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Method to share learning in real time at scientific meetings: lessons from the IHI-BMJ International Conference on Quality and Safety

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ABSTRACT

Background Capturing and disseminating key learnings on emerging themes for conference participants is challenging, yet also presents a significant opportunity to distill, share and discuss learning in real time with conference organisers and attendees. The Institute for Healthcare Improvement (IHI) and *British Medical Journal (BMJ)* collaborate annually to convene a Health Quality and Safety conference attracting 1000 to 3000 attendees each year.

Aim To test a learning system that harvested and synthesised the key lessons shared by conference participants at the 2022 IHI-BMJ Gothenburg Forum, and to disseminate this content.

Methods Twelve invited Forum attendees collected and shared their 'breakthrough learnings' via electronic survey. Three IHI team members synthesised the participants' responses into themes that were shared and refined in real time at an in-person Forum session including 35 additional participants.

Results Participants shared four learning themes: collaboration and co-production, trust, meaningful communication about data, and broadening the scope of the Science of Improvement field to multi-disciplinary and multi-system approaches.

Conclusions Collection of key learning on emerging topics of interest to the health system improvement community is feasible and yielded information both for dissemination and real-time learning. While not representing the full scope of the conference learnings, the content resonated with an additional group of reviewers at the conclusion of the conference and has guided planning for the next annual meeting. This approach may be helpful in capturing key themes for discussion and planning by similar improvement communities.

collaborated annually to convene a health quality and safety conference (International Forum on Quality and Safety in Healthcare, the 'Forum'), attracting 1000 to 3000 attendees each year in different European cities. The Forum was cancelled due to the COVID pandemic in 2020 and held virtually in 2021. With relief and celebration, the in-person meeting reconvened with over 2300 attendees in Gothenburg, Sweden, in June 2022. Over 3 days, the Forum hosted 52 scientific sessions, including experiential expeditions, preconference training courses, a Scientific Symposium, keynote events and workshops. The Forum includes elements of movement building and didactic teaching, with a focus on knowledge sharing at interactive workshops themed along areas of content and methods (eg, capability building, science of improvement).

The landscape of topics that the community of conference-goers inhabits changes with the realities of our times and reflects the continued growth of the Science of Improvement field in recent years. The impact and opportunities of the pandemic, the rising awareness of inequities, the emotional breaking point of the healthcare workforce and the need to ensure more rigour and breadth in our deployment the Science of Improvement are examples of topics that were discussed when participants gathered at the Forum.

METHODS

We invited a group of 12 Forum attendees who are experts on the practical application of the Science of Improvement to serve as 'learning agents' and gather key ideas presented and discussed during the conference. Learning agents were asked about which sessions they attended to understand the distribution of session attendance, but we did not assign sessions or try to achieve a comprehensive coverage of the conference. We created an electronic form (MS Forms¹) to document 'breakthrough learnings'. At the end of each of the 2 Forum days, three members of the IHI team who were not attending the conference then inductively synthesised the responses and facilitated a discussion with the IHI learning agents attending the Forum. The lessons learnt were assembled into four broad themes that emerged from the agents' reports. A different, self-selected group of 35 Forum attendees joined an open session at the conclusion of the Forum titled 'Meta reflections on the conference through the lens of improvement and implementation research' moderated by improvement experts

INTRODUCTION

The experience of learning in any large conference can be daunting: conference attendees can struggle to decide what sessions to attend, how to absorb and retain the multiple inputs of knowledge and how to incorporate knowledge and learning into their work. Capturing and disseminating key lessons and themes of interest at conferences can also be challenging. We describe a novel process that harvested, synthesised and disseminated key themes and lessons shared at an international healthcare improvement conference.

Since 1996, the Institute for Healthcare Improvement (IHI) and *British Medical Journal (BMJ)* have



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who were not part of the learning agent group. In a workshop setting, this group were asked to reflect on, add to, modify and discuss the four affinity themes and asked to call out additional themes that were not included in the four-part synthesis. Finally, the themes and distilled learnings were presented to a group of Swedish improvement fellows for further reflection after the Forum concluded.

RESULTS

The participants attended 27 sessions of a total 52 sessions being offered at the 2022 Gothenburg Forum. The IHI synthesis team affinity themes and mapped the multiple learnings from survey feedback and participant discussion into four broad themes.

