

From submarines to social care

Spreading capacity to support human factors approach to improve patient safety in the community setting

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Abstract

Background

Communication and team working is recognised to have significant impact on the quality and safety of services for patients. Human Factors are the non-technical knowledge and skills to support safer ways of working. These include teamwork, communication and leadership. An appreciation of the principles of human factors has been implemented into acute care services in recent years.

Our hypothesis was that there are several factors needed to deliver safe care across care settings, and that an appreciation of human factors was not as developed in community setting as in acute care.

Methods

The Health Foundation (2014) have identified that there is mixed evidence about the success of train-the-trainer approaches, however using a blended learning approach combining different techniques may best disseminate good practice to health and social care professionals. This could be due to practical learning styles, and also encourages a quality improvement (QI) approach using small scale tests of change.

Intervention

The key activities in the intervention were:

1. Recruit and select community providers to roll out human factors training within their workforce.
2. Host train-the-trainer sessions to train a faculty to learn how to deliver human factors training within local organisation.
3. Develop a toolkit with resources to implement human factors training within the organisation.
4. Community providers to carry out cascade training with members of staff, including supporting resources to embed into daily practice, and to report on implementation and impact to the project steering group.

Results

All activities in the intervention were completed.

1. Five out of six community providers took part in the programme.
2. 41 facilitators were trained through three sessions held February – April 2016.
3. Toolkit completed and launched at the train-the trainer sessions.
4. Cascade training delivered to 2,884 staff working in the community (against a target of 2,500 staff).

The target was to train 2,500 staff working in a community setting. The target audience was both Bands 1 – 4 and their supervisors. Initial baseline data suggested that the target of 2,500 represented 56% of the target audience and our hypothesis was that this would enable behaviours to be embedded in “the way we do things”.

In addition, 278 staff received training at other Patient Safety Collaborative events from across the healthcare system. The impact of the initiative has led to the five organisations planning to continue training post-April 2017 to sustain the improvements in staff performance and patient care through incorporating and embedding into other training courses, policies, processes and supportive structures.

Conclusions

Training community staff, particularly in Bands 1 – 4, in human factors has increased awareness of these factors and how they can affect performance. As a result, many participants reported in their evaluations that this changed their behaviour in the workplace. Training a faculty and providing resources (both physical training resources and funding) has increased capacity and capability in the provider organisations across the region. Training a faculty enabled them to adapt the training and adopt into local structures to ensure sustainability of the programme.

However, there were challenges in demonstrating the impact on patients using the service, data collection to demonstrate outcomes. Although some elements of the training package are generic to healthcare settings, others depend on using scenarios that are familiar to participants own work environment. Therefore, although the content and structure of training can be adapted, we learned it is important to ensure that scenarios are realistic and applicable to participants own area, and that interactive, engaging training sessions were successful and more enjoyable both for participants and facilitators.

Keywords: safety, culture, human factors, improvement, community, communication, teamwork, leadership

Introduction

Problem description

Communication and team working is recognised to have significant impact on the quality and safety of services for patients. The Care Certificate, following the Cavendish Review, specified standards for support workers (Bands 1 – 4) staff working in all settings.

Human Factors are the non-technical knowledge and skills to support safer ways of working. These include teamwork, communication and leadership.

“The principles and practices of Human Factors focus on optimising human performance through better understanding the behaviour of individuals, their interactions with each other and with their environment. By acknowledging human limitations, Human Factors offers ways to minimise and mitigate human frailties, so reducing medical error and its consequences.”¹

An appreciation of the principles of human factors has been implemented into acute care services in recent years.

Our hypothesis was that there are several factors needed to deliver safe care across care settings, and that an appreciation of human factors was not as developed in community setting as in acute care. Therefore, we planned to design and deliver an intervention to increase confidence in using human factors in a community setting.

Available knowledge

There is evidence that simulation and classroom based training can improve teamwork and communication skills, this in turn is associated with improvements in patient safety outcomes. The evidence also suggested that “bundled team-training interventions and implementation strategies that embed effective teamwork as a foundation for other improvement efforts may offer greatest impact on patient outcomes.”²

Following an initial pilot which demonstrated that training did increase knowledge and skills but that care needed to be taken to adapt materials to the community context and language, the next stage was to spread this intervention and disseminate the learning across the West of England region. There is mixed evidence about the success of train-the-trainer approaches, however using a blended learning approach combining different techniques may best disseminate good practice to health and social care professionals.³

Rationale

Train-the-trainer models involve experienced personnel showing less-experienced people how to deliver courses, workshops and seminars. This combines subject content knowledge with

¹ National Quality Board (2013)

² Weaver and Rosen (2014)

³ Health Foundation (2014)

facilitation/ training skills. Sometimes this is followed by observation of new trainers to provide feedback. This results in a trained faculty of staff who can teach the material to other people.⁴

As one of the aims of the programme was to develop a faculty to ensure sustainability of the programme, the Patient Safety Collaborative decided to adopt this approach in the community care setting with funding from Health Education England.

Specific aims

The intervention has three work packages. Following a pilot programme to develop and test the curriculum (Work Package 1), the next phase was faculty development to spread capacity in the West of England region. The aim was to train 2,500 staff in human factors by April 2017.

Figure 1 – Intervention work packages



The purpose of this report is to evaluate Work Package 2 – Faculty Development and delivery of training across the region.

⁴ Health Foundation (2014)

Methods

Context

About the West of England Academic Health Science Network

The West of England AHSN is delivering positive healthcare outcomes locally and nationally by driving the development and adoption of new innovations and making a meaningful contribution to the economy.

Established by NHS England in 2013, we are one of 15 AHSNs across England established to spread innovation at pace and scale.

As the only bodies that connect NHS and academic organisations, the third sector and industry, we are catalysts that create the right conditions to facilitate change across whole health and social care economies, with a clear focus on improving outcomes for patients.

