NHS
Mersey Care
NHS Foundation Trust
Community and Mental Health Services

# PARTNERSHIP FOR PATIENT PROTECTION (P4P2)

## VIOLENCE REDUCTION PROJECT

# EVALUATION REPORT

**MARCH 2018**

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## EXECUTIVE SUMMARY

The Partnership for Patient Protection (P4P2) is an international collaboration with The Risk Authority (TRA) Stanford and several other healthcare providers in both the UK and US. It pairs together leading edge software and design thinking methodology to identify and mitigate key clinical risks. Service user assaults on members of staff in the Specialist Learning Disabilities division was selected as a focus for Mersey Care owing to the frequency of incidents, and the division's outlier status in both NHS Benchmarking Network and NHS Protect's published figures.

The approach was piloted separately on both male secure (cohort 1) and female secure (cohort 2) wards, with the former aiming to strengthen preventative strategies in PBS plans – through enhanced de-escalation training and development of a *summary* PBS plan to facilitate rapid sharing – and the latter seeking to implement restorative practice subsequent to all reported assaults.

The project set out to achieve a 32% reduction in reported incidents of assault against members of staff within a two year period, and exceeded this with an overall reduction of 50% on conclusion of the pilot; cohort 1 interventions appearing likely to have achieved greater impact than cohort 2.

Interventions achieved credible levels of acceptability with 90% of delegates rating de-escalation workshops as beneficial to practice and achieving their objectives. Summary PBS plans were quoted as "1,000,001% better [than the full PBS plan]". Formal evaluation of restorative practice did not prove possible, although anecdotal reports indicate both staff and service users found it to be a positive and beneficial experience where restorative meetings had proved possible to facilitate. The inpatient survey report reflects a slight upward trend on relevant items over the course of the pilot.

The project also contributed to improvements on a number of other indicators. An increasing trend of work-related sickness absence flattened in the post-implementation period and staff turnover also appears to have reduced. The Return on Investment (ROI), completed in conjunction with TRA Stanford, indicated a range of 99% to 252% with the most likely return being in the region of 203%. It's important to note, however, that other outcomes – most notably reduced length of stay – were not achieved, and so the figures must be treated with caution.

The report concludes with a recommendation to the divisional leadership team to roll out summary PBS plans across all clinical areas, and adapt and embed de-escalation training into the mandatory training programme; embedding them both as integral components of the Reducing Restrictive Practices programme. There is also a recommendation to discontinue restorative practice as a formal project intervention and instead seek more informal and opportunistic ways to embed the practice.

## 1. INTRODUCTION

In the latter part of 2015 Mersey Care NHS Foundation Trust[1] embarked on a unique collaboration with The Risk Authority Stanford (TRA Stanford). The Partnership for Patient Protection, or P4P2 as it is known, is an international programme which pairs together leading edge software and 'design thinking' methodology to identify and mitigate key clinical risks within an organisation. On commencement of the programme, a series of risk-related data sets (i.e. Datix and Ulysses incident reports, claims, complaints, and root cause analyses) spanning the previous five years were submitted to TRA Stanford and analysed using their proprietary software, Innovence Pulse. Based on the output report, the expectation was that each division would select one of the key risk areas identified and utilise design thinking to develop appropriate mitigations, which could then be piloted during the course of 2017 so as to test effectiveness and inform future decisions regarding the potential for scaling across other areas.

This report describes the pilot phase of the violence reduction project which was subsequently implemented within the Specialist Learning Disabilities division; under the oversight of the project team including Dr Tim Riding (Associate Director), Dr Arun Chidambaram (Deputy medical Director), Susan Wrathall (Deputy Chief Operating Officer), Fran Cairns (Senior Operational Manager), Dr Paul Withers (Head of Psychological Treatment Services), and Joanne Bull (the then Head of Governance). It starts with an explanation as to why this particular risk area was selected, before moving on to describe the methodology of design thinking in general terms with a more specific account of how it was applied within the current context. Interventions developed during the pilot phase of the project are outlined, before their impact is considered – both in terms of the frequency of reported incidents *and* on a range of other measures. Issues of scalability are then considered, and the report concludes with a recommendation for consideration by the divisional leadership team.

## 2. BACKGROUND

After submitting relevant data to TRA Stanford, the Trust received a 'risk identification' report as the initial output, highlighting the foremost clinical risks within the organisation. After due consideration, one particular area was selected for further analysis and a 'deep dive' report generated. Within Specialist Learning Disabilities assaults against members of staff was selected, not only because the category represented 42% of all reported incidents within the division, but because it also reflected the division's status as a significant outlier in NHS Protect and NHS

[1] At the time of programme inception Mersey Care had not yet achieved Foundation Trust status. Calderstones Partnership NHS Foundation also existed as an entity in its own right rather than the Specialist Learning Disabilities Division which it has now become following acquisition by Mersey Care in July 2016.

Benchmarking figures too. Furthermore, within the context of 'No Force First' it was significant to note that as many as 64% of assault incidents resulted in the use of physical restraint, and 19% in the use of seclusion. Injuries sustained during such assaults were also thought to be a significant contributor to sickness and turnover levels within the division. So, having identified assaults on staff as the risk to mitigate, the next step was to apply design thinking and generate a range of appropriate interventions.

The origins of design thinking date back to the foundation of IDEO in the early 1990s, a now international design and consulting firm based in Palo Alto, California. With an initial focus on more traditional design work for large technology companies, by the turn of the millennium IDEO were increasingly asked to focus on the design of consumer *experiences* as opposed to *products*. Through this shift the term 'design thinking' was coined, soon to be distinguished as an approach to generating solutions focused as much on emotional meaning as functionality. Comprised of three key stages – inspiration, ideation and implementation – the process leads from a deep, empathic understanding of the problem (inspiration), to generation and testing of ideas (ideation), to the launch of workable solutions (implementation).

## 3. PROJECT OUTPUTS

### 3.1 Application of Design Thinking

The first stage of the process was, therefore, to gain a deep, empathic understanding of the problem from the end users' perspective; in this case nurses, members of the multi-disciplinary team and service users from secure wards across the division. Members of the project team set out in the spring of 2016 to immerse themselves in the ward environments over a period of several weeks, carrying out observations, attending key meetings, reviewing clinical documentation, and conducting a series of loosely structured interviews. Emerging themes were synthesised and reflected back to ward teams, so as to sense-check initial findings and potentially uncover new insights. At this point a natural separation occurred – between male secure wards (cohort 1) and female secure wards (cohort 2) – with different interventions subsequently developed for each.

Having corroborated key themes and insights, the project team transitioned into the ideation phase, collaborating closely with end users in both cohorts in turn to generate potential solutions which were likely to have the greatest impact and could be delivered within the constraints of budget and schedule. This, of course, is where account was also taken of research evidence and best practice in other services, before moving into the action phase of the cycle. The challenge then became one of turning the best ideas into actual interventions which could be tested, iterated and refined through a series of prototypes of increasing sophistication.

