



## White Paper

# Transforming Safety Culture

Team Stripes - enabling high performing, reliable health care teams

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CLINICAL  
EXCELLENCE  
COMMISSION

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## Table of Contents

Executive summary.....	3
Jean's story .....	4
Glossary of terms.....	5
Background.....	6
Team Stripes – The Why .....	8
Team Stripes Framework.....	12
Team Stripes – The What .....	14
Safety Culture .....	15
Human Factors and Teamwork.....	16
Human Centred Design .....	17
The Framework: Unpacked .....	18
Stripe 0 – Engagement.....	18
Stripe 1 – Discovery .....	19
Stripe 2 – Safety Fundamentals.....	21
Stripe 3 – Improvement science.....	23
Stripe 4 – Continuous learning.....	24
Conclusion .....	25
References.....	26

## Tables and Figures

Table 1: Characteristics of Safety Fundamentals .....	22
Figure 1: 3 waves of innovation in patient safety .....	7
Figure 2: Team Stripes Framework .....	14
Figure 3: CEC Safety Culture Framework. 2022. ....	15
Figure 4: CEC Human Factors Framework 2020.....	16
Figure 5: Human Centred Design Process .....	17

## Executive summary

NSW Health is considered one of the top health care systems in the world, based on factors such as how care is coordinated; patient engagement and inclusion of patient preferences (care process); affordability and timely access to care (access) and in terms of health care outcomes (Schneider et al. 2017).

One of the five pillars of NSW Health, the Clinical Excellence Commission (CEC) leads, supports and promotes improved clinical care, safety and quality across the NSW health system. Since 2004 the CEC has delivered initiatives aimed at, for example (and not limited to), increasing capability in improvement science (CEC Academy), the early recognition and response to the deteriorating patient (Between the Flags, SEPSIS KILLS, REACH), the holistic management at the end of the life (AMBER Care Bundle, Last Days of Life Toolkit) as well as a focus on the prevention of health care associated infections. Through a strategic approach which is structured and measurable these initiatives are designed to support and enhance a person-centred approach to care.

As a high-performing comprehensive health care system, we are always striving for ways to improve. We have progressed with the waves of innovation as described by Ghaferi and colleagues (2016), who, using surgery as an example, reflect on the benefits to patient safety that have been made through advances in technology (first wave) and standardisation (second wave). The third wave brings our attention to 'user' experience and a more individualised and context specific approach. With this approach our focus is turned to the culture of teams and the way teams organise their work so that they can acknowledge what they do well and recognise early when things are going wrong. Moving towards high reliability we support teams to use behaviours that promote environments where individuals feel safe to be a voice for safety and to adopt a mindful approach.

The development of the Team Stripes framework, the subject of this document, uses a generative approach rather than being programmatic. It has been informed by current evidence and through learnings gained from the clinical field. The framework is focussed on embedding a culture of safety in point-of-care teams.

This document provides an overview of the literature on the complex nature of teams, teamwork and the drive to maintain a culture of safety which influenced the development of the framework. In the second part the Team Stripes framework is introduced. In a separate online publication, we share the full literature review.

## Jean's story

My mother 'Jean' was ninety years old when she was brought into the emergency department (ED) following a witnessed fall in her aged care facility. X-ray confirmed a fractured neck of femur and, as enduring guardians, my brother and I consented for our mother to have a surgical repair of her hip.

During her recovery in the surgical unit my four siblings and I took it in turns to sit by our mother's side. I observed care being delivered by three different health care teams represented by multiple health care professionals from most disciplines (allied health, nursing, medical and pharmacy). Non-clinical staff also provided an important role in mum's care. I watched while team members developed specialty-oriented plans to provide expert care to my mother.

Despite the professional care that she received and the attentive nature of the team members to complete tasks, Jean was often referred to as 'room four' during the discipline-specific clinical handovers. We found it distressing to hear our mother described in such an impersonal and dehumanised way. Then when incorrect information was being passed on, we invited the staff to come inside the room and perform the handover at the bedside; but the conversations about our mother's care and progress continued to happen outside her room.