About the Patient Safety Collaborative

The Patient Safety Collaborative is part of the AHSN work programme with the goal that: *by March 2019, everyone (patients and the public) in the West of England can be confident that care is safer for patients based on a culture of openness, collaboration, continual learning and improvement.*

Our priorities fall into two main themes: the deteriorating patient incorporating the National Early Warning Scores (NEWS), Sepsis, Emergency Department Checklist and the Emergency Laparotomy Collaborative; our second theme is about collaborating with the community, where we are leading several collaborative programmes including primary care, medicines safety, community providers and mental health.

Patient Safety Collaborative aims to:

- promote understanding and use of **measurement**, agree shared metrics for safety and use data to drive improvement.
- develop relationships between stakeholders encouraging network development and **collaboration** to share learning and commitment to action.
- develop **capability** through our Academy programme for Improvement Coaches and masterclasses, and create a virtual network through Q asset mapping.
- increase **awareness** and promotion at all levels of patient safety as a priority so that all organisations have a shared understanding of common purpose of patient safety.
- promote a **culture** of openness, person-centeredness and clinical effectiveness.
- create an **infrastructure** for innovation, sharing, adoption and spread.

Community services

Community provider organisations provide a range of services including community nursing and therapy services, rapid response and discharge support, services for people with learning difficulties, intermediate care, assessment and treatment services, palliative care, podiatry, care for people in extra-care homes, prison healthcare, specialist nursing services, services for asylum seekers and the homeless, wound care, and urgent care services.

Community provider services are commissioned by CCGs for a contract length (e.g. 3 or 5 years) following a tendering process. Some services are retendered at the end of contract. Other services are commissioned under “any willing provider” model. This means that community provider organisations are in competition with each other for contracts.


Community services were provided by Primary Care Trusts until the commissioner-provider split separated services into “spun-out” organisations. Because of regions adopting different spin-out models here is a mixed economy of providers in the region including community services hosted by NHS acute providers, social enterprises and community interest companies. Some organisations cover both health and social care, and others are more health focussed.

Summary of findings from evaluation of the pilot

The curriculum was developed by Sirona Care and Health and North Bristol NHS Trust based on how teams communicate, using communication tools such as SBAR to develop a baseline awareness, which is built upon and embedded during the training using scenarios. These scenarios were co-designed by the programme lead and service user representative to reflect realistic scenarios that staff might encounter.

Figure 2 – SBAR Information Tool

SBAR Information Tool



S	Situation – patient’s /client’s details, identify reason for this communication, describe your concern
B	Background – relating to the patient/ client, significant history, this may include medications, investigations/ treatments
A	Assessment – what is your assessment of the patient/ client or situation, this can include clinical impression/ concerns, vital signs/ early warning score
R	Recommendations – be specific, explain what you need, make suggestions, clarify expectations, confirm actions to be taken

The initial phase of the pilot was to work with three teams (health visitors, learning difficulty day services, and extra care) to develop the training package and scenarios. Following this first PDSA (plan do study act) cycle, the training was adopted into induction for all new starters. This is in two parts – an introduction delivered by one of the service users, and a day-long training session for Bands 1 to 4 staff looking at human factors in more depth.

In developing this intervention, consideration was given to adapting the language of SBAR and ensuring the relevance of scenarios for the community context; where handover could be occurring between un-registered and registered staff, and from administrative (non-clinical) to clinical staff. A further contextual factor is that community providers do not just provide health care, but also social care, where there are different terms and contexts for communication. For example, the term: “patient” is used less in social care and “service user” or “client” are more commonplace.

Therefore, although training resources and approaches exist from secondary care, the language of these needed to be adapted to reflect the community context.

Educational models for adult learners consider the needs of adult learners and therefore the educator needs to take a facilitative rather than didactic approach. Adult learners take responsibility for their own learning, and learn best through an experience-based approach.⁵ Active learning – i.e. learning by doing, taking part in role-plays, simulations and practicing techniques in a model setting – is a better approach than learning by listening – i.e. lectures, presentations and discussions. There is evidence that after 3 months, only 10% of material is retained from learning by listening, compared with 70% who learn from doing and participating.

With all learning, there are challenges to retention and transfer. To maximise both, ensuring the intervention translates to behavioural change in the workplace, learners will be supported through feedback and coaching when back in the workplace. The distributed nature of the workforce in health and social care, with many working on their own in people's homes, is different to the workforce in a hospital who may be strongly affiliated to a ward or team environment.

Interventions

Team involved in the work

The West of England Patient Safety Collaborative Board has a Board representative from all member organisations (CCGs, acute and ambulance trust, mental health and community providers) as well as public contributors. A steering group was formed to oversee the design and delivery of the programme.

Description of the intervention

The key activities in the intervention were:

1. Recruit and select community providers to roll out human factors training within their workforce.
2. Host train-the-trainer sessions to train a faculty to learn how to deliver human factors training within local organisation.
3. Develop a toolkit with resources to implement human factors training within the organisation.
4. Community providers to carry out cascade training with members of staff, including supporting resources to embed into daily practice, and to report on implementation and impact to the project steering group.

The anticipated benefit of the programme was to support the parallel programme within the AHSN to “recognise and respond to the deteriorating patient” to ensure that community staff had the skills and confidence to escalate deteriorating patients using structured communication tool SBAR.

