterly e-newsletter
- Access a discount for staff on attendance at an annual SusQI Showcase Event, with the opportunity to present sustainability in QI work and exchange ideas with other Beacon Sites.

Examples of current Beacon sites

- **King's College London** was among our first Pilot sites, with SusQI integrated into a six-month core QI module in the Faculty of Medicine (or MBBS). This year, the KCL Florence Nightingale School of Nursing and Midwifery is a 2021-2022 Beacon Site, embedding sustainability into QI education across undergraduate and postgraduate nursing.
- **Queen's University Belfast School of Medicine** is embedding sustainability into the existing QI curriculum across the undergraduate medical course, including practical QI projects and case-based learning scenarios.
- **Severn Deanery Foundation School** and **East Anglia Foundation School** clinicians are working to embed SusQI into postgraduate QI teaching. This has included running a peer-mentor QI programme for Foundation trainees which has embedded sustainability into how projects are reported.

Selection process

To become an 'Established' Beacon Site, an organisation must provide evidence (see **Appendix 2**) that sustainability is integrated into the QI education and training that it provides. Organisations working to collect the required evidence can apply to be recognised as an 'Aspiring' Beacon Site, based on written organisational commitment to embedding SusQI and evidence of progress towards achieving this. There is a one-off administration fee of £350

for applications for both Aspiring and Established Beacon Site status, followed by an annual retention fee of £175. Once established as a Beacon Site, this status will be reviewed annually for the first 2 years, and 3-yearly thereafter. This is illustrated in the figure below.



Organisations can [register interest](#) in becoming an 'Aspiring Beacon Site' [{here}](#), or submit evidence to achieve fully established Beacon Site status [{here}](#).

How to fulfil the criteria for Beacon Site status

Any organisation who fulfils the criteria given in [Appendix 2](#) can achieve Beacon Site status. Sites may choose to do this independently, or can be supported to do this by the Centre for Sustainable Healthcare's SusQI experts, by:

- 1) Enrolling key staff in the [SusQI Academy](#)
- 2) Running a [Green Ward Competition](#)
- 3) Creating a [Fellowship or Scholar Programme](#) within their institution.


CSH Support for Spreading SusQI

1. SusQI Academy

The Sustainability in Quality Improvement (SusQI) Academy provides CPD training and support to individuals to help them embed sustainability into QI education and practice in their organisation. It is available to those working within health professions education and/or in quality improvement, service transformation and health service delivery.

As a member of the SusQI Academy, individuals will receive support from the Centre for Sustainable Healthcare to build their competencies in SusQI education and/or leadership and can use this to work towards achieving SusQI Beacon Site status for their institution. The Centre will also provide support and mentoring for integrating SusQI into current QI practices, including developing training models, materials, frameworks and reviewing strategy.

The diagram below outlines the training and support offered to SusQI Academy members. Members may access any or all of the support available to meet their own needs and the needs of their organisation.

| SusQI Academy | | | | |
|--|--|--|---|---|
| Courses | SusQI Forums | Education materials | Content Review | Mentoring |
| <p>A number of courses are taught within the SusQI Academy hosted by the Centre for Sustainable Healthcare.</p> <ul style="list-style-type: none"> • SusQI • Teaching SusQI • Refresher Course for Beacon Site SusQI Leads • Carbon Footprinting for Healthcare • Introduction to sustainable healthcare <p>Other CSH courses can be found here</p> | <p>SusQI Forums are events hosted by the SusQI Academy Team where members can join together to share best practice and project ideas, showcase progress and collaborate.</p> | <p>The open-access SusQI Educator Pack contains materials for teaching and training SusQI, including a full slide deck, worksheets, facilitator guides, pre-reading materials and an assessment framework.</p> <p>Members of the SusQI Academy will have access to additional material which includes discipline-specific teaching scenarios relevant to medical, nursing and allied health professions..</p> <div style="text-align: center;">  </div> | <p>CSH SusQI experts will help to review existing/ planned QI initiatives and recommend where sustainability could be incorporated.</p> <p>This can include existing training programmes, lecture/workshop content, QI project frameworks, checklists or handbooks and assessment/project review tools.</p> | <p>CSH SusQI experts can offer bespoke support for embedding SusQI in your setting.</p> <p>This can include:</p> <ul style="list-style-type: none"> • Co-delivery of online teaching sessions/training • Mentoring for SusQI Leads • SusQI project clinics • Attendance at senior leadership meetings for strategic input |

SusQI Academy Annual Membership

CPD and support for a key person to become a SusQI Lead including:

- Places on the Centre for Sustainable Healthcare SusQI course* and the Teaching SusQI supplementary course
- Up to 10 hrs of flexible online mentoring across the year, e.g. to review current QI materials and provide support with embedding SusQI into current QI teaching/leadership
- Access to four expert-led SusQI forums to network and share learning
- Access to latest SusQI Education materials
- 50% discount on attendance at the annual SusQI showcase event