## 3.2 Project Interventions

A series of three interventions were developed in total and these were implemented, in either the male or female secure service incrementally from October 2016 onwards. The interventions included:

- An **enhanced de-escalation workshop**, commissioned from the University of Chester and repeated on seven occasions, was offered to all staff within the male secure wards, running from October 2016 through to March 2017;
- Also within the male secure wards, **summary Positive Behaviour Support (PBS) plans** were developed with the support of the PBS practitioners, capturing the key elements of the full PBS plan in a more succinct format which could be readily shared across the nursing team. Together these two interventions were packaged as 'strengthening preventative strategies in PBS plans';
- Within the women's secure wards **restorative practice** was implemented from April 2016 onwards. This was an intervention designed to prevent conflict, build relationships and repair harm by enabling people to communicate effectively and positively through a facilitated restorative meeting. The approach is also proactive, therefore, in that it reduces the risk of further, similar incidents.

# 4. PROJECT IMPACT

From an 'implementation science' perspective the impact of a project can be considered within three outcome domains – implementation, service, and patient. *Implementation* outcomes are concerned primarily with acceptability and degree of penetration of the selected interventions, and are described within this report in terms of process measures and staff perception. *Service* outcomes focus on efficiency and effectiveness, whereas *patient* outcomes are concerned with satisfaction and symptomatology. In practice there is something of an overlap in these latter two domains, so for the purposes of this report they are described in terms of patient perception and incident frequency. The report also considers efficiency in terms of 'return on investment' and draws upon the exercise recently completed in conjunction with TRA Stanford.

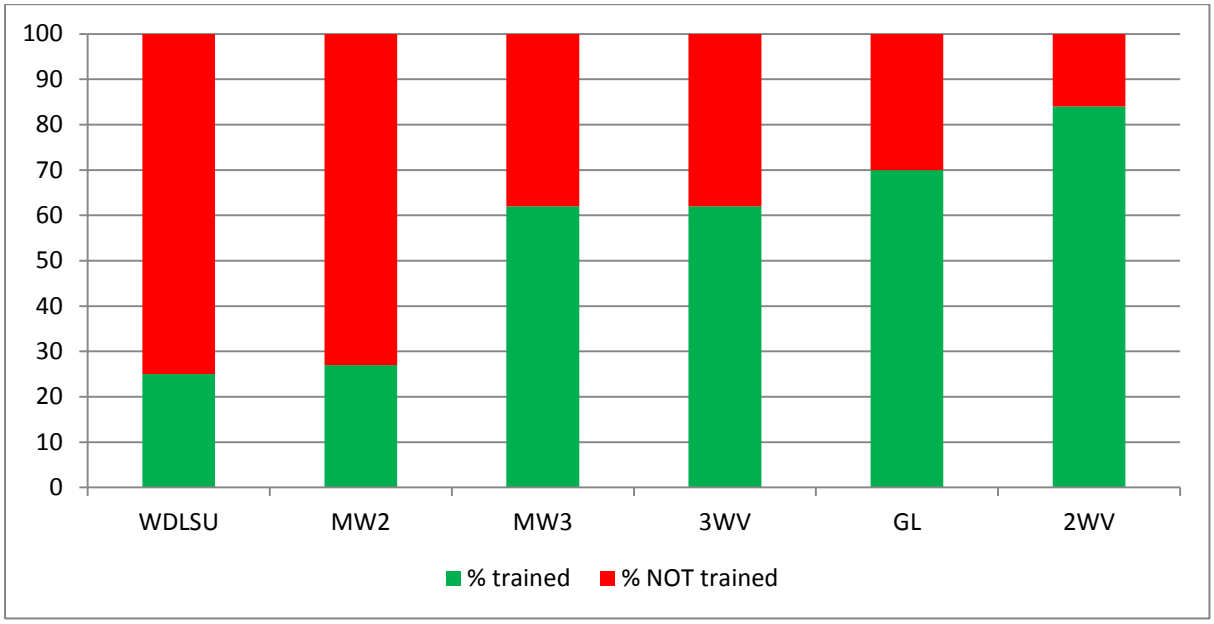
Given the nature of the project (i.e. quality improvement) outcome measurement was at the level of 'measurement for improvement' as opposed to 'measurement for research' and did not, therefore, seek to eliminate or control for the effect of confounding variables. As such it is important to acknowledge the potential impact of other initiatives within the division. One such example being No Force First, which was piloted on Maplewood 1 from late December 2016 onwards and has since been

extended to other areas. Other potential confounds include use of the DASA[2], which was rolled out on Maplewood 2 in November 2017, and more generally, an increasing confidence amongst the workforce to remain 'hands off' which is most likely an artefact of the Positive and Safe at Calderstones programme and the continuing work around No Force First. The qualitative data included in this report, however, does allow the reader to make a tangible connection between violence reduction project interventions and the outcomes described.

## 4.1 Process Measures

In order to understand the extent of implementation across each of the cohorts it is necessary to consider each intervention in turn. With regard to **enhanced de-escalation**, seven workshops took place from October 2016 to March 2017, with the overall capacity to train 175 staff (N.B. there were a total of 205 staff deployed across cohort 1 wards). On completion of the final workshop 103 staff had actually been trained which amounts to 50% of the total cohort 1 establishment, and an uptake of 59% of overall training capacity. Figure 1 provides an overview of distribution across cohort 1 wards. The most commonly cited reason for non-attendance at workshops was staffing pressures.

**Figure 1. Attendance at enhanced de-escalation workshops**




The roll out of summary PBS plans across cohort 1 wards, under the expert guidance of the PBS practitioners, commenced in October 2016, targeting in the first instance those wards with the highest frequency of assault incidents. The PBS practitioners made themselves available to all case managers on respective wards to provide coaching and support to develop the summary plans. By March 2017 100%

[2] The Dynamic Assessment of Situational Aggression – a tool for assessing the likelihood a service user will become aggressive within an inpatient environment.

of relevant service users had a summary PBS plan. This was followed-up in June 2017 to ensure each ward also had in place a system to promote the rapid sharing of plans across nursing teams. Although some areas were slow to respond, with the support of senior management in the division, by October 2017 all wards had been able to articulate the system they had in place.

The **restorative practice** intervention on cohort 2 wards traversed an altogether more 'rocky road' to implementation. It was driven in its formative stages in the latter part of 2016 by one ward manager in particular who took an initial lead on developing the procedure. By January 2017, however, it was apparent that operational pressures were eating into the capacity required to do the project justice and so the responsibilities of Restorative Practice Facilitator[3] (RPF) were allocated to one of the division's clinical nurse managers. In April 2017 Maplewood 1 confirmed they were ready to launch the intervention (i.e. relevant service users had been risk assessed, given consent, and approved by the MDT) followed in July by 1 Woodview. Filming for a DVD to raise awareness of the project had also taken place during January and February 2017 – funded through the Centre for Perfect Care – the final version of which was agreed in April, with the DVD itself being made available in August.

