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Quality improvement in forensic mental health: the East London forensic violence reduction collaborative

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ABSTRACT

Ward-based violence is the most significant cause of reported safety incidents at East London NHS Foundation Trust (ELFT). It impacts on patient and staff safety, well-being, clinical care and the broader hospital community in various direct and indirect ways. The contributing factors are varied and complex. Several factors differentiate the forensic setting, which has been identified as a particularly stressful work environment. Staff must constantly balance addressing therapeutic needs with robust risk management in a complex patient cohort. ELFT identified reducing inpatient physical violence on mental health wards as a major quality improvement (QI) priority. The aim was to use a QI methodology to reduce incidents of inpatient violence and aggression across two secure hospital sites by at least 30% between July 2016 and March 2018. Collaborative learning was central to this project. It sought to foster a culture of openness within the organisation around violence and to support service users and staff to work together to understand and address it. A QI methodology was applied in medium and low secure inpatient settings. A change bundle was tested for effectiveness, which included: safety huddles, safety crosses and weekly community safety discussions. Operational definitions for non-physical violence, physical violence and sexual harassment were developed and used. Reductions of 8% and 16.6% in rates of physical and non-physical violent incidents, respectively, were achieved and sustained. Compared with baseline, this equated to one less incident of physical and 17 less of non-physical violence per week averaged across seven wards. Three wards achieved at least a 30% reduction in incidents of physical violence per week. Five wards achieved at least a 30% reduction in incidents of non-physical violence per week. This collaborative brought significant improvements and a cultural shift towards openness around inpatient violence.

PROBLEM

In 2013, ward-based violence represented 18% of harm associated with safety incidents within the Trust. East London NHS Foundation Trust (ELFT) identified reducing inpatient physical violence on mental health wards as a major QI priority. In 2016, the senior management committed to challenging perceptions of inpatient violence within the forensic service. This was in response to increased inpatient assaults, sick leave, staff turnover and poor perceptions of ward safety. The forensic directorate sought to understand violence and its responses in the forensic context with a particular focus on establishing and maintaining a learning environment where it was not tolerated.

The ELFT forensic violence reduction collaborative (FVRC) aimed to use a QI methodology to reduce incidents of inpatient violence and aggression across two secure hospital sites by at least 30% between July 2016 and March 2018 (figure 1).

At project launch in July 2016, ELFT provided specialist forensic psychiatric services to seven boroughs across North East London. The project was based across two forensic sites: the John Howard Centre and Wolfson House. The John Howard Centre is a 154-bedded medium secure forensic unit in Hackney, East London. It consists of 12 wards including a psychiatric intensive care unit, acute admissions wards, established treatment wards, specialist learning disability wards, a female ward and an offender personality disorder ward. Seven wards at the John Howard Centre were included in this programme. Wolfson House is an 80-bedded male-only low secure forensic unit in North London consisting of five wards. One ward at Wolfson House was included in this study. In July 2016, four wards with the highest number of violent incidents at the John Howard Centre (Westferry, Clerkenwell, Shoreditch and Bow) were selected to form the initial FVRC. Four further wards (Broadgate, Ludgate and East India at John Howard Centre; Clissold at Wolfson House) requested to join of their own initiative by July 2017. Due to this expansion, the project aim was extended to June 2018.

BACKGROUND

Inpatient violence and aggression carry consequences for service users, staff and

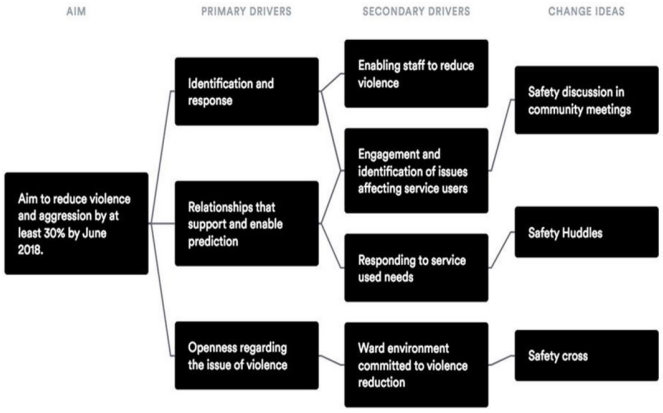

Figure 1 Driver diagram representing the theory of change.

the working environment. For staff, inpatient violence is a significant cause of trauma associated with a variety of physical, psychological and social effects.[1] Violence towards staff is associated with long-term psychological consequences independent of physical injury.[2] Violence experienced by healthcare staff is associated with lower patient ratings of care.[3] It increases length of stay, as do measures to address it.[4 5] It affects the broader hospital by impacting on staffing levels and morale, families and carers, and finances.