Collaboration and Co-production

The road to health and healthcare improvement requires collaboration and co-production. Collaboration and co-production need to be ‘baked in’ to all quality improvement designs; those that are designed using a top-down approach or are only partially inclusive will fall short of achieving aims. While the topic of co-production has been discussed in the Science of Improvement community for several years, co-production continues to feel like an innovation topic that has not yet been fully embraced and acted on. Improved outcomes for health equity, in particular, require co-leadership and co-design with the community members, patients and care providers.

Importance of trust in improvement

Trust is required to overcome some of the biggest health and healthcare challenges, and the importance of trust became particularly evident during efforts to manage the COVID-19 pandemic. Trust is an essential ingredient of improvement strategies at all levels of a system (macro, meso, micro) and across all its constituencies. Solutions in the Science of Improvement field require both trusted systems and leaders with an alignment at all levels of the system of vision and expectations. Trusted leaders are regarded as reliable, authentic and empathetic while promoting kindness. Improvers are interested in learning more about the science of human connection through trust and kindness.

Improved communication of data

Learners heard a call for communicating information and data in a more meaningful way, aligning with the current calls in the literature for increasing the accessibility of Science of Improvement. For data to be compelling, improvers shared that it needs to be easy to understand and should engage the audience in learning and a conversation on the findings. There was an encouragement to combine data with stories and to use stories, data and visual tools to increase the accessibility of data to both improvers and general audiences. The COVID-19 pandemic democratised data globally; we learnt that when data is not shared in a meaningful, reliable way, trust is reduced. There are many emerging opportunities for improvers to harness the promise of digital data; participants shared examples of advances in data visualisation, EMR data, artificial intelligence, machine learning and patient collected data.

Broadening the scope of Science of Improvement

The fourth theme was how the Science of Improvement field needs to continue to broaden to include multi-disciplinary and multi-systems approaches. There are a wide range of sciences that can be used to strengthen the Science of Improvement. The

Science of Improvement field can and should include both the technical and social aspects of change, and the inclusion of mixed methods. A broader set of approaches also will support navigating improvement in complex, adaptive settings and advancing equity in multiple settings.

The 35 participants at the open session at the end of the conference provided validation that the four themes were a good reflection of key ideas discussed at the conference, as well as specific additional learnings that had not been captured in the learning agent synthesis. Additional learning topics from the Forum sessions that were surfaced by this group included the importance of establishing common purpose reflected in a shared aim and measurement strategy to track progress to achieving the aim, ideas on achieving equity in healthcare, accessibility and affordability of care, and workforce challenges. There was also a call for the Forum to return to a focus on reliability science. The session with the Swedish Fellows endorsed the findings and discussed their applicability to the Swedish context.

DISCUSSION

Reflections on the test of the novel learning system

While the 2022 Gothenburg Forum covered a multitude of topics and several tracks, these four themes resonated with a small group of learning agents, who are highly engaged in the development and implementation of the Science of Improvement. We chose to target a small group of experts who were familiar with QI methods and had a ‘finger on the pulse’ of key topics under discussion at the Forum. This approach necessarily limited the breadth and depth of the topics that were highlighted, and it is likely that we disproportionately surfaced topics that were of particular interest to the learning agents who were chosen. This approach carries the risk of reinforcing an existing consensus among the small group of learning agents, known to the authors on what is important and excluding valuable perspectives of a broader set of participants with different views. This more diverse view might have been achieved with a broader scanning approach, eg, surveilling the copious social media posts generated during the Forum, but we were not resourced to support the effort required to review such a large volume of material in the short time available and the variability of the quality and depth of learning extracted. We predicted that a small group of learning agents known for their expertise would provide high quality insights that were easier to synthesise in real time for further reflection (within the timeframe of the Forum). The survey tool used to collect information (figure 1) proved easy to use and helped to generate themes that became the focus of our dissemination.