By the latter part of July 2017, however, it was apparent that competing demands on the roles of clinical nurse manager *and* RPF were again eating into the capacity required to implement the intervention in a meaningful way. A part-time appointment (0.2 whole time equivalent) – again funded through the Centre for Perfect Care – was therefore pursued and a new RPF, with protected time for the role, took up post in September 2017. Since their appointment there has been a total of 125 reported incidents of assault against members of staff which met the criteria for restorative practice. Of these, 113 (i.e. 90%) did not proceed any further as the service user in question was not eligible to engage in the process, either because they lacked the capacity to consent or owing to deterioration in their mental health. 87 of the 113 'non-eligible' incidents (i.e. 77%) were attributable to just three service users who were each responsible for multiple assaults.

Of those incidents that met the criteria and involved an eligible service user (n = 12) just 4 meetings actually took place. In those instances were meetings did not take place this was typically because the service user refused to participate or the member of staff declined the invitation. On one occasion the meeting was set up but the member of staff concerned was moved to a different clinical area and so the meeting could not take place. In the former case, entries would be made in the clinical record for discussion and appropriate follow-up action by the MDT. Attempts were made to address the latter issue through ongoing awareness raising and

[3] The main responsibilities of the RPF were to: (1) ensure the procedure was approved through formal channels; (2) undertake awareness raising activities on relevant wards; and (3) arrange and facilitate restorative practice meetings subsequent to eligible incidents.

educational activities for staff, led primarily by the RPF as once again, operational pressures (and sickness absence) limited the extent to which ward managers could actively support the project. Despite these efforts, however, it can be concluded that only 10% of incidents were amenable to restorative practice in the formal way it was envisaged at the outset, with an even lower 3% of meetings actually taking place.

## 4.2 Incident Frequency

Building on the success of the former Positive and Safe programme, the violence reduction project set out to achieve a 32% reduction[4] in the frequency of reported 'service user assault on staff' incidents, with 16% being delivered in year 1[5] and 16% in year 2. It can be seen from figure 2 below, that on conclusion of the pilot an overall reduction of 50% had been achieved when compared against baseline[6]. It seems reasonable to conclude, therefore, that the pilot met, and even exceeded, its stated objective.

**Figure 2. Incident frequency: cohorts 1 and 2 combined.**

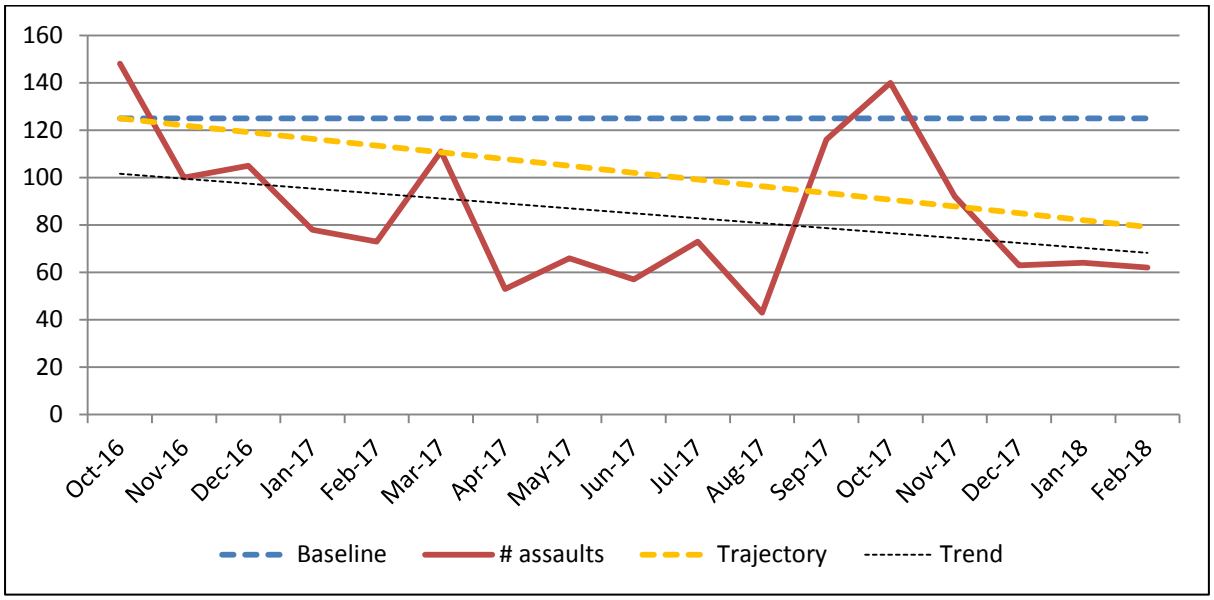
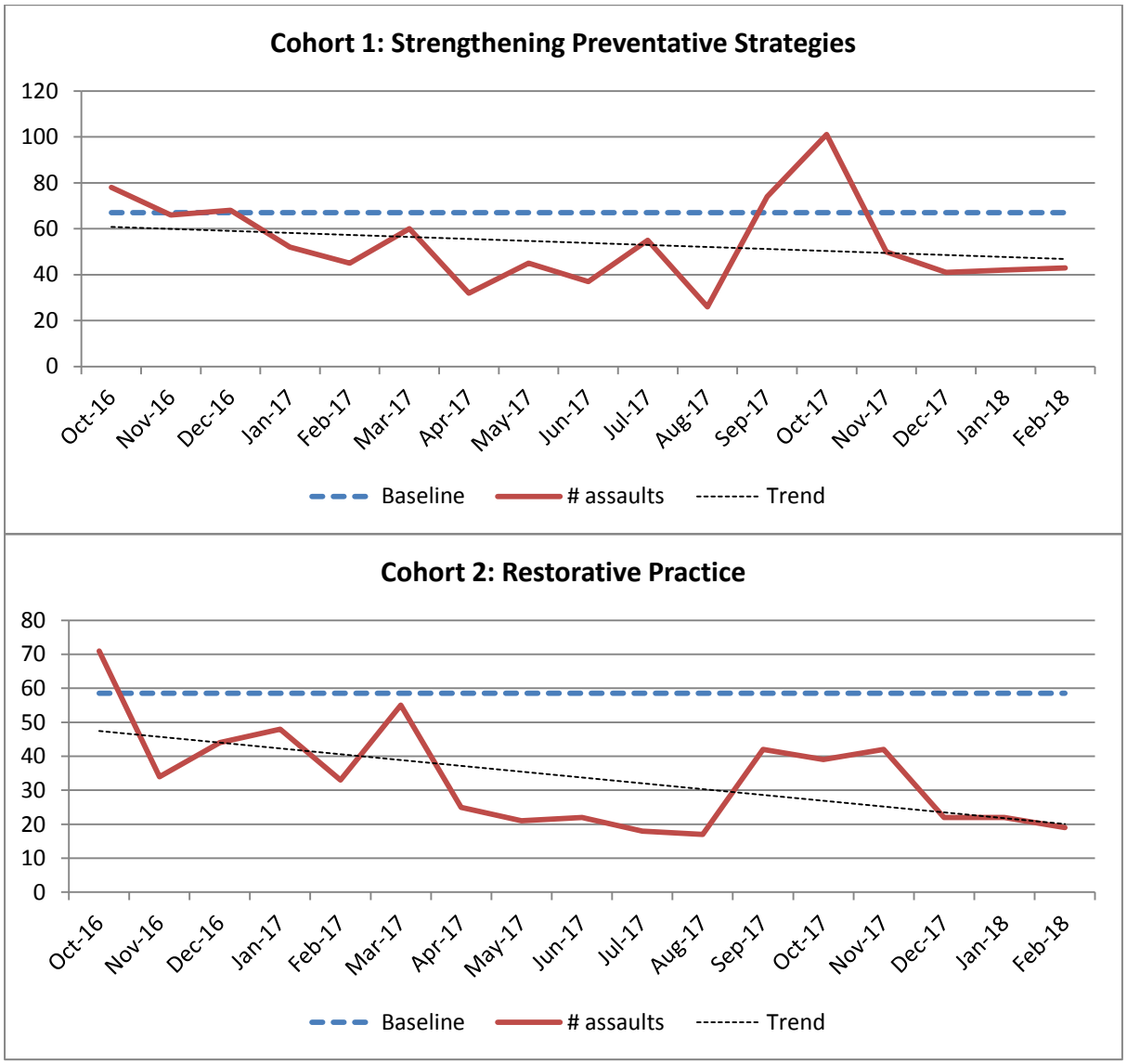