Study of the interventions

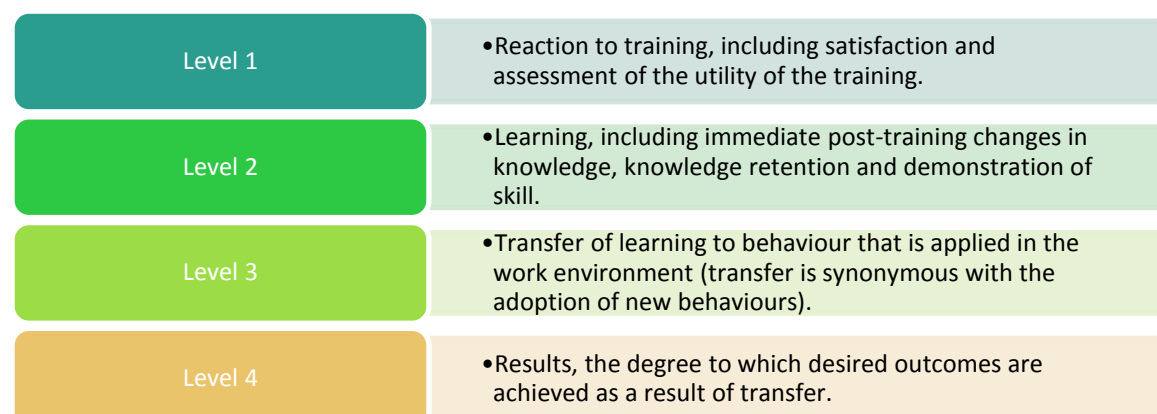
Data collection, including baseline data, was a challenge in the pilot stage. Although the hypothesis of the project design team is that human factors training can improve patient experience, safety, communication, team working and staff morale, there are difficulties in measuring these factors. The

⁵ Newman and Peile (2002)

complexity of the factors at play in the environment mean that it is difficult to assess impact in terms of correlation or causation.

Therefore, when planning the spread of the intervention, consideration was given to how to collect data on impact of the intervention. The curriculum for the train-the-trainer day included training on the Kirkpatrick model to enable attendees to consider how to evaluate the effectiveness of their training in their setting.⁶

Figure 3 – Kirkpatrick model for evaluating training



Measures

The following measures were identified for studying the intervention.

Process measures	Number of sessions held by month by provider
	Number of attendees split by Bands 1 – 4/ supervisor by month by provider
	Number of public contributors involved in training delivery
Outcome	Impact measures defined by each provider. Narrative stories of impact for participants and patients gathered through the project. Pre-training, post-training (on the day) and post-training (12 months) data was collected on the train-the-trainer sessions.

To ensure completeness and accuracy of data, data was collected through monthly monitoring reports, and a validation exercise run at the end of the project where all providers validated their data to ensure accuracy and completeness.

Analysis

Data collected through the measures is both qualitative and quantitative. Where there are small numbers involved, analysis is limited to count rather than using any percentage analysis, and median/ maximum and minimum summary measures will be used.

Freetext qualitative responses are analysed using word frequency (through word clouds) and coding of freetext response either by theme or whether responses are positive/negative/neutral, as relevant.

⁶ Kirkpatrick and Kirkpatrick (2013)

Ethical considerations

All organisations participating were asked to confirm that they were aware that funding was contingent on collecting monthly monitoring data and carrying out evaluation activities, and gave their consent to share quotes, photos and stories with the West of England AHSN.

Results

All activities of the intervention were delivered.

1. Recruit and select community providers to roll out human factors training within their workforce.

There are six community providers in the West of England AHSN region. Five providers submitted bids against a funding pot of £100,000. Therefore, there was not full coverage across the West of England region.

2. Host train-the-trainer sessions to train a faculty to learn how to deliver human factors training within local organisation.

41 facilitators were trained in three sessions held February – April 2016.

Attendees were identified by provider organisations, who booked attendees onto training. Preparation information was sent out one week before the session including pre-reading if attendees were new to the topic area of human factors. Hard copies of the toolkit were provided to attendees during the session. Follow-up information was sent out a week after the session including link to all training materials.

The agenda for the day was structured around learner needs following the topic outline:

1. Welcome and Introductions
2. Human Factors review
3. Sirona experience
4. Evaluation
5. Teaching tips and formats
6. Stations – toolkit, video, exercises, case studies
7. Group work in organisations for action planning

The teaching style aimed for variety in teaching styles, with a range of exercises, to model good practice and provide attendees with examples that they could use in their own sessions.

Figure 4 – Overall rating of train-the-trainer session

	Excellent	Good	Ok	Poor
39/41 respondents	27	12	0	0

Attendees were asked to rate their current knowledge of human factors on a scale of 1 – 6 (1=poor, 6 = excellent) prior to training, at the end of the training day, and after 12 months.

Figure 5 – Assessment of learning

	Average
Pre-course questionnaire (n=39)	2.73
How rate knowledge now (n=39)	4.80
Increase in knowledge	2.07
12-month evaluation (n=18)	4.79

Analysis of free text comments on the day:

- Attendees commented positively on the variety of the different activities and the interactive approach (18 responses), and the day (14 responses). Attendees were also positive about the

trainers (12 responses) and resources/ content (8/7 responses). Therefore, the structure, content, and approach appear to have worked well.

- The main messages that attendees stated they took away from the day were communication (10), human factors (10) and SBAR (9). Some attendees (6) stated their key learning was related to teaching, and there was 1 response each for QI, evaluation, and the value of patient stories. All attendees had an increase in their knowledge in the subject after training. Retention of knowledge is something to evaluation as part of the follow-up forum in June.
- Some attendees stated that they would have liked more information on human factors in advance of the session – there was a variety of prior knowledge in the room and although resources for more information on topics are signposted in the session and toolkit this is an area to improve.