'This is room four. She's day 1 after a repair to her fractured neck of femur. She had a witnessed fall last night in her nursing home. She has dementia and is incontinent so we're going to leave the IDC in for a bit longer. She's diabetic, her sugars are up to 24 but she's been drinking lemonade all day and, anyway, we're not that worried about the sugars'.

Contrary to the repeated handovers, mum was continent and independent with her hygiene needs. When she woke following her surgery, she was thirsty, and as she didn't like the taste of water, we brought her sugar-free drinks. We were alarmed when we heard that the staff weren't concerned about our mother's high blood sugar levels; not only because of her post-operative wound and the impact on healing, but also we were worried about our mother's hydration and the discomfort she experienced. Above all, we wanted the care team to see our mother as the person that she was: Jean, the mother of five, grandmother, great grandmother, widowed for 12 years after 50 years of marriage, aunt and great friend to her long-term friends who still held a visible presence in her life.

There was no doubt that the individual team members provided care to mum in an efficient, task-focused manner. But while doing this they seemed rushed and worked in an independent way rather than interdependently. Throughout her stay I couldn't help noticing the threats to safe care through the fragmented, inter-professional relationships, ineffective shift handovers and gaps in communication.

The increased complexity of health needs of inpatients as well as shorter lengths of stay is likely to have an impact on the ways we deliver care. When the patient is recognised as part of the team, there is an increased chance the team will provide a coordinated approach to care and maximise the available resources which includes the patient, family and carers. The culture of sharing and learning through hearing different perspectives can enhance patient and staff experience.

## Glossary of terms

Clinical Microsystem	A small group of clinicians and non-clinicians who work together with a common purpose to provide care to a specific group of patients
Clinical Unit	Like a clinical microsystem, provides care for inpatients, outpatients, community patients
High reliability	Consistent excellence in safe and quality care with few adverse events where the risk of error is high, and the effect of error can be catastrophic
Inter-professional	When multiple health workers from different professional backgrounds work together to provide care
Multidisciplinary	In this context the definition of inter-professional applies
Person-centred care	Partnering with patients in their care by recognising them as an individual beyond their diagnosis and recognising the health and wellbeing of the health care provider
Pillars of NSW Health	NSW Health entities
Point-of-Care	Where hands-on patient care is delivered
Psychological safety	An environment which allows staff to express ideas, concerns, mistakes and ask questions without fear of embarrassment or blame
Safety Fundamental	An activity which focuses on strengthening behaviours that impact safe and quality health care
Safety Culture	The combined values, attitudes and behaviours of a team relative to patient and staff safety
Situational Awareness	Picking up cues from the environment, putting them together to predict a future state
Teams	Two or more people who work together towards a common goal
Teamwork	A group of interdependent people who collaborate to achieve a common goal

## Background

It is now more than a decade since Peter Garling delivered his final report, 'Special Commission of Inquiry into Acute Care Services in NSW Public Hospitals' (Garling 2008). The report proposed 139 recommendations to improve care delivery in NSW hospitals. During the period since the release of the Garling Report, NSW Health has demonstrated measurable improvements helped by programs such as the Clinical Excellence Commission's (CEC) [Between the Flags](#) (introduced in response to recommendation 91), and a system that is working hard towards preventing harm to the patients who access our care.

Consistent with global figures, the NSW population is ageing, which is attributable, in part, to advances in health care. Population ageing brings many benefits for the person, their families and in the contributions of older persons to the community. But all of this is dependent on the ability to maintain our health as we age. Older age is often characterised by the development of one or more physical or mental health conditions. Also, more patients with complex chronic illnesses access our hospitals and community health settings due, largely, to medical advances in screening, diagnosis and treatment. This has brought with it an increase in health specialisation and the emergence of subspecialties which means patients will often require treatment from more than one health care team. The evidence is clear that to avoid preventable patient harm, well-coordinated evidence-based care and effective inter-professional teamwork processes between multiple teams is an imperative.