Figure 3 provides a breakdown of these reductions by cohort, reflecting a 36% reduction across cohort 1 wards and a 68% reduction across cohort 2. This pattern is somewhat surprising given the positive feedback regarding cohort 1 interventions and the low uptake of restorative practice in cohort 2, and points more towards an alternative explanation; two obvious ones of which exist. The first relates to the

[4] This figure was calculated on the basis of the 42% reduction achieved via the Positive and Safe programme set against the 74% reductions described within the literature (i.e. 32% being the balance).
[5] The pilot phase was originally intended to run for the duration of 2017 (i.e. year 1), allowing for staggered implementation of the various interventions. The appointment of the Restorative Practice Facilitator on a six month contract in September 2017, however, extended the pilot phase by a further two months until the end of February 2018.
[6] The baseline was calculated from the mean average monthly total of incidents for the twelve month period prior to any project interventions being implemented.

relatively higher baseline in cohort 2 – 90 incidents per 1,000 bed days as compared to 36 incidents per 1,000 bed days in cohort 1 – thus providing more room for improvement so as to speak. The second alternative relates to the implementation of No Force First in Maplewood 1 (i.e. approximately 80% of cohort 2 bed days) from December 2016 onwards. In reality it is probably a combination of the two, and some level of 'Hawthorne effect' arising from the restorative practice awareness raising activities undertaken.

**Figure 3. Incident frequency by cohort**




## 4.3 Staff Injuries and Sickness Absence

It was envisaged that savings would accrue from the reduction in incidents alone owing to less time spent intervening, potentially having to restrain service users and implementing the seclusion policy. However, greater savings were anticipated from a reduction in staff injuries and resultant sickness absence. As can be seen from figure

4, the number of staff injured during the course of an assault was 66% below baseline on conclusion of the pilot. This did not appear to translate *fully* into savings from lower rates of 'work-related' sickness absence though as can be seen from figure 5. Although an upward trend can still be observed, the rate of increase is markedly less than that for total sickness absence, and if the post-implementation period is viewed in isolation (i.e. from October 2016 onwards) then the trend flattens altogether. Possible explanations for not realising greater reductions include the fact the majority of injuries sustained (i.e. 90%) are minor in nature and may not in themselves have resulted in sickness absence. There is also anecdotal evidence to suggest possible data quality issues with recording of work-related sickness absence. It seems reasonable to conclude though that whilst overall sickness levels have increased, the proportion attributed to injuries sustained during assaults has actually reduced.

**Figure 4. Number of staff injured during assault incidents**

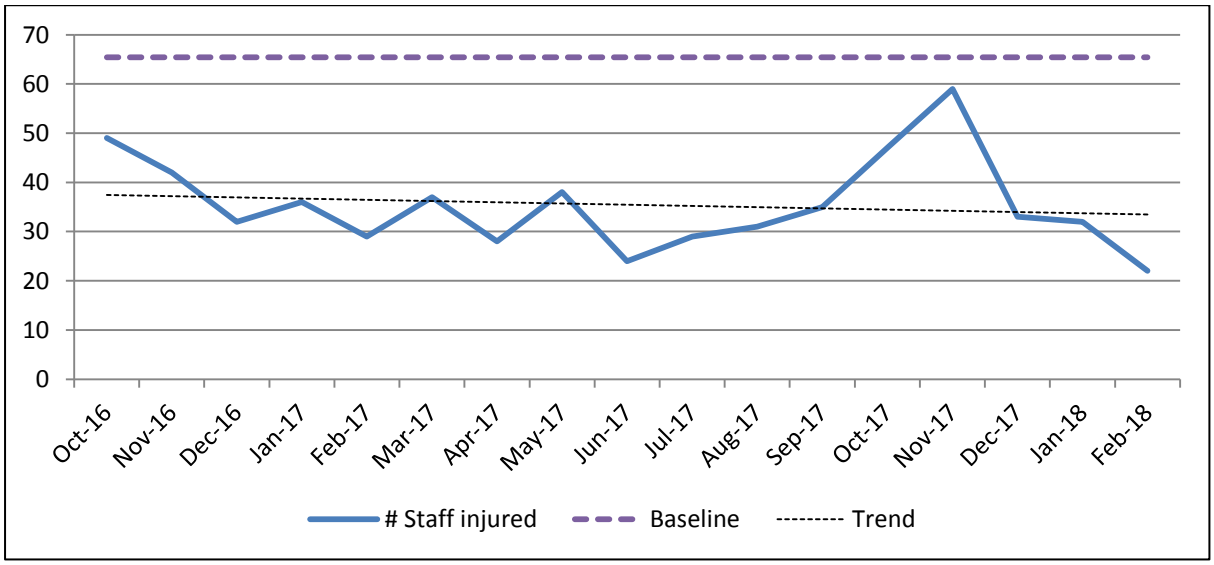
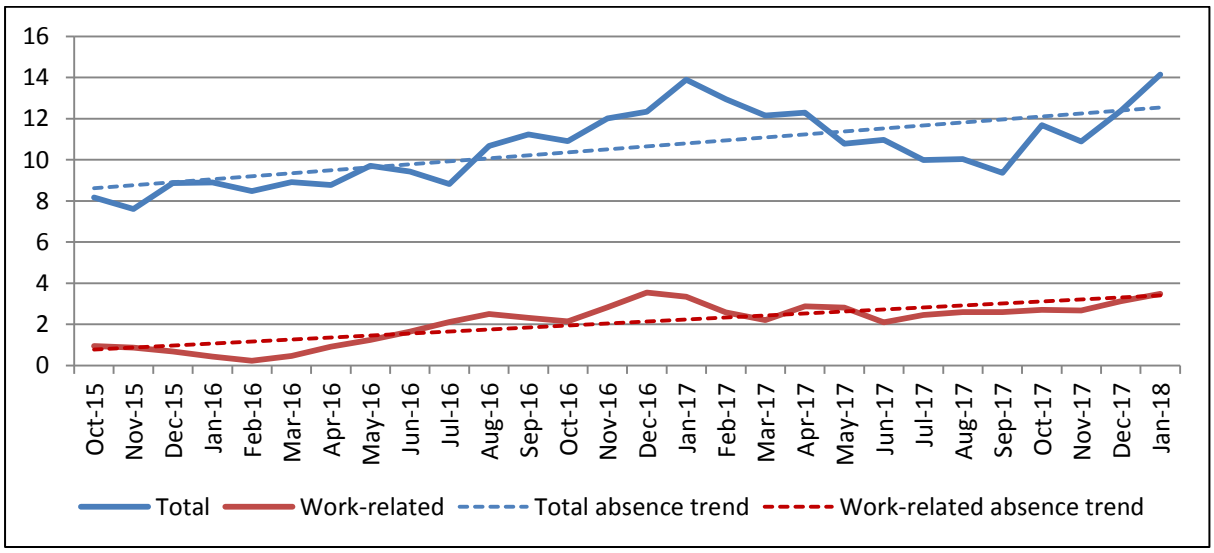