Quotes from attendees:

“Loads of support, feel confident about what we are doing” – Participant in train-the-trainer

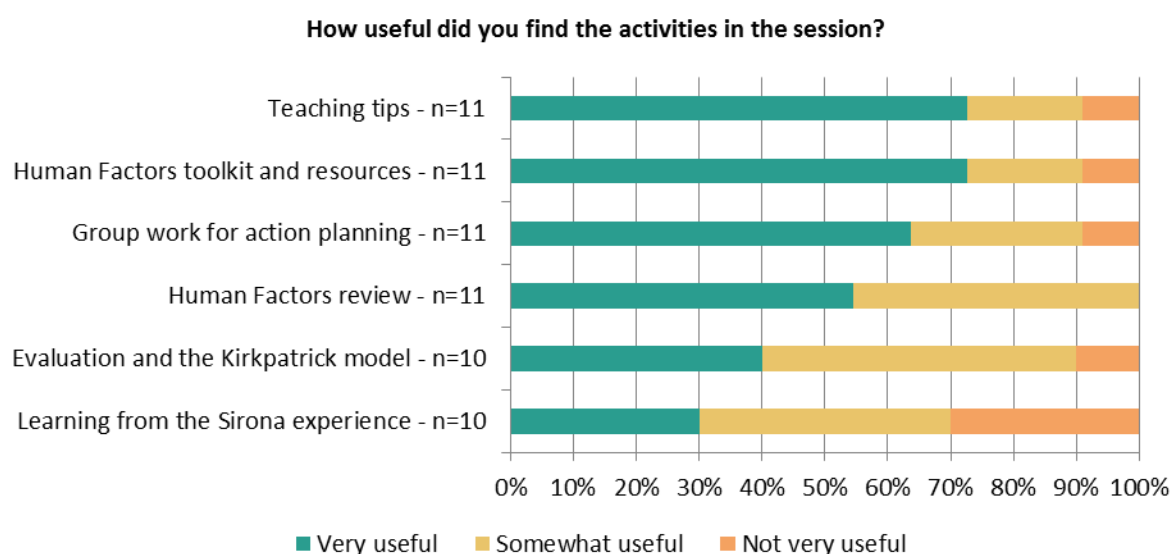
“This course has given me more confidence to roll out the SBAR training recognising how this can be implementing in my team’s everyday workload to improve communication” – Participant in train-the-trainer

“Excellent day, great facilitators, very fun and interactive” – Participant in train-the-trainer

After 12 months, attendees were surveyed to identify their learning and how useful they had found the different components of the training and toolkit.

18/41 attendees completed the evaluation survey. Attendees were asked what key message they took back to the workplace from the session and these covered the range of topics in the sessions: situational awareness, structured communication, SBAR, and emptying the stress bucket, as well as training approaches using different training media.

Figure 6 – Rating of usefulness of the session



15/16 respondents stated they had been able to use the training since the course (2 left response blank).

Those who had put the training into practice found the following aspects of the training most valuable: resources including toolkit, videos and exercises (5 responses), being able to put knowledge into the human factors framework (3 responses), and variety of teaching techniques (6 responses).

Respondents were asked “what could have made the train the trainer sessions event better?” – 7 respondents stated “nothing” or that the session fulfilled their needs. One respondent suggested the session was longer as there was a lot to cover. Different attendees came with different levels of prior knowledge, and so this may indicate more consideration of preparatory material to get those who are less familiar up to speed.

Several respondents commented positively on the enthusiasm and approachability of the trainers.

3. Develop a toolkit with resources to implement human factors training within the organisation.

Based on the Sirona pilot, the West of England AHSN steering group developed a toolkit of resources for organisations in the following formats:

Figure 7 – Page views of resources

	Page views / Video plays 01/01/2016 – 30/03/2017
A. Human factors webpage on West of England AHSN website http://www.weahsn.net/human-factors/	563 page views
B. Hard copy toolkit with resources, provided to attendees of the train the trainer session, available online at http://www.weahsn.net/wp-content/uploads/SBAR2016_FULL_00.pdf.pdf	Download data not available 41 copies provided to attendees of training
C. Step-by-step guide with links to relevant resources available online at http://www.weahsn.net/human-factors/step-by-step-guide-human-factors/	137 page views
D. Patient story http://www.weahsn.net/news/stephens-story/ E. Linking to video produced by Sirona Care & Health	131 page views 255 video plays
F. Facilitators’ handbook with information specific for facilitators: http://www.weahsn.net/human-factors/step-by-step-guide-human-factors/facilitators-handbook/	63 page views
G. Page collecting all videos used in training as a resource for facilitators: http://www.weahsn.net/human-factors/step-by-step-guide-human-factors/human-factors-training-videos/	15 page views
H. Safety climate questionnaire and results spreadsheet to analyse http://www.weahsn.net/human-factors/step-by-step-guide-human-factors/safety-climate-questionnaire-instructions/	13 page views
I. Help! video produced by Sirona Care & Health and West of England AHSN https://vimeo.com/207630363 launched March 2017	76 video plays (01/03/2017 – 30/03/2017)

Attendees were asked after 12 months what they found most helpful about the human factors toolkit: the resources (6/10), lay out/ easy to read (2/10), able to share with others in team (1/10) and good starting point for developing local training (2/10).

“I have embedded this approach in all teaching and interactions.” – Participant in train-the-trainer

“This has been a very good experience for myself and from feedback form staff we have introduced to this.” – Participant in train-the-trainer

Suggestions for improvement including different format to organise information (1/7) and including scenarios (1/7). 5/7 respondents stated that there were no changes needed.

4. Community providers to carry out cascade training with members of staff, including supporting resources to embed into daily practice, and to report on implementation and impact to the project steering group.

Figure 8 – Word cloud of training topics and organisations involved

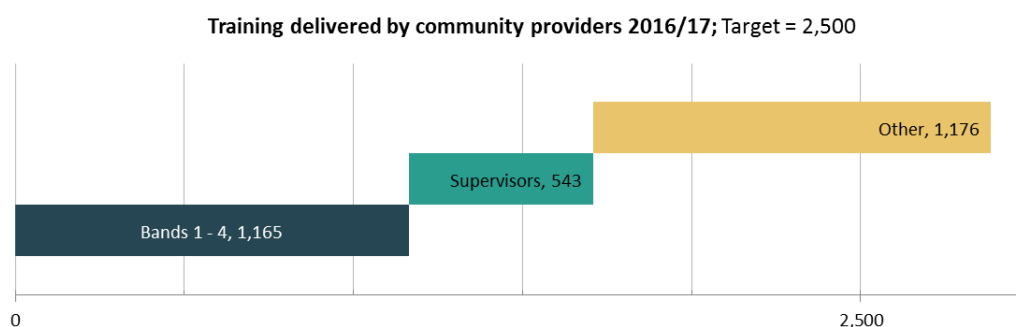


The target was to train 2,500 staff in human factors working in Bands 1 – 4 and as their supervisors (56% of target audience).