**individuals who have already done the SusQI course may choose another Centre for Sustainable Healthcare course to attend*

Costs: £1950 for first SusQI Lead

£1250 for additional SusQI Leads from the same organisation (mentoring time is shared between them)

2. Green Ward Competition

The [Green Ward Competition](#) is a clinical leadership and engagement programme for NHS Trusts/Boards wishing to improve their environmental sustainability and reduce their carbon footprint. Using SusQI methods, the Centre for Sustainable Healthcare works directly with teams and QI managers to help them develop, run and measure

SusQI projects. The competition generates high quality SusQI projects and culminates in a Trust-wide judging and awards event that engages senior leaders as judges.

3. Fellows and Scholars

The Centre for Sustainable Healthcare can provide structured training, mentoring and project guidance to [Fellows and Scholars](#) hosted in partner organisations

The Centre provides an induction and training programme including regular supervision meetings and input to project design and delivery. The Centre uses its extensive networks to connect Fellows and Scholars to people in other NHS organisations, specialties and countries who are undertaking related work, and assists in disseminating their work through the Centre's websites, e-newsletter and on social media.

4. SusQI Courses

Continuing professional development courses comprise 4-6 hours online self-study followed by a half-day workshop to practise techniques, explore application to participants' own context, meet SusQI experts and colleagues/peers.

- [Sustainability in Quality Improvement](#) offers a detailed exploration of the SusQI framework and tools
 - [Teaching SusQI](#) supplementary course supports educators to integrate the SusQI framework into teaching
- Block booking discounts and commissioned courses are [available](#).

5. SusQI open access resources

Susqi.org website:

- [Step-by-Step](#) resources for running a QI project.
- [Educator Pack](#), including introductory learning material, pre-reading exercises, session plans and materials for interactive webinars/seminars.

E-learning: Thirty-minute [e-learning sessions](#), free to NHS staff and students on e-Learning for Healthcare

- Introduction to Net Zero NHS
- Introduction to SusQI (commissioned by HEE North East Faculty of Sustainable Healthcare)

Network: The Centre for Sustainable Healthcare's [Education for Sustainable Healthcare](#) network provides an open forum for sharing of resources, questions, ideas and experiences.

Appendix 1

The Sustainability in Quality Improvement framework

CSH has developed a “SusQI” framework for integrating sustainability into quality improvement methodology, summarised in the figure and table below, which are taken from one of two articles published in the *Future Healthcare Journal*^{iv,v}. This provides a practical way of addressing environmental, financial and social concerns while improving patient care.

$$\text{Value} = \frac{\text{Outcomes for patients and populations}}{\text{Environmental + social + financial impacts (the 'triple bottom line')}}$$

Fig 3. Sustainable value in healthcare.

| Table 2. Building sustainability into quality improvement ('SusQI'): intended benefits | | |
|--|---|---|
| QI element | Sustainability content | Intended benefits |
| 1 Setting goals | Sustainability as a domain of quality; relationship to other domains | New motivation to contribute to QI, energy for change |
| 2 Studying the system | Understanding environmental and social resource use / impacts; carbon hotspots in the NHS; 'seven capitals' matrix | Highlights wastes and opportunities which are often overlooked; stimulates radical thinking |
| 3 Designing the improvement effort | The Centre for Sustainable Healthcare principles of sustainable clinical practice (prevention, patient empowerment and self-care, lean systems, low carbon alternatives) ^a – drivers and process changes | Directs towards highest value improvements, future proofing |
| 4 Measuring impact / return on investment | Triple bottom line / sustainable value equation; measuring carbon | Drives sustainable change; allows benefits to be communicated to broader audience, not exclusively regarding financial cost-benefit |

^aFrom Mortimer et al, 2010.¹² QI = quality improvement

SusQI offers a powerful means of engaging staff, educators and students as creative catalysts for healthcare improvement^{i ii iii}.