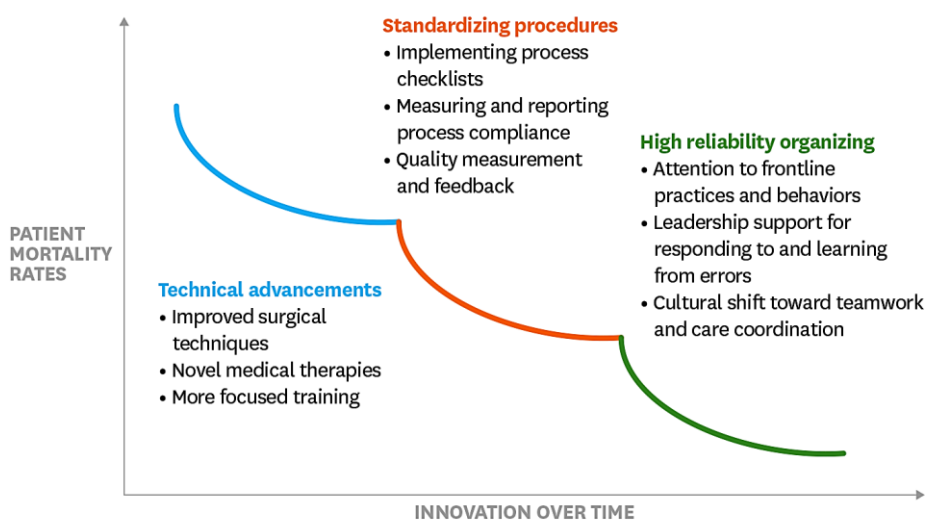
The construct of the team has gained attention in recent years. Patient advocacy groups and the growing literature indicate the positive results when we include patients as members of the health care team. Patients, now, are better informed, and expect, and indeed are encouraged, to be participants in decisions which affect their care. Despite this, it remains a challenge to acknowledge the patient as an active member of the team. In line with the recognition of patients as experts is the need for us to address the wellbeing of health care providers. Paying attention to the mental and physical health of health care providers will have a direct impact on their ability to provide holistic patient care. Health care staff who are not well cared for are less likely to be able to adequately provide care.

There are numerous programs available to health care professionals which support the development of teams and enable a culture of safety in a complex health care system. Tertiary institutions have recognised the need for inter-professional teamwork education and have developed inter-professional communication programs. We have developed a module which has been built into the CEC Academy Applied Program. This module includes the principles of inter-professional teamwork and communication to strive towards high reliability. Despite the available resources, inter-professional collaboration remains a challenge in most health care environments.

To support inter-professional planning the Team Stripes framework draws on Safety II principles and the third wave model described by Ghaferi (2016) and colleagues (Figure 1). This means that the framework focuses more on proactive planning through learning from what usually goes right in care provision from the perspective of point-of-care teams. Through this approach strengths can be harnessed and help inform improvement efforts. This thinking is a different way of viewing safety than through the traditional lens of reacting only when adverse events occur. Team Stripes follows on from the progress that has been made in NSW Health towards the theory of high reliability where we focus on designing safer health care systems which are context-specific, and which make it harder for things to go wrong.

### 3 Waves of Innovation in Patient Safety

Technical and procedural improvements have made surgery safer, but future innovation will focus on reliably organizing the work of patient care.



SOURCE AMIR GHAFERI ET AL.

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Figure 1: 3 waves of innovation in patient safety

The purpose of this paper is to describe the ‘why’ and the ‘what’ that led to the development of the framework currently being used at the point of patient care in NSW Health facilities. The framework draws on Human Centred Design principles, human factors, and improvement science to offer a structured, practical approach to understand and improve the culture of safety in teams.



## Team Stripes – The Why

This section provides a summary of the evidence used to support the development of the Team Stripes framework; in other words, it presents the ‘Why’.