During the roll-out community providers found it was better to train staff in combined sessions rather than separate out into Bands 1 – 4 and supervisor sessions, and incorporate into other training. Unfortunately, providers did not separate out these attendees into their bands – and reported that capturing all attendees together made data collection easier.

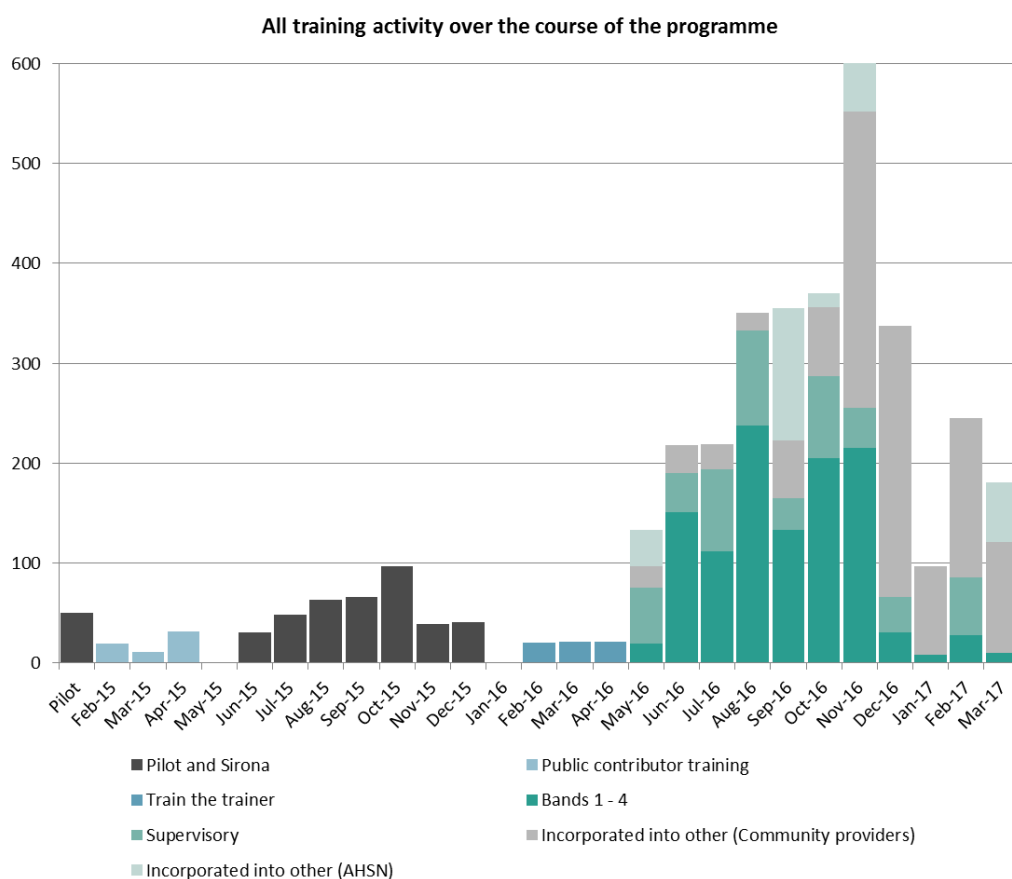
Therefore, we are unable to directly compare back to the target training audience proportions at the start of training. However, based on information provided, at least 60% of staff working in Bands 1 – 4 received training in human factors through the roll-out, and 2,884 staff received training in 2016/17 delivered by community providers.

Figure 9 – Training delivered by community providers 2016/17



In addition, the West of England AHSN incorporated human factors training into other aspects of the Patient Safety Collaborative programme, reaching an additional 278 staff inside the West of England AHSN region. A poster on human factors was presented at the Bristol Patient Safety Conference (2016, 170 attendees) and a presentation given to 14 participants at the Clinical Human Factors Group conference in Oxford in October 2016. One organisation produced a video summarising their training day (available at <https://youtu.be/baOSc1Xd1JM>) and this has had 133 views (31 March 2017).

Figure 10 – All training activity over the course of the programme



Reviewing all training carried out over the course of the programme we can see that most training activity in community setting both in the pilot and the roll-out occurred in autumn. This appears to be an optimal time for training as it is outside of the main holiday periods and the operational pressures of winter/ bank holidays.

Many of the organisations have planned to continue training post-April 2017 through incorporating into other training courses particularly preceptor training for newly qualified registered staff, induction programmes, and annual updates for resuscitation / deteriorating patients/ manual handling. The videos will be incorporated into other training sessions on patient safety, and some organisations will continue to promote through social media, and through incorporating into policies and processes, e.g. incident reporting, observation charts, and root cause analysis. Organisations have produced SBAR notepads given out at training and restocked on request. One organisation had provided 600 notepads to teams.

Several organisations are now rolling out training to care home staff through their care home support team, alongside the deteriorating patient and NEWS, and a bespoke care home edition of the toolkit has been produced to support this.

Several tools were provided for organisations to use to collect data on outcomes and impact. The most popular tools were pre- and post-training surveys, and using the “ask 5” tool. “Ask 5” involves asking five people five questions with a yes/no answer and then tracking how this changes over time by measuring at a monthly interval (or more frequently).

Organisations provided a wealth of qualitative and quantitative data on impact on organisations, participants and patients. The following summarises some themes and headline statistics from organisations.

Impact on organisations/ teams

Organisations were asked to assess impact on their organisations/ teams.