The factors contributing to inpatient violence are varied and complex. Gender, diagnosis, symptomatology, limit-setting styles by staff, environmental conditions, perceived poor communication, substance misuse, feelings of frustration, denial of services, ward overcrowding, staff training and staff-to-patient ratios are examples of the varied factors to consider when assessing this risk.[4–8] Their consideration is important in terms of assessing risk of violence and aggression, planning interventions and supporting staff.

Several factors differentiate the forensic setting from general adult services, including: longer admissions with more intense therapeutic relationships, higher staff–patient ratios, offending behaviour, increased focus on risk assessment, increased management of violence and aggression, differing patient characteristics and importation of prison culture.[9] In terms of evidence-based interventions, support exists for structured risk assessment, discussions at ward community meetings and the use of restrictive practices, that is, restraint and seclusion.[10–12]

In 2017, 80.6% and 41.3% of mental health nurses in England reported physical and verbal abuse, respectively. Lower reporting rates were recorded for verbal (57.9%) than physical abuse (85.6%). Of those who reported, approximately half were satisfied with the outcome. Approximately 40% of those not reporting did so on the basis they believed nothing would change.[13]

The inpatient forensic setting has frequently been identified as a particularly stressful work environment.[14] Staff must constantly balance addressing therapeutic needs with robust risk management in a complex patient cohort. Relational security (ie, staff-to-patient ratio, contact time with staff and the quality of rapport and trust among patients for staff) is impaired by reduced continuity of care and is central to resource allocation and managing cost. It has been shown to be difficult to measure due to complexities in its definition.[15] It is regarded, however, as the most important element in the maintenance of therapeutic progress of patients.[16] As such, supporting staff to consistently deliver high-quality interactions with patients can be regarded as key in terms of reducing ward-based violence. Moreover, the confined nature of the therapeutic environment places increased emphasis on interpersonal factors in terms of therapeutic capability.[17]

Emotionally demanding relationships in work have consistently been linked to higher levels of burnout.[18] In nursing, this impacts staff well-being, performance, absenteeism and turnover.[19] The negative impact of burnout extends beyond the individual to encompass broader behavioural, social, attitudinal and organisational manifestations within a service.[18] Forensic mental health staff experience moderate levels of both stress and burnout.[20] Qualitative research suggested that poor integration between therapeutic and security-oriented objectives render it difficult for staff to establish a clear sense of purpose.[21] It is suggested that the stresses of inpatient secure care can be mitigated by initiatives such as an open and honest work culture, increased autonomy in decision-making for frontline staff, clinical supervision, research involvement, professional development and supportive management.[22] Following inpatient violence, informal peer support and encouragement to reflect openly have been highlighted as important in terms of maintaining positive staff perceptions and coping.[23]

Within the forensic service at ELFT, previous approaches to violence prevention had mainly focused on risk assessment and care planning as core tools to facilitate multidisciplinary discussion (but often carried out at set intervals and not responding to dynamic changes in risk indicators on a real-time basis), supporting staff postincident and liaison work with the police.

MEASUREMENT

The *outcome measure* used was the rate of incidents of inpatient violence and aggression per 1000 occupied bed days. This was captured using the safety cross data. This was chosen, as opposed to a count, to ensure occupancy levels were taken into consideration.

The *process measures* used were the number of completed safety huddles and daily safety crosses.

The *balancing measures* that were monitored throughout this project were incidents of restraint, seclusion and the use of rapid tranquilisation, in addition to days of staff sickness each month.

Operational definitions for these measures are provided (figure 2).

Figure 2 Operational definitions for physical violence, non-physical violence and sexual harassment.

DESIGN

Patient and public involvement

Collaborative learning was central throughout this project. Service users were involved in risk discussions at ward level. Service user representatives provided feedback at regular collaborative meetings. Service users collaborated with staff to identify goals to celebrate during the course of the study in order to sustain motivation and interest. Service user feedback on the project was disseminated to staff at inductions and away days. It was difficult to involve service users in other areas of the study design due to the technical methods required to undertake the analysis.