Implications for in-conference learning

The in-conference learning process facilitated by the learning agents allowed conference organisers to lead a conversation about these topics with attendees in real time. A Danish study found that conference organisers who allocate a fraction of time to engage participants in reflective conversation and knowledge sharing enhanced the learning-related outcomes and general satisfaction for their participants.² Furthermore, learners who are engaged in an active process of inquiry (rather than passively receiving content) were also more likely to learn and apply the content into their own life contexts. In a study of continuing medical education for physicians, interactive and mixed educational sessions had a greater impact on medical practice than didactic teaching.³ Conferences remain strong avenues for learning, especially in settings where the conference planning

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* Required

1. Your name (person submitting this form) *
2. What is the session number of this presentation? e.g. M2 *
3. Who or what group presented the breakthrough learning?
4. What opportunity for improvement were they pursuing?
5. How did they address the issue (Consider content, methods/tools/approaches, types of results, common challenges...)?
6. In what ways were patients/community members engaged in the improvement methods being applied?
7. What was the breakthrough result or ideas(s)?
8. What category of learning does this presentation relate to the most? (choose 1) *
 - equity
 - integrated health systems
 - partnership/co-design
 - workforce wellbeing
 - post-COVID recovery
 - safety strategies and culture
 - sustainability, climate change
9. Is this standout learning that could be featured in the plenary report-out? *
 - Yes
 - No
 - Maybe

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Figure 1 2022 Gothenburg forum survey tool.

process builds on the backgrounds, interests and needs of the participants.⁴

Having assigned roles for the learning agents at the conference and improvement experts who were independently synthesising the materials offsite and a dialogue between the two groups was a successful design feature. The simplicity and standardisation of digital onsite data collection facilitated the process for synthesisers to receive, collate and re-present the findings at the end-of-conference session.

Implications for the field of Science of Improvement, based on learning at the conference

Co-production is a topic that has received considerable attention, with over 1000 peer-reviewed publications since this topic was highlighted by Paul Batalden and others as a key design principle for quality improvement in health and healthcare in 2016.⁵ Forum attendees expressed interest in understanding how co-production can be practically included and fully realised in QI designs.

Trust in healthcare has been eroding and likely has been exacerbated during COVID-19; lack of trust is associated with underutilisation of health services and inequities in outcomes.⁶ Indeed, work that focuses on strengthening trust may miss the mark if based on an assumption that trust can exist before first acknowledging and addressing harms.^{7,8} Large-scale Science of Improvement work is underway to address this need.⁹

Recent literature highlights the importance of increasing the accessibility of Science of Improvement methods and data, including the need to share what improvers are learning along the way.¹⁰ Leaders and improvers of healthcare find it difficult to access specific, granular data sets which illuminate the root causes of what they are trying to improve. Schoonover¹¹ points to the paradox unfolding with increased volume and depth of data sets: 'Larger, high-level data sets are helpful, but they don't allow leaders to understand the why behind specific problems'. Granular data also helps to address equity-related causes of health disparities.

Furthermore, the understanding of and competence in QI methodology remain a barrier for its effective application in multiple clinical and non-clinical settings globally. QI trainings remain popular, but the vocabulary of the Science of Improvement can be 'opaque or fuzzy to outsiders and/or to those trained in a health services research paradigm'.¹² The field needs to be 'rigorous, but not rigid'. Communicating results that are both 'good and bad' remain an opportunity in the field¹¹ as there are often valuable lessons to share within projects that do not yield outwardly positive results.

Health equity remains a strong priority in the health and healthcare field and that remains true for the Science of Improvement field as well. Many improvement organisations can agree that engaging in co-production with the communities they are working with (patients, families, local communities) to co-lead problem solving is a core component of healthy equity.^{13,14} Health equity requires self-reflection; who we are and how we identify can both present assets and create harm in the work we do.¹⁵ This self-reflection is required at an individual, leadership and systemic level. Other related emerging topics at the Forum included social determinants of health and structural racism—both of which have gained traction as areas of interest for improvement designs. Conference goers expressed the view that these topics could be better integrated into improvement initiatives and more strategically prioritised.⁶

Future directions

The meta-learning process for capturing, synthesising and sharing knowledge gathered at events like the Forum offers a model that can be replicated at future conferences—both this one in future years and in other venues in the field. The content that was captured can help further inform Forum attendees about the breadth of learning at the Forum and can guide the choice of topics for future research, presentation and learning. The 2023 IHI-BMJ International Conference on Quality and Safety (to be held in Copenhagen) has a scientific track with themes drawn explicitly from the priority areas for learning that emerged at the 2022 Gothenburg Forum (Codesign, collaboration, coproduction; Measurement and learning; Evaluation; new lenses for the Science of Improvement).

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