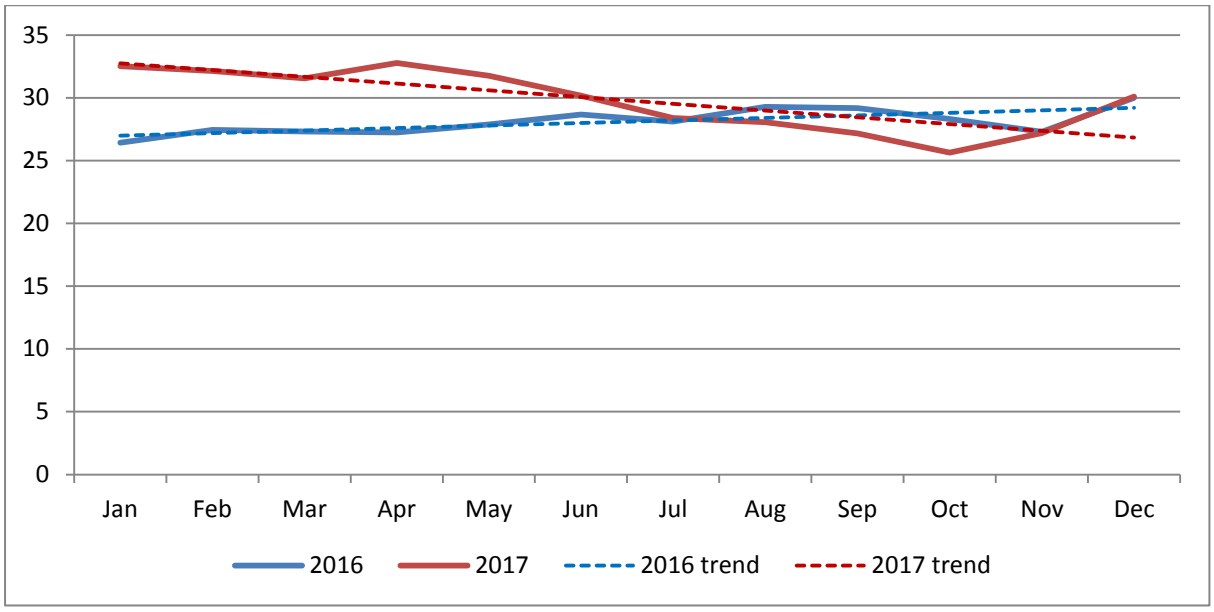

**Figure 5. Sickness absence and work-related sickness absence**



## 4.4 Staff Retention

Turnover patterns prior to and during the project are difficult to interpret. As can be seen from figure 6 below, 2016 witnessed a gradual but steady upward trend as rates increased throughout the year. Going into 2017 the year started at a peak and a steady reduction then ensued until quarter 4 which produced something of an upturn. The overall trend for 2017 was downwards, however, and early data from 2018 suggests this trend has continued. So, given the other factors affecting turnover – in particular the ongoing transformation of services – there is significant evidence to indicate the reduction in staff assaults may have had a positive impact on retention, either by reversing it completely or at least slowing the rate of increase.

**Figure 6. Turnover within the Specialist Learning Disabilities Division**




## 4.5 Staff Perception

Staff perception of project interventions was gauged using a combination of formal and informal means. The de-escalation workshops were formally evaluated through a self-report questionnaire at the end of each workshop. A series of informal follow-up interviews was also undertaken across cohort 1 wards, to capture views in relation to both the workshops and summary PBS plans. A formal evaluation of restorative practice across cohort 2 had been planned, however, owing to the small number of restorative meetings facilitated this did not prove possible. Anecdotal evidence from the 4 meetings that *were* completed suggested that staff found them to be a useful exercise and valued the opportunity to describe the personal impact to service users. There were also examples of how PBS plans had been updated as a result of the meetings taking place.

In relation to de-escalation training, after some tweaks to the programme subsequent to the first workshop, delegates consistently rated the remaining six very positively,

with in excess of 90% reporting the workshops as having fully or mainly met their expectations and likely to be of benefit in the workplace. Informal interviews later confirmed this view with a number of staff able to give examples of how incidents had been avoided because of increased confidence and skill in de-escalation. The interviews did highlight an important limitation though in that many former attendees of the workshops had since left the service, and as there was no rolling programme, new starters had not been able to benefit from the opportunity. Some staff questioned whether a more condensed version could be delivered over a shorter period as well. Staff also consistently reported that summary PBS plans were a significant improvement (in terms of their accessibility) in comparison to the full PBS plans, with one member of staff describing them as "1,000,001% better". The system each ward in place was clearly understood, and numerous examples were given of how the plans were now being more consistently implemented. The duplication involved was acknowledged although commonly accepted as necessary (i.e. to have a good *summary* PBS plan one must first of all have a really good *full* PBS plan).