Interventions

The change ideas were derived from the Tower Hamlets violence reduction collaborative.[24] This employed four ward-level interventions: Brøset Violence Checklist (BVC), safety huddles, safety crosses and safety discussions in ward community meetings. As such, this project represented a scale-up of the Trust's quality improvement work on violence reduction.

Safety huddles

These are brief, focused, ward-based staff meetings (10–15 min) held at the same time and place each day. Several features distinguish safety huddles from conventional management rounds or shift handovers: staff were requested to remain standing to encourage focus, only the most pressing ward safety issues were discussed (ie, patients are not discussed systematically) and all available staff involved in patient care (not just clinical staff) were encouraged to join. The huddle's agenda is to consider the most prominent safety issues likely to impact the ward in the short term that is, focus on the shift ahead, by considering:

1. Are you safe?
2. Which of your patients will not be satisfied with their care today?
3. What is the plan?

Its scope was not limited to individual patient issues or conflict between patients. All staff, including non-clinical staff, were encouraged to contribute to help identify any relevant factors impacting on ward safety such as for example, a broken television set, a valued staff member leaving the team, poor weather or staff shortages impacting on patients availing of leave. Huddles have been adopted from team sports and are now widely used in business and healthcare. They support more reliable staff interactions to promote patient safety within complex systems.[25] Wards aimed for two to three huddles per day. Using a pro forma, a brief account of the discussion and any agreed actions were recorded. These enabled consistent sharing of the plan across shifts. Staff were encouraged to call an unscheduled huddle if they became concerned about increased risk.

Safety crosses

In discussions about electronic incident reporting both at a ward level and within the forensic directorate, staff agreed—owing to time constraints—this process was not adequately capturing risk events. Additionally, they agreed it was less suited to record subthreshold build-up events such as verbal aggression or sexual harassment. Staff highlighted the issue of batching, that is, whereby a single incident report included multiple incidents of violence and aggression. Safety crosses are colour-coded diagrams displayed on the ward clearly visible to service users and staff (figure 3). Daily (boxes corresponding to hours) and monthly (boxes corresponding to days) formats were available. Days were divided to represent nursing shifts. Staff selected the most suitable format for their ward. Coloured sticker dots were applied by staff to represent whether an hour or shift was incident free (green), contained build-up incidents (amber), incidents of physical violence and aggression (red) or sexual harassment (purple). Established local definitions for build-up and physical violence and aggression incidents were used.[24] Purple dots were developed later in the

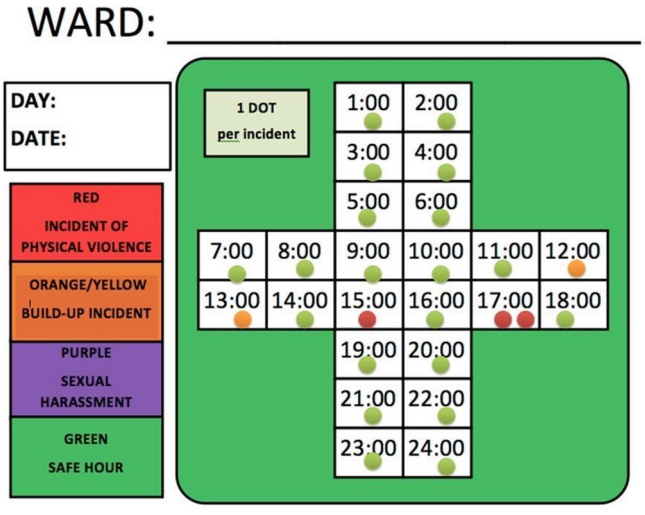

Figure 3 Safety cross.

project. Each dot corresponded to one incident. Green dots denoted incident-free periods.

While not presented as a replacement for electronic incident reporting, safety crosses provided a quick and simple means of recording and sharing data among staff and service users. To ensure consistency, operational definitions for the coloured dots were agreed and disseminated on the ward and at monthly collaborative sessions and team away days (figure 2).

Safety discussion in weekly ward community meetings

Service users were encouraged to discuss the past week with reference to safety cross data. Staff ensured discussions remained non-judgmental and emphasised shared values around violence reduction. Service users were asked to reflect on the emotional impact of such events and how the ward community could learn from these together. They were encouraged to aim for consecutive 'green days', that is, incident-free periods. Once an agreed threshold was achieved, the ward celebrated this.