“This framework has radically altered how I approach quality improvement, in how I deliver Quality Improvement to the students I teach, in my own practice and in how I appraise the work of others.” Dr. Noreen Ryan, Domain Lead for Quality Healthcare, Imperial College London School of Medicine

“My students (working nurses) on the ICU nursing course are using the SusQI framework for their quality improvement project assignment. I’m marking essays now and adding in sustainability as a component of quality has enhanced the academic writing this year – it has also prompted the students to develop more interesting projects.” Dr Heather Baid, University of Brighton

“What struck me most when I first learnt about susQI is how this is at the crux of all domains of quality in healthcare and why this isn’t part of all QI!” Dr. Philippa Clery, Foundation Doctor, Centre for Academic Child Health, Bristol

“This SSC was a great addition to my medical course, it was a lot of work at times, but I felt like I have really made a difference, and due to the nature of my project I felt like I was acting as a professional in the NHS which was very exciting and rewarding.” “I think it will change the way I will practise medicine and will inform many decisions I make in the future.” Second year medical students, University of Bristol

Appendix 2

2a. Required Evidence for achieving Beacon Site Status - Academic institution

| Academic/Education Institution (eg. university, Royal College, QI education provider (AQUA etc) | |
|--|---|
| Domain | Information/evidence required |
| Contact details | Named SusQI Lead(s), email address, role |
| Degree/Course details | Name of each module/course where SusQI has been taught Number of students in cohort Format of teaching (eg. lecture, workshop) Do students have to do/contribute to a SusQI project? Yes: No: |
| SusQI content in training | Have you written a learning outcome for SusQI learning {insert here} If no, why not: |
| | Have you given an overview of the principles of sustainable healthcare? (yes/no) If no, why not: |
| | Have you provided a definition of SusQI and the triple bottom line? (yes/no) If no, why not: |
| | Have you provided an overview of the 4-step SusQI framework? (yes/no) If no, why not: |
| | Have you outlined how to recognise environmental, social and financial resource use (eg. process mapping/ awareness of carbon hotspots)? (yes/no) If not, why not: |
| | Have you outlined how to design a change idea using the principles of sustainable healthcare to maximise sustainable value? (yes/no) If not, why not: |
| | Have you outlined how to measure environmental, social and financial impacts of a change idea, including how to find and collect data? (yes/no) If not, why not: |
| | Have you provided worked examples of SusQI in practice? (yes/no) If no, why not: |
| | Have you provided resources for further learning, eg susqi.org? (yes/no) If no, why not: |
| | Have you added SusQI in assessment/marking criteria? {insert here} If no, why not: |
| SusQI in practice (optional) | Have you embedded SusQI into the practice of QI at the institution/ organisation level? {insert here} |

2b. Required Evidence for achieving Beacon Site Status - Healthcare delivery organisation

| Healthcare delivery organisation | |
|---|--|
| Domain | Information/evidence required |
| Contact details | Named SusQI Lead(s), email address, role |
| Course/training details | Name of each course/training package where SusQI has been taught Number of courses per year and number of participants (approx) Format of training (eg. online workshop) |
| SusQI content in training | Have you written a learning outcome for SusQI learning {insert here} If no, why not: |
| | Have you given an overview of the principles of sustainable healthcare? (yes/no) If no, why not: |
| | Have you provided a definition of SusQI and the triple bottom line? (yes/no) If no, why not: |
| | Have you provided an overview of the 4-step SusQI framework? (yes/no) If no, why not: |
| | Have you outlined how to recognise environmental, social and financial resource use (eg. process mapping/ awareness of carbon hotspots)? (yes/no) If not, why not: |
| | Have you outlined how to design a change idea using the principles of sustainable healthcare to maximise sustainable value? (yes/no) If not, why not: |
| | Have you outlined how to measure environmental, social and financial impacts of a change idea, including how to find and collect data? (yes/no) If not, why not: |
| | Have you provided worked examples of SusQI in practice? (yes/no) If no, why not: |
| | Have you provided resources for further learning, eg susqi.org? (yes/no) If no, why not: |
| | Have you added SusQI in project planning/development tools? {insert here} If no, why not: |
| SusQI in practice (optional) | Have you embedded SusQI into the practice of QI at the institution/organisation level? How? {insert here} (e.g integrated into: project frameworks, organisational definition of QI, Green Plan, strategic objectives, QI awards, flagship QI programmes) |

REFERENCES

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- ⁱⁱ Marsden, O., Clery, P., D'Arch Smith, S. et al. Sustainability in Quality Improvement (SusQI): challenges and strategies for translating undergraduate learning into clinical practice. *BMC Med Educ* 21, 555 (2021).<https://doi.org/10.1186/s12909-021-02963-7>
- ⁱⁱⁱ Spooner, R., Stanford, V., Parslow-Williams, S., Mortimer, F., Leedham-Green, K. "Concrete ways we can make a difference": a multi-centre, multi-professional evaluation of sustainability within quality improvement education. *Medical Teacher*, awaiting publication
- ^{iv} Mortimer F, Isherwood J, Wilkinson A, Vaux E. Sustainability in quality improvement: redefining value. *Future Healthcare Journal*, 2018 Vol.5(2):88-93
- ^v Mortimer F, Isherwood J, Pearce M, Kenward C, Vaux E. Sustainability in quality improvement: measuring impact. *Future Healthcare Journal*, 2018 Vol.5(2):94-97