“Staff felt the training allowed them to consider human factors as part of their role and the impact this would have on their and the team’s ability to perform their job effectively.” – Organisational lead

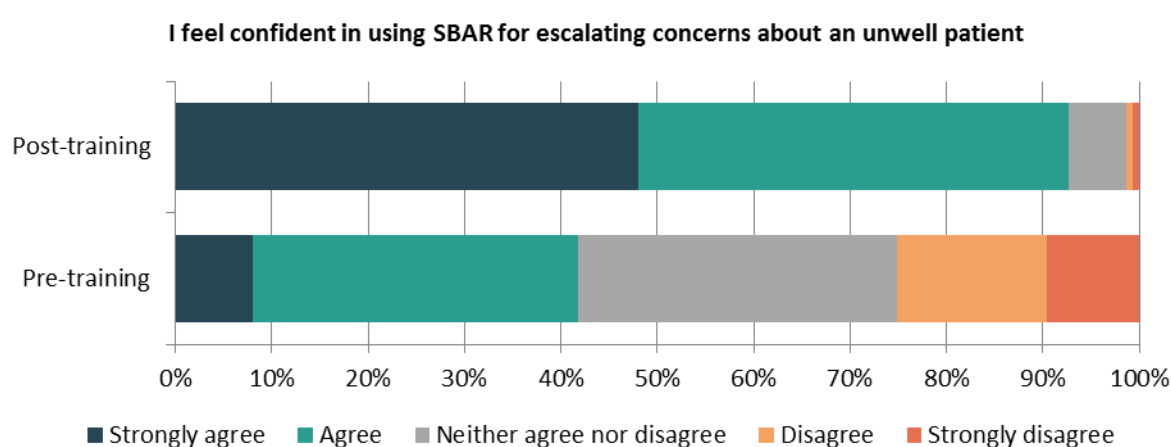
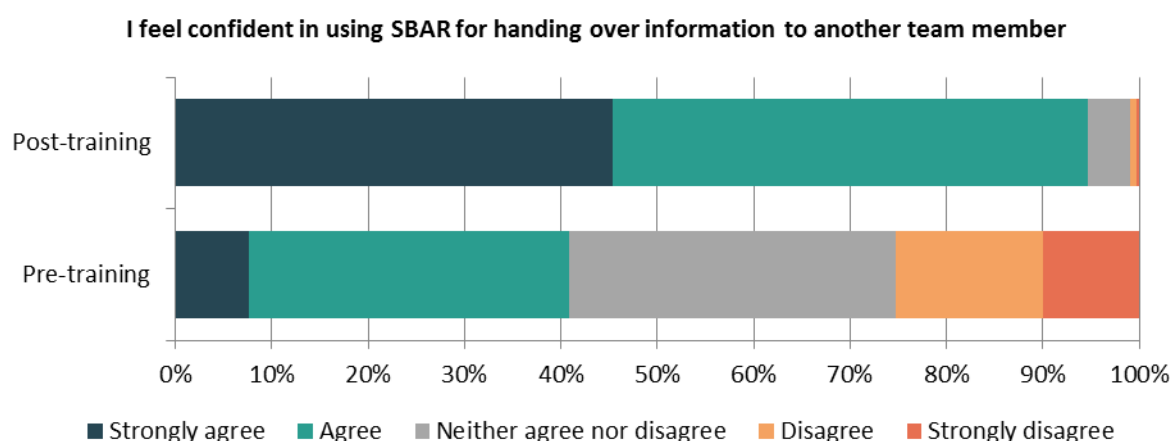
As training progressed during the year more people were reporting a “yes” to the question had they heard about SBAR structured communication, ... so the knowledge had increased; “had you experienced anyone giving you a handover or escalating using SBAR” numbers stayed the same, however “had you given a handover or escalated a concern” this did increase during the programme.

“We have also been capturing the number of incidents that are SBAR’d and on review ... over 30% are being reported in this format for the January 2017 submission. This is supported in the number of times it is referred to in the evaluation forms that personnel could see it being useful in incident reporting.” – Organisational lead

Impact on individuals

Percentage of staff who would recommend SBAR as a communication tool to a colleague – 79%

“Extremely valuable – every healthcare professional should attend this training” – Participant in community training



From review of the evaluation sheets here is a flavour of some of the feedback received:

“I will use SBAR in my handovers and also team handovers.” – Participant at community training

“Use of SBAR is an excellent way of communication I think all staff should attend this training.” – Participant at community training

“Made me reflect upon on when things go wrong and how these can be avoided and learning from human factors.” – Participant at community training

“Improved communication (I've stopped waffling!) As a result of being more concise, I'm having more positive outcomes from a variety of tasks.” – Participant at community training

Attendees said they would share learning with colleagues. Some attendees wanted more in-depth on human factors and so it could be that this acts as a taster session to more in-depth training or further study. There were some comments about the training venue and access to venues – generally attendees valued time away from their working environment to reflect and network with peers but travel time was a barrier for some to attending.

Impact on patients/ service users:

Percentage of staff who have changed the way they work because of the workshop – 53%

How will you apply what you have learned to your work situation? Key themes in freetext include SBAR, being more mindful of communication and listening more, better management of pressures/stress, and better understanding of colleagues, patients and their families.

“Thought that I was a good communicator and facilitator but the training has made me far more reflective and self-aware. It is easy to become a little ‘blind’ to the bigger picture when you are under stress and busy but the value of the principles have been invaluable.” – Trainer

“Allowing a whole day for these events, gave everyone time to stop, listen, evaluate and really consider how we go about our daily business and the improvements we can make. They also emphasised how something as simple as a friendly greeting, or opening a door for someone, can make such a difference to a person’s day” – Participant in community training

Discussion

Project leads met after the project to celebrate meeting the target training numbers (with cake provided by the Patient Safety Programme Director) and share their thoughts on the project.