STRATEGY

ELFT employs a standard approach to improvement that includes identifying and defining a problem, analysing causes, creating a theory of change (figure 1), testing ideas and evaluating their impact on the system at regular intervals. The wards employed an established QI methodology, the Model for Improvement,[26] to guide testing and implementation of the change bundle into clinical practice. This model incorporates iterative Plan–Do–Study–Act cycles to test change ideas. Their repeated use builds knowledge about the system under measurement. This can inform in the direction of sustained gains and potentially longer term improvement.

Within ELFT, QI projects benefit from organisational support across all stages. This project sat within a hierarchical Trust-wide framework for QI, which provided regular support, methodological advice, supervision and coaching. At team level, project leads were allocated. Project leads liaised with dedicated QI coaches and sponsors. Coaches helped with practical issues that were addressed as the project progressed. The sponsor role ensured accountability to senior management. Sponsors were positioned to assist with organisational or resources issues impacting on the project. Progress reports were shared at a team level on a weekly basis. Monthly collaborative meetings permitted multidisciplinary staff and service users to share their experiences. These meetings were designed to function as a forum for service user input from multiple perspectives and across multiple types of inpatient wards within the forensic pathway.

Baseline data were obtained for October 2016–February 2017 using the safety cross on each ward, which showed a baseline of 22 incidents of physical violence per 1000 occupied bed days and 105 non-physical incidents of violence per 1000 occupied bed days. The collaborative learning sessions began in March 2017. In April 2017,

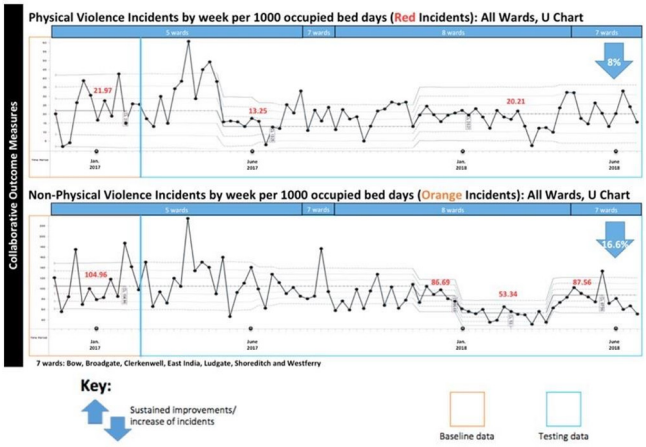

Figure 4 Collaborative outcome measures.

the first phase of change ideas was commenced with the testing and implementation of safety huddles. In June 2017, safety discussion in weekly ward community meetings were introduced. The BVC[27] was trialled on Westferry ward in 2012. As it did not bring significant improvement, the service decided against its inclusion as a change idea.

In November 2017, an operational definition for sexual harassment (purple dot) was developed through consultation and consensus with staff at monthly FVRC meetings. This was in response to feedback from the two learning disability wards. Staff reported high rates of sexual harassment. Project staff acknowledged it was an important issue and a form of violence. It was agreed it could not adequately be captured using a red or amber dot, potentially leading to under-reporting.

In December 2017, Ludgate ward introduced service user-led safety huddles that followed the weekly community meeting. This innovation sought to empower service users to take ownership and be more actively involved in reducing ward-based violence and aggression. The programme continued in quality improvement mode until June 2018, working to reliably implement the interventions, after which it moved into quality control (figure 4 illustrates programme progression and denotes 6 monthly intervals).

RESULTS

Overall results

Clissold ward ceased collecting data in April 2018 and as such was removed from the study population. Within the remaining seven wards, a reduction of 8% in incidents of physical violence and 16.6% in non-physical violence per 1000 occupied bed days was achieved and sustained (figure 4). Compared with baseline, this equated on a weekly basis to one less incident of physical violence and 17 less of non-physical violence averaged across the seven wards over the study period.