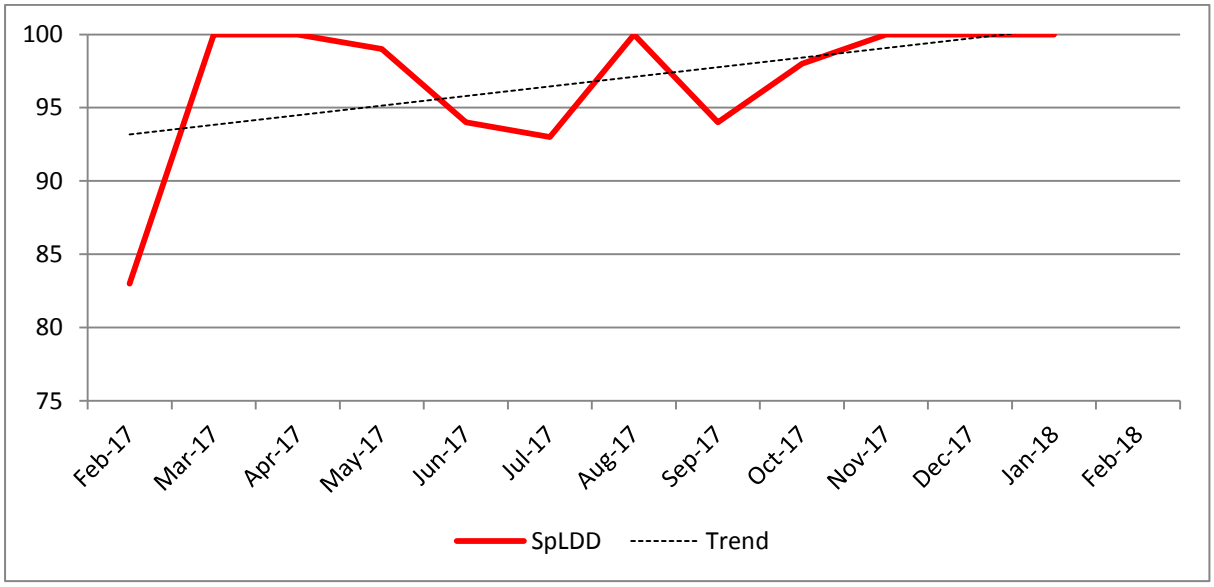
### 4.6 Service User Perception

Rather than create a bespoke instrument to determine the impact on service user experience, the project drew instead on relevant items from the inpatient survey report hosted on 'Business Intelligence Today'. In view of the interventions developed under the auspices of the project, the following items were considered to be of interest:

- Item 8: Do you feel involved in decisions about your care and treatment?
- Item 10: Do you feel supported in your recovery and self-management?
- Item 16: Have you been involved in the development of your care plan?
- Item 17: Does your care plan include what to do in a crisis?
- Item 21: Can you discuss your worries or concerns with staff?
- Item 22: Do you feel that you were listened to by staff?
- Item 26: Do you have access to meaningful, culturally appropriate, activity 7 days a week?

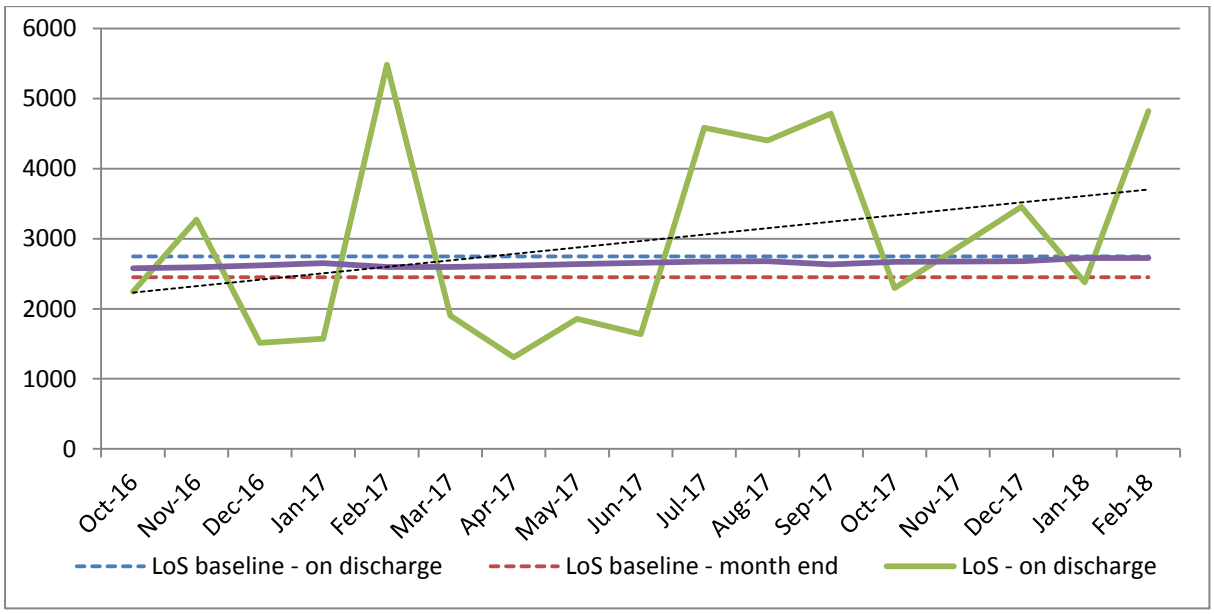
As can be seen from figure 7 below, over the course of the pilot there was a slight upward trend in the combined scores of these seven items. With the exception of February 2017, however, the scores remained in the 'green zone' (i.e. above 90%) throughout and so the trend needs to be interpreted with some caution. Given that the inpatient survey report only provides divisional-level data for specialist LD, it has not been possible to compare scores across the two cohorts either. It had been planned to undertake a more formal evaluation of service user experience in relation to restorative practice, although owing to the low number of restorative meetings facilitated this did not prove possible. Anecdotal evidence from the 4 meetings which took place suggested that service users found it to be a beneficial process, valuing the opportunity to share their experience, *and* apologise to staff, albeit this was not the intended purpose.

**Figure 7. Inpatient survey report: Specialist Learning Disabilities Division**




## 4.7 Length of Stay

**Figure 8. Length of stay in the Specialist Learning Disabilities Division**




With regard to length of stay, as can be seen from figure 8 above, the project has had no impact on either 'discharge' or 'month end' length of stay figures. The former remained highly variable with a notable upward trend, whilst the latter, although more consistent, still reflected a slight upward trend when compared against baseline. There are a number of likely reasons for this, although three primary possibilities prevail. The first is in relation to the likely impact of reducing the frequency of assaults perpetrated by any given service user versus stopping the assaults altogether (i.e. we may well have reduced the frequency of assaultive behaviour in a

number of service users, but without stopping it altogether it is unlikely to impact on their length of stay). The second possibility relates to the reason for the individual's detention. For example, if the service user is convicted of a sexual offence and subject to Ministry of Justice restrictions, then reducing the frequency of their assaultive behaviour is unlikely to have any impact on their length of stay. And finally, even if someone's assaultive behaviour is eliminated altogether their length of stay will only be reduced if there are community services readily available to accept them; a situation which experience suggests is not always the case. There is also the possibility that those who remain within the service are perhaps those with the most complex needs, who by virtue of such complexity are more difficult to re-settle. This latter point has not been investigated specifically though.