Patient care is delivered by teams - teams that work together daily and teams that are formed with short notice. Teams who are used to working together regularly will have developed routines and understand the knowledge and skills of their colleagues; while teams that are rapidly formed will need to rely on processes that will assist them to form and deliver safe care. The complexity associated with modern health care delivery has led to the recognition of the importance of teamwork to achieve the shared goal of delivering safe, person-centred care. Most of the time teams work well together to provide high-quality person-centred care, but there are times when the team finds it difficult to coordinate, communication is poor and the possibility for error increases.

Unfortunately, gaps in care coordination and communication are the most common system failures that lead to patient harm. Consider Jean who was introduced earlier. Her daughter observed multiple team members provide care to her mother, but what her daughter didn’t see was a coordinated approach which might have prevented her mother from developing a pressure injury and may have allayed her own distress as a daughter.

Several decades of research has taught us that there is more to teamwork than simply grouping people with the right skills and knowledge to carry out the task work. The science of teamwork has identified key features, such as team members who are aware of and able to combine the skills that others bring and, to work interdependently to achieve shared goals (Salas and colleagues, 2009). To be effective, this needs strong leadership, which empowers the expertise that exists within their team. In high-performance teams, leaders are reported to lead with compassion and embody transparency, equity, kindness and accountability (West, 2015).

These and other learnings discussed in this document are the reason we included the [Safety Fundamentals](#) within the Team Stripes framework. The Safety Fundamentals (discussed in part 2 of this document) are designed to transform safety culture and to help teams move towards an aspiration of high reliability.

For the context of this document the focus is on point-of-care teams. Leaders of these teams are often described within an inter-professional co-leadership model. A typical model would support medical and nursing/midwifery co-leads who work in a collaborative way to create an environment where staff are empowered to make good decisions which are aligned with the safety and quality agenda of their organisation. These conditions embrace continuous improvement within a learning environment. Therefore, staff capability building in improvement is prioritised and measures of success are linked to best patient outcomes rather than to fiscal targets.

Because of their successful leadership and effective teamwork models, high reliability organisations (HROs) have gained the attention of health care. HROs are industries that demonstrate near perfect performance where an error has the potential to cause catastrophic harm. Aviation and electrical power grids are the most cited examples of HROs. In health care there are millions of occasions of care provided annually and, therefore, plenty of opportunity for serious adverse events which can be considered catastrophic to those involved, both patients and staff, regardless of how many people are affected. In NSW we aim to provide health care that is free from preventable harm, despite the challenges.

Health care continues to learn from HROs and has adapted some of the habits. An example is, to increase team situational awareness, habits such as safety huddles have gained traction. When they are done well, safety huddles combine the individual awareness gained from the different perspectives that influence patient care, to achieve a state of collective mindfulness.

Collective mindfulness as a concept, was first described by Weick (1993) relative to HROs. It refers to the shared awareness and attention of a team to the events emerging within a specific context. When mindfulness skills are developed at an individual level and combined with processes, such as safety huddles, collective mindfulness is more likely to be achieved. There are other reported benefits of mindful working. Patients who are cared for by team members who practise mindfulness techniques are more likely to experience patient-centred communication and report a higher level of satisfaction with care (Beach, Roter, Korhuis et al. 2013). Benefits for staff include, improved physical and mental wellbeing, the ability to maintain attention to task completion and enhanced decision-making skills (Sutcliffe, Vogus & Dane 2016). These benefits manifest as increased self-compassion and personal wellbeing.

The attention to staff wellbeing as a predictor of effective health care delivery (Sikka, Morath & Leape 2015) has gathered momentum and peaked during the COVID-19 pandemic crisis. When a person's wellbeing is negatively impacted it can be expressed, in its extreme, as burn-out, emotional exhaustion, depression and anxiety (Sexton, 2019). Patient and staff safety are reliant on individual accountability and effective teamwork which, in turn, depends on multiple factors, including staff wellbeing. Contemporary health care places excessive demands on patient care staff, for example through the increase in complex new technology and the need to constantly upskill.

Humans are fallible and when fatigued from excessive stress will have an increased potential to make errors of judgement. Ultimately the ability for staff to provide effective person-centred care will be impacted by how well they feel cared for themselves (ACSQHC 2011).