Individual wards

Five of the seven wards showed a reduction in the frequency of incidents of non-physical violence with

Table 1 Summary of reductions in incidents by ward

Ward	Red incidents per week	Amber incidents per week
Broadgate	↓92.7%	↓80.2%
Bow	↓28.6%	↓46.3%
Clerkenwell	↓68.3%	↑87.1%
East India	*	*
Ludgate	↓76.7%	↓50.4%
Shoreditch	↑32.3%	↓48.2%
Westferry	↓16.7%	↓73.1%
Clissold	†	†

*No sustained improvement.
†Incomplete data.

reductions ranging from 46.3% (Bow ward) to 80.2% (Broadgate ward) (table 1). Five of the seven wards showed a reduction in the frequency of incidents of physical violence, with reductions ranging from 17% (Westferry ward) to 93% (Broadgate ward). Shoreditch ward demonstrated an initial reduction, followed by an increase in violence. This was thought to be largely due to a change in the patient population, with a small number of patients demonstrating challenging and aggressive behaviour. Shoreditch ward is a specialist medium secure learning disability ward, and the data demonstrated the need to continue to develop new ideas about how to predict and prevent violence in this slightly different context. The same is true for East India ward, a specialist personality disorder unit for offenders, within which the number of incidents of physical violence increased over the period of this study.

Qualitative feedback

Qualitative feedback collected from staff and service users was shared at monthly collaborative meetings and via electronic newsletters (table 2).

Service user involvement and collaboration

Service users were invited to participate at every collaborative meeting. Several examples illustrate the value of this forum. The idea for a huddle book to record brief summaries of meetings was shared and taken up by other wards. This was so commonly occurring, or particularly risk-related, issues could be identified and addressed. One ward identified a trend towards violent incidents at medication times but were unsure how best to address this. Service user input was sought and offered a patients' perspective. Frustration with the existing queuing process resulting in conflict was highlighted. Using this insight, staff formulated an effective plan to streamline the process and limit time spent queuing. Through service user representative roles and their active participation through feedback and discussion at regular collaborative

Table 2 Qualitative feedback – sample

Staff	'We were certain that we needed a change in practice to reduce the level of violence on the ward but did not think safety huddles would be so significant initially in helping us to do so. I could see that my team were much more confident in going out on the floor and dealing with the issues because we have a clear and agreed plan between staff that was formulated from the safety huddles. The ward begun to feel safer as less violent incidents resulted to physical injuries. More service users also started to attend the weekly community meetings as they reported to feel safer'. Project lead, Shoreditch ward, John Howard Centre
	'We have found safety huddles to be very helpful for communication, planning and discussing care for service users. It is an open, confidential space where staff can voice their concerns and openly discuss the general safety of the ward and make plans for the day to facilitate delivering care in a safe environment. They have been beneficial in facilitating teamwork, communication and cohesion of staff'. Project lead, Bow ward, John Howard Centre
	'… I worry about my safety, the safety of my colleagues and the safety of service users we care for and their family and relatives. When I meet people for supervision, one of the things that always come up is safety. So, I was really keen to join the collaborative. Now, the ward is calm, patients are saying they are feeling safe. I have less incident forms to review and able to have meaningful engagement with patients. I am really glad'. Modern matron, Broadgate ward, John Howard Centre
Service users	'Seeing staff do huddles was initially annoying because it felt like you were leaving us alone to do more meetings. Later after all the community meetings and explanation it made me feel safe because I knew the staff were planning to support someone that was angry or would end up being violent'.
	'When you guys first brought it to community meetings it felt like we were being blamed especially when you looked at all those orange and red dots on the map. And you found that we ended up arguing amongst us and others would even walk away from the meeting. Over time continuing to talk about it made us realise that we were also a part of the issue and we needed to understand how to support each other and live safely as a community. Talking about violence also made us feel listened to as the whole team was there and we could reflect and how staff or us could work or treat each other to make sure the ward was safe'.

meetings and updates, the project prioritised patient views and experiences of change ideas and any progress. These meetings helped the teams analyse causes and antecedents of physical violence, use data to better understand timings and environmental factors related to physical violence and to adapt the change ideas to best suit the local context.

LESSONS & LIMITATIONS

Collaborative learning was a central strength to this project. Monthly meetings brought participants together to pause, reflect and sustain momentum. They served as a forum for reviewing progress and exploring feedback. The meetings allowed wards implementing and testing the change package to connect, learn, challenge perceptions of violence and build a collective understanding of why it occurs. The focus of these meetings remained such that they felt owned by the stakeholders. Service users thus added a fresh perspective by providing lived experience into why reducing violence and aggression matters to them. This ensured a fuller range of experiences was heard and discussed. Service users' presence imbued staff with confidence to work with them dynamically. The impact of inpatient empowerment to discuss safety openly as a community was another supporting factor that was difficult to measure. This was captured instead via video and shown at staff inductions and away days.