Benefits of the project identified by the project leads include providing a way in to meet with non-clinical staff and provide training to them outside of the induction/ mandatory training packages. This led to other benefits, including staff reporting they felt more valued and non-clinical staff seeing themselves as part of the whole organisational team. The sessions provided a workforce working across a wide geographical area, shift patterns and teams to meet and there was a real social buzz in the room between attendees at the community sessions. Some only knew each other from email / telephone contact so could “put a face to the name.” This provided a route for other communication and training. Project leads saw SBAR and human factors language becoming more natural and every day, and SBAR being used in a variety of settings, e.g. in HR for enquiries and payroll queries.

A wider benefit from the project was that it had created relationships across the organisations between project leads that were able to learn and share from each other.

Although this project was targeted at Bands 1 – 4, and one of the aims of the project was to bring training to this group, who traditionally receive less training than clinical staff and those in higher bands, this was both valued but also presented a challenge. Most of the project leads commented that it would be better to involve more staff from the wider team earlier on, including staff at all levels in the training, including senior leaders.

Some of the star moments for project leads included: seeing “resistant people having lightbulb moments” and human factors now being “used by senior management to frame new initiatives.” One project lead commented it had “influenced the way we train” through making training more fun using games and more interactive activities.

The group discussed how valuable the pilot phase had been in developing and testing materials and approach and thanked Sirona Care and Health and North Bristol NHS Trust who had carried out the pilot.

Project leads shared resources and activities that had worked for them, including the game Dobble as an ice-breaker with more resistant groups, and “A load of balls” exercise for workload, stress, teamwork and communication. The need for resources with more modern cultural references was discussed, particularly for apprentices and newly qualified staff. The need for human factors and

SBAR to be introduced into the curriculum for new staff through Health Education England was highlighted.

In terms of learning from delivering the training, the following issues were discussed:

- The need to recruit the right patient representative and their story. Patient representatives were a valued part of the project, and telling their story was powerful. However, in some groups staff became defensive in response, and so careful framing was used the next time that story was used to understand that it was an individual's perspective on their care, and that this perspective was their truth.
- Some activities and videos used created emotional reactions in attendees and facilitators.
- Each organisation tailored scenarios to their area. This worked well. Using non-clinical examples that were common to anyone (e.g. running late for a commitment) and other everyday situations when first introducing tools helped to demystify them and show that they can be applied into any situation involving escalation or handover.
- Having data was helpful to provide evidence to senior leaders, and the need for more baseline data measurement was discussed.
- Some people found the title "Human factors" confusing, however others found it intriguing and wanted to find out more.
- One issue which was in common in a couple of organisations was that allied health professionals particularly therapists use SOAP (Subjective-Objective-Assessment-Plan). Project leads need to be prepared for a conversation about how SOAP and SBAR work together: SOAP is an *assessment* tool for written documentation and SBAR is a *verbal communication* tool for handover and escalation to transfer information.

If we were doing the project again, project leads suggested getting wider contacts involved earlier on, through attending the train-the-trainer so they could identify opportunities for spread in their area, e.g. practice nurses and care home support teams.

The next steps discussed at the closure meeting included:

- **Spread** – to different target groups in health (care homes, single point of access teams, practice nurses, primary care).
- **Spread** – to different target groups outside of health (police, council and voluntary partners).⁷
- **Sustainability** – follow up training to consolidate learning, further training in human factors (as level of training was broader awareness raising).

Overall project leads had found the project and support from the AHSN valuable to implement in their organisation.

⁷ East Midlands AHSN have implemented SBAR-D for communication with police http://emahsn.org.uk/images/SBARD_NHS_and_police_communication_tool_card.pdf as well as a card for carers to use in communicating concerns to healthcare staff http://emahsn.org.uk/images/Section_4_-_How_we_are_making_a_difference/Patient_Safety/SBARD_postcard_-_carers_and_family_FINAL.PDF

Discussion

Summary

Our project has identified that training on human factors, including structured communication, situational awareness, and factors that can affect human performance is an area of need in the community setting, and participants who received training found it very valuable to reflect on their behaviour in the workplace. Using the train-the-trainer approach increased skills and knowledge in subject content matter in each organisation to create a faculty of trained staff who could embed human factors approaches into other training, processes and supportive structures within their own organisation.

The strengths of the project are that it has developed a suite of materials including the training content, resources and toolkit which can be adapted into other contexts. These are open-access available at www.weahsn.net/human-factors

Interpretation

Based on the responses, the content and approach of the train-the-trainer package appeared to be well received, achieved an increase in knowledge which is sustained 12 months later, and prepared attendees to roll out training in their organisation.

However, the responses also reported on the personal skills of the facilitators being a contributory factor to the success of the session, and so careful selection of facilitators for running these sessions is a factor to consider when spreading this approach.

Based on the response the toolkit approach with easy-to-read content, links to resources (particularly videos) was valued by participants, however based on the page views, more could be done to promote some of the resources available, and there could be other ways to structure the online information to make it easier to access content.

However, there were challenges in demonstrating the impact on patients using the service, data collection to demonstrate outcomes. During the roll out providers found it was better to train staff in combined sessions and to welcome all participants rather than segregate by band.

During the period of Phase 2 there were some changes in the commissioning landscape for community service provision in the region due to retendering of services. Some individuals involved in the project changed roles and this affected some organisations in their roll-out.

The human factors training package has been an enabler of the Patient Safety Collaborative deteriorating patient work stream and capitalising on these opportunities as they arose enabled more staff to be trained outside of the original target audience.

Limitations

Although some elements of the training package are generic to healthcare settings, others depend on using scenarios that are familiar to participants own work environment. Therefore, although the content and structure of training can be adapted, it is important to ensure that scenarios are realistic and applicable to participants own area. Consideration should also be given to the facilitators of the train-the-trainer sessions to ensure they are modelling the behaviours that they are training, as this is a crucial factor to success of those sessions.