### 4.8 Return on Investment

As an integral requirement of the project an exercise was undertaken to determine the likely Return on Investment (ROI) of project resources. This entailed an assessment of the costs to develop and implement agreed interventions compared against the potential savings generated from the forecast reduction in incidents. Each element of cost was considered in turn – incident related activity, staff injuries and resultant sickness absence, increased turnover, and longer length of stay being the main elements – allowing overall costs to be constructed and transposed onto the template provided by TRA Stanford. The exercise generated a potential ROI in the range of 99% to 252% with the most likely return being in the region of 203% (i.e. for every £1,000 invested in the project, £2,030 is likely to be returned in each year). The calculations are included at Appendix A and further detail can be provided on request.

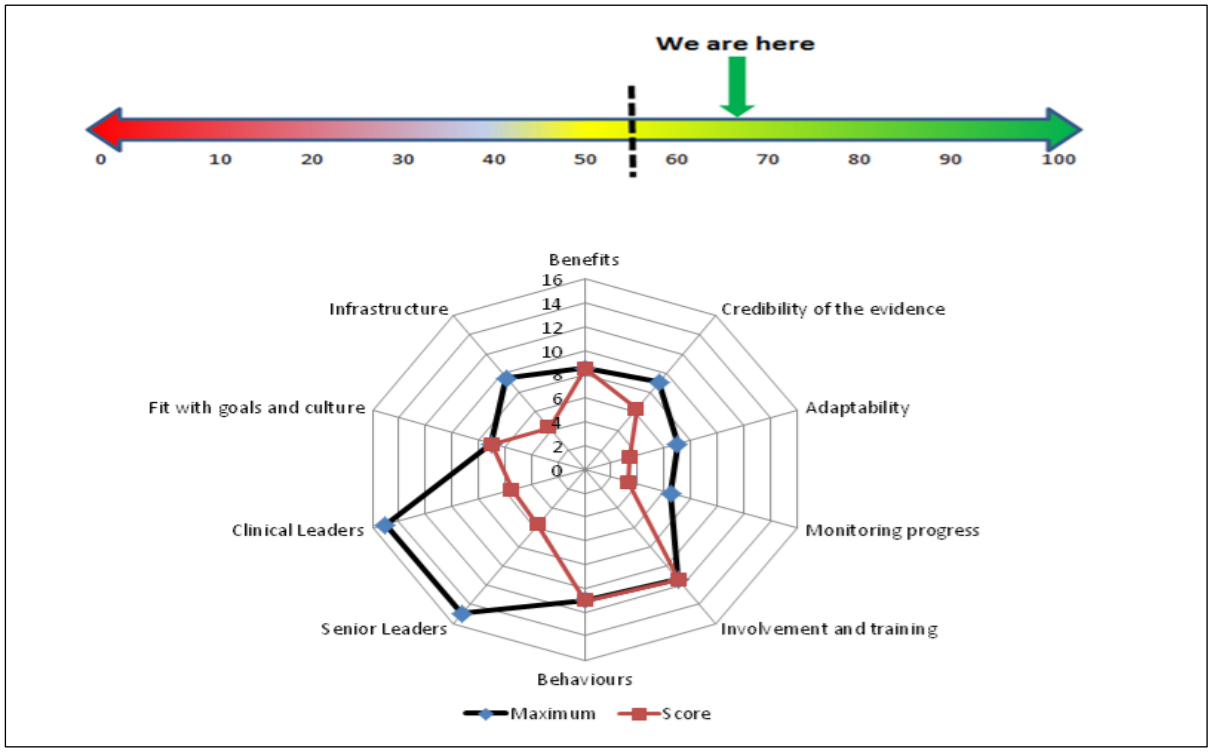
In practice though, certain outcomes which were anticipated have not materialised. For example, the number of incidents *has* reduced by 50% and so the savings anticipated in relation to incident-related activity (including restraint and implementation of seclusion) *will* be delivered. It's also possible that work-related absenteeism arising from staff injuries has fallen owing to the significant reduction achieved in staff injuries. This will require more systematic monitoring, however, to confirm one way or the other. Whether or not the project has made any contribution to staff retention is difficult to say owing to confounding variables, not least of which is the ongoing transformation of services. It's arguable the reduction in assaults may have slowed the increase in turnover rates, although there is little evidence to support this. Other outcomes, such as shorter length of stay, for example, have clearly not been delivered and will therefore impact on the final ROI.

### 4.9 Sustainability

In order to determine the sustainability of project interventions the 'NHS Sustainability Model and Guide' was completed, the results of which can be seen

above in figure 9. Whilst the overall score achieved for the project exceeded the 55% threshold deemed to represent a favourable chance of success, the exercise highlighted two areas of potential weakness; namely the engagement of senior *and* clinical leaders. Since the exercise was completed, work has been undertaken at project level to engage clinical leaders in supporting interventions across the respective wards, with various consultant psychiatrists having attended project group meetings. The support of named senior managers in a more systematic way is still to be addressed, however, and will doubtless be a critical success factor in achieving further spread and long-term sustainability.

**Figure 9. NHS Sustainability Model and Guide scores**




## 5. CONCLUSION

Based on the available evidence it seems reasonable to conclude the project has achieved its stated objective of reducing by 32% the frequency of 'service user on staff assault' incidents; having delivered greater reductions in year one (i.e. 50%) than were planned across years one and two. Taking into account the various sources of information – not just quantitative data, but process measures, staff perception, and confounding variables – it also seems reasonable to conclude that cohort 1 interventions (enhanced de-escalation training and summary PBS plans) have exerted the greater impact. Indeed, the primary cohort 2 intervention – restorative practice – was only applicable in 10% of relevant incidents, with an even lower 3% of meetings actually taking place.

In terms of other expected outcomes, whilst a 66% reduction in the number of staff injured was achieved, this did not translate *fully* into reduced sickness absence. Turnover rates appear to have trended downwards over the course of the pilot, although there are clearly other factors at play. Relevant items on the inpatient survey report indicate a gentle positive trend during the pilot, and this is borne out to some extent by the feedback received from those taking part in restorative meetings. As these indicators are only reported at divisional level, however, it is not possible to compare and contrast cohorts. Length of stay has not reduced in the manner anticipated, although there are clearly a number of confounding variables acting on discharge rates. In summary, therefore, the ROI needs to be interpreted with some caution, with the majority of savings likely to be delivered from the reduction in incident-related activity.

In terms of next steps, it is now for the division to determine whether or not they would like to see project interventions embedded in business as usual and possibly rolled out across other areas as well. The argument to scale cohort 1 interventions is clearly more compelling. Discussions are already ongoing as to how enhanced de-escalation training could be incorporated into the mandatory training programme. Upscaling of summary PBS plans would require further support and input from the PBS practitioners though. Restorative practice, whilst it clearly has some beneficial impacts, requires an altogether different approach if it is to be taken forward. Embedding it in a pre-existing process, such as incident de-briefing for example, would appear to be the most obvious solution. Whichever route is chosen, however, it is abundantly clear the next phase of development will require active leadership from senior managers so as to ensure activities supporting sustainability and monitoring of impact become 'baked in' to divisional governance structures and processes.