This project benefited from ELFT's established QI infrastructure. As such, it had an active and dedicated senior sponsor championing the work at monthly FVRC and project team meetings. An improvement advisor was assigned to provide coaching to ward teams. Project leads and ward-based team members were supported to attend QI training to get a deeper understanding of the improvement methodology. QI is a key element of Trust staff inductions. Staff in lead QI roles having had a familiarity with the work undertaken by colleagues elsewhere in the Trust using a similar change bundle was an advantage. All of these factors supported the organisation in generating staff buy-in, reducing resistance and in sustaining enthusiasm and momentum.

Constant communication with staff and regular celebration of project landmarks also helped to sustain enthusiasm and momentum. Staff at all levels were provided with background information and regular updates through internal communications and team meetings, notices and posters. New staff were introduced to QI at induction and supported to access further training courses and e-learning resources to facilitate getting involved as soon as possible. Wards took the initiative to celebrate three consecutive incident-free days thereby creating a community approach around a shared goal. In aiming for a more relatable goal, it was simpler to motivate both groups in building self-belief that safer wards were possible. The number of attendees at collaborative meetings increased and was sustained over time.

Staff described a cultural shift towards collaborative working with the inpatients. This helped to foster and maintain a sense of community whereby staff and service users alike were supported to take ownership in tackling violence together. Before this project, violence was not openly discussed between patients and staff. Blame and shame were often associated with it, and the responsibility for addressing the problem was heavily reliant on senior management input.

In terms of project limitations and considering the extent of this system of organisational support, its immediate generalisability within other forensic services may be limited. Additionally, the ELFT FVRC did not have full participation across the forensic service. Initially, several of the rehabilitation wards deferred joining on the basis their rates of violence and aggression were not significant enough to warrant such an intervention. As the project progressed, however, two rehabilitation wards at John Howard Centre adopted the change bundle driven by a need to capture incidents of aggression and sexual harassment. At ward level, sustaining the project was challenged by changes in QI support staff, a tendency to relapse into a traditional nursing handover at safety huddle, a tendency for safety huddles not to happen after an incident-free period and new or temporary staff not being familiar with the change bundle. Staff unfamiliar with the methodology sometimes questioned its legitimacy and this could undermine others' efforts and commitment. Wards with more frequent incidents described a sense of failure when they were unable to achieve a run of incident-free days. The clear operational definitions and regular support from QI staff were crucial in mitigating some of these issues.

In terms of the outcome measures, there may have been an element of observer-expectation bias on behalf of the data collector in the direction of under-recording incidents as the project progressed. Equally, such an effect may have led to increased levels of incidents being recorded in the early phase. In terms of the process measures, although records were maintained of the safety huddles and crosses, it was difficult to determine how well the huddles adhered to the designated format and how accurately safety crosses reflected ward events.

CONCLUSION

The overall collaborative was partially successful in achieving its stated aim. At an individual ward level, there was a greater degree of success. Reasons for this may include patient factors and reporting rate variation. Nevertheless, it brought significant improvements to the service in important areas for service users and staff that are difficult to measure and quantify. It brought a cultural shift towards openness and collaborative working around the sensitive issues of ward-based violence, aggression and sexual harassment. This fostered staff and service users to take ownership in tackling the issues together. Use of the interventions has been sustained: all wards in the John Howard Centre currently use the change bundle.

Additionally, this project led to formation of a local steering group to address sexual aggression and violence with plans for increased staff training and standardised support. In 2018, national strategic direction on this issue was published.[28]

This project demonstrated that a QI approach could be effective in reducing inpatient violence and aggression within secure care. The violence reduction programme at ELFT moved to full scale in 2018 when wards in Bedfordshire and Luton tested and implemented the safety culture bundle first developed in Tower Hamlets. At ELFT, QI has become integrated into the lives of staff and patients. Each project benefits from a framework ensuring support, advice, supervision and coaching. In developing change ideas, a key emphasis is placed on service user involvement and staff input. In order to progress to lasting transformational change, broad support from across an organisation is vital.

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