Organisations involved collected a wealth of data both qualitative and quantitative on the implementation of the intervention. Each organisation was encouraged to develop their own measures of success to meet organisational priorities. Each organisation also chose its target audience and method of delivery of training. This has meant that it has been difficult to comparatively analyse the organisations' delivery and impact. Therefore, this evaluation report highlights key themes for learning.

The content of the training was pitched at a broad level and provided an overview of several topics in the human factors realm. By focusing on communication, teamwork and leadership, this meant that other aspects of human factors, particularly ergonomics, were not able to be covered in any depth in the sessions. Some aspects of ergonomics were incorporated into training content, although this was not the focus.

Conclusions

Training community staff, particularly in Bands 1 – 4, in human factors has increased awareness of these factors and how they can affect performance. As a result, many participants reported that this would change their behaviour in the workplace. Training a faculty and providing resources (both physical training resources and funding) has increased capacity and capability in the provider organisations across the region. Training a faculty enabled them to adapt the training and adopt into local structures to ensure sustainability of the programme.

The evaluation of the Patient Safety Collaborative work in primary care has identified a gap in the system for human factors training in primary care. In addition to this, the AHSN have been approached by several voluntary sector organisations in the West of England to deliver our human factors training to them as their staff work in and around patients' homes and often face many of the same issues normally associated with community services staff.

As identified in the independent report by the Commission on Education and Training for Patient Safety, the principles of human factors must be embedded across education and training. This was further highlighted in the recently published national framework "Developing People – Improving Care" which highlighted the need to ensure all leaders across all systems including primary, secondary and community care have access to the knowledge and skills they need to lead improvement. Although an awareness of human factors is now more routine in secondary care, and community providers through this project, primary care remains a gap in knowledge and skills across the system. To take the learning from the human factors project further we have trialled "human factors for primary care" resources with the first cohort of our Primary Care Collaborative: 14 primary care practices from across the West of England.

Other information

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Ethical approval: This evaluation is for operational improvement activities and therefore exempt from ethics review.

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Appendix 1 – Evaluation of Pilot

From submarines to social care

Building capacity to support a human factors approach to improve patient safety in the community setting

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SITUATION

One in ten people are affected by medical error. Not all errors lead to harm, and not all harm is due to error. An adverse event is an unintended injury caused by medical management rather than the disease process.

There are three common factors in the majority of adverse events: medical complexity, system factors and human factors. Common human factors that can increase risk include: mental workload, distractions, the physical environment, physical demands, device/product design, teamwork, process design.

This is why our aim within the Human Factors programme is to develop the non-technical skills to support safer ways of working – these include teamwork, communication, leadership and an awareness of human factors when designing systems and processes. 80% of incidents are as a result of human factors.

Communication and team working are recognised to have significant impact on the quality of safe services for patients. Following the Cavendish Review¹, the Care Certificate² specified standards for support workers (Bands 1–4) working in all NHS and social care settings.

BACKGROUND

Although an appreciation of the principles of Human Factors has been implemented in acute care services in recent years, it has been found that training packages and resources are less applicable to the community health and social care context.

Health Education South West has therefore funded the West of England AHSN to develop an intervention using the SBAR tool (situation, background, assessment, recommendation)³ to support Human Factors training in patient safety focussing on support workers in community settings.

The curriculum for this training was developed by Sirona Care & Health and North Bristol NHS Trust. It is based on how teams communicate and uses communication tools such as SBAR to develop a baseline awareness, which is built upon and embedded during the training using different scenarios. These scenarios were co-designed by the programme lead and service user representative to reflect realistic scenarios that staff might encounter.



Fig 1. Word cloud of curriculum topics and organisations involved

Our hypothesis was that there are a number of factors needed to deliver safe care across care settings, and that an appreciation of human factors was not as developed in community setting as in acute care. Therefore we planned to design and deliver an intervention to increase confidence in using human factors in a community setting.

There is evidence that simulation and classroom based training can improve teamwork and communication skills, this in turn is associated with improvements in patient safety outcomes. The evidence also suggested that "bundled team-training interventions and implementation strategies that embed effective teamwork as a foundation for other improvement efforts may offer greatest impact on patient outcomes"⁴

Download the toolkit at www.weahsn.net/human-factors-toolkit

Watch Stephen's Story online at <https://youtu.be/wO4bRij0IQ>

Funding. Health Education South West funded the West of England Academic Health Science Network to support human factors in patient safety as part of a two-year programme.

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Fig 5 (right) Photos from Gloucestershire Care Services and Wiltshire Health & Care training sessions



ASSESSMENT

Contextual factors considered in designing the intervention include:

- community setting;
- language for working in a mixed health and social care setting;
- social enterprise setting;
- needs of adult learners with a variety of educational backgrounds and qualifications.

Success came from embedding the intervention into existing structures rather than creating a new mechanism for content delivery. This is something that was recommended for roll-out, along with engaging Bands 5-7 in the same language so teams are using the same system for communication.

S	Situation: patient's / client's details - identify reason for this communication, describe your concern
B	Background: relating to the patient / client, significant history - this may include medications, investigations, treatments
A	Assessment: your assessment of the patient / client or situation - this can include clinical impression, concerns, vital signs, early warning score
R	Recommendations: be specific - explain what you need, make suggestions, clarify expectations, confirm actions to be taken

Fig 2. SBAR card used to support students to put learning into practice

RESULTS

In August 2016 we reached the milestone of over 1,000 staff being trained through the roll out in addition to the 435 staff trained in the pilot in Sirona.



Fig 3. Human factors number of staff trained

In conclusion, training Bands 1–4 staff working in the community setting increased knowledge and skills for staff who attended training. Challenges faced in delivering this intervention include collecting data on outcomes and impact, and the different "languages" used by health and social care workers working together in this setting. These factors were incorporated into the train the trainer session and toolkit for roll-out.

Future developments include adapting the model for particular groups, e.g. children/parents, elderly or disabled people and their carers and working with voluntary sector.

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