## 6. RECOMMENDATION

With the caveats outlined above, the recommendation from the project team is to upscale and embed interventions as a key component of the Reducing Restrictive Practices programme; the specific details of which would be as follows:

- Full roll out of summary PBS plans across all clinical areas, targeting women's services in the first instance;
- Further iteration of the enhanced de-escalation workshop, condensing it into a module that allows for incorporation into the existing mandatory training programme;
- Discontinuation of restorative practice as a formal project intervention, whilst supporting efforts to pursue ongoing implementation on a more informal and opportunistic basis, perhaps through the incident de-briefing process.

**Acknowledgements:**

The project team would like to acknowledge the invaluable support received throughout the pilot from ward leadership teams and multi-disciplinary colleagues. In particular Lianne Franks (Clinical Psychologist), Dr Gill Brown (Consultant Clinical Psychologist), Emma Warren (Clinical Psychologist), Dr Vanathy Raja (Consultant Psychiatrist), Dr Abigail Williamson (Consultant Psychiatrist) and Ward Managers Steph Phillips, Nicola McNulty, Phil Searle and Joanne Romasanta. Also Olga Atkinson and Paul Conchie for their input to the Restorative Practice Facilitator role.

# Appendix A: Return on Investment

| Fiscal Year | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| **Employee Injury** | | | | | |
| Employee Injury Costs (baseline) | £244,512 | £250,625 | £256,890 | £263,313 | £269,895 |
| Employee Injury Reduction Rate | 0% | 16% | 32% | 32% | 32% |
| Employee Injury Costs (with Intervention) | £244,512 | £210,525 | £174,685 | £179,053 | £183,529 |
| Employee Injury Savings | **£0** | **£40,100** | **£82,205** | **£84,260** | **£86,367** |
| **Lost & Restricted Days** | | | | | |
| Lost & Restricted Days (baseline) | 3,264 | 3,264 | 3,264 | 3,264 | 3,264 |
| Days w/ Replacement Workers (baseline) | 816 | 816 | 816 | 816 | 816 |
| Cost of Replacement Staff (per hour) | $11 | $11 | $11 | $11 | $11 |
| Replacement Staff Cost (baseline) | £71,808 | £71,808 | £71,808 | £71,808 | £71,808 |
| Replacement Costs Reduction Rate | 0% | 25% | 50% | 50% | 50% |
| Replacement Costs (w/ Program) | £71,808 | £53,856 | £35,904 | £35,904 | £35,904 |
| Replacement Costs Savings | **£0** | **£17,952** | **£35,904** | **£35,904** | **£35,904** |
| **Patient Injury and Additional Treatment Costs** | | | | | |
| Number of Patients | 8,000 | 8,080 | 8,161 | 8,242 | 8,325 |
| Number of Patient Days | 40,000 | 40,400 | 40,804 | 41,212 | 41,624 |
| Number of Patient Patient Injury (baseline) | 80 | 81 | 82 | 82 | 83 |
| Number of Serious Patient Injuries (baseline) | 285 | 288 | 291 | 294 | 297 |
| Average Cost of a Serious Injury | £1,694 | £1,736 | £1,780 | £1,824 | £1,870 |
| Number of Minor Patient Injuries (baseline) | 675 | 682 | 689 | 695 | 702 |
| Average Cost of a Minor Injury | £352 | £361 | £370 | £379 | £388 |
| Total Cost of Patient Injury (baseline) | £720,235 | £745,623 | £771,906 | £799,116 | £827,285 |
| Patient Injury Reduction Rate | 0% | 16% | 32% | 32% | 32% |
| Total Cost of Patient Injury (w/ Program) | £720,235 | £626,323 | £524,896 | £543,399 | £562,554 |
| Patient Injury and Additional Treatment Savings | **£0** | **£119,300** | **£247,010** | **£255,717** | **£264,731** |
| **Retention Costs** | | | | | |
| Number of Employees Handling Patients | 2,500 | 2,525 | 2,550 | 2,576 | 2,602 |
| Number of RN Quit (baseline) | 40 | 40 | 41 | 41 | 42 |
| Number of Nursing Aid and Patient Care Tech Quit (baseline) | 0 | 0 | 0 | 0 | 0 |
| Average Cost to Recruit & Train an RN | £528 | £533 | £539 | £544 | £549 |
| Average Cost to Recruit & Train a Nursing Aid or Tech | £528 | £533 | £539 | £544 | £549 |
| Total Retention Cost (baseline) | £21,118 | £21,542 | £21,975 | £22,417 | £22,868 |
| Total Retention Cost (w/ Program) | £15,839 | £16,157 | £16,482 | £16,813 | £17,151 |
| Retention Costs Savings | **£5,280** | **£5,386** | **£5,494** | **£5,604** | **£5,717** |
| **Patient Satisfaction** | | | | | |
| Equivalent Budget Saved for Improved Patient Satisfaction Score | **£0** | **£0** | **£0** | **£0** | **£0** |
| **Patient Referral** | | | | | |
| Number of Patients with Improved Patient Satisfaction Score | 40 | 40 | 41 | 41 | 42 |
| Number of Referral Increase from Improved Patient Satisfaction | 0 | 0 | 0 | 0 | 0 |
| Average Revenue per Patient | £0 | £0 | £0 | £0 | £0 |
| Total Revenue Increase from New Referrals | £0 | £0 | £0 | £0 | £0 |
| Total Profit Increase from New Referrals | **£0** | **£0** | **£0** | **£0** | **£0** |
| **Employee Satisfaction** | | | | | |
| Equivalent HR budget Saved | **£0** | **£0** | **£0** | **£0** | **£0** |
| **On-going Costs** | | | | | |
| Maintenance Cost | **£0** | **£13,871** | **£13,871** | **£13,871** | **£13,871** |
| **Cash Flow** | | | | | |
| Cash Inflow | | | | | |
| Total Direct Financial Benefits | £0 | £177,352 | £365,119 | £375,881 | £387,002 |
| Total Employee Satisfaction Benefits | £5,280 | £5,386 | £5,494 | £5,604 | £5,717 |
| Total Patient Satisfaction Benefits | £0 | £0 | £0 | £0 | £0 |
| Total Cash Inflow | **£5,280** | **£182,737** | **£370,613** | **£381,485** | **£392,719** |
| Cash Outflow | | | | | |
| Total On-going Costs | £0 | £13,871 | £13,871 | £13,871 | £13,871 |
| Net Cash Flow (when in operation) | **£5,280** | **£168,866** | **£356,742** | **£367,614** | **£378,847** |

| | |
|---|---|
| Initial CashOut (Investment in 2017) | **£57,040** |
| **Net Present Value of Benefits** | **£1,087,145** |
| **Return on Investment** | **203%** |