Person-centred care is a wide-ranging concept. In health care delivery, it is globally considered the gold standard approach (ACSQHC, 2019). A person-centred approach is a way of delivering care that considers the whole person and not just a patient with a medical diagnosis. Partnering

with patients is a person-centred care approach which recognises that patients are highly invested in their own health outcomes.

When patients, with experiential knowledge of a disease and its treatment effects, are enabled to partner in their care, the chances of adverse events are reduced. These partnerships also help to dilute clinician factors such as fatigue, cognitive bias or anchoring (Pomey, et al. 2018). However, the partnerships do not always occur naturally; patients and their advocates need the support and resources to become partners in their care. An environment which is psychologically safe and exists within a culture of learning will provide the best skills to support this approach to care (Frankel, 2017).

A climate of psychological safety is essential in a learning environment where team members are more likely to speak up, without fear or embarrassment, about errors or 'near misses' (Edmondson, 1999). Work areas that are psychologically safe allow diversity of thinking and enable team members to not only share innovative or creative ideas but to also provide feedback and seek help. This collaboration enhances patient safety through the ability of team members to contribute to safety and quality improvement.

Leaders promote psychological safety through behaviours more than through words. For example, through leader visibility, frequent check-ins with team members and transparent two-way feedback mechanisms. These behaviours and similar ones that foster healthy conflict and embrace curiosity are a window into the culture of an organisation.

Culture is the collective values and behaviours a team exhibits, which includes the way they communicate. Safety culture forms a part of the overall culture and refers to the attitudes and actions of staff relative to safety (risk), such as the safety of patients, staff and visitors to a health care organisation.

It's important to note that when striving for high reliability a cluster of high-performance teams does not automatically lead to a HRO. Each team, while working in a context-specific way, needs to understand its connection and the impact of its work on other teams that make up the organisation. This is the role of clinical microsystems. The work on clinical microsystems arises from systems thinking and brings us back to the beginning of this discussion and the foundation for the Team Stripes framework.

Clinical microsystems in health care are found at the point-of-care, where hands-on patient care is delivered within a context. They are made up of clinical and non-clinical staff, patients and their family/carers and are part of a larger organisation. Examples of clinical microsystems include intensive care units, outpatient departments, emergency departments and delivery suites. Each one is connected to the other although there are more natural associations that form between the microsystems, for example, delivery suites, post-natal units, and newborn care centres.

Microsystems are often described as the working hub of larger organisations or health care systems (Nelson, et al. 2002).

A clinical microsystem self-assessment tool is used to help teams identify potential areas for improvement against ten key characteristics of high-performing teams. The CEC has developed programs which were informed by the work of clinical microsystems and a self-assessment tool was designed for the NSW Health context. A limitation of this and similar tools was the use of the self-assessment as a checklist which detracted from the ability of some teams to be creative, identify their own context-relevant improvement priorities and think beyond their own unit. Not all improvement priorities will be limited to change within a single unit therefore it's often necessary for a unit to collaborate with another or other unit(s) to affect change. For example, an emergency department collaborating with a medical unit or an operating suite with a surgical unit.

The work of clinical microsystems recognises that for a unit, and therefore an organisation, to produce quality work, attention must be given to the people who produce the work. One way for an organisation to understand how those who produce the work experience their work, is through questionnaires; but not through questionnaires alone, and not without a clear process for reporting back and acting on the data that arises. The ability for a team to identify their strengths and areas to develop will engender learning and improvement. This experience has contributed to the design of the Team Stripes framework to ensure that teams are able to contribute, reflect, recognise, and prioritise their improvement.

## Team Stripes Framework

The first part of this document discussed the evidence and literature to demonstrate the value of teams, teamwork and the associated effect on patient and staff experience in the provision of safe and quality care. This in turn has provided the 'Why' for developing the Team Stripes Framework designed to support teams to transform their safety culture.

In this section we introduce the 'What'. Supporting documentation and resources have been developed to provide the 'How' of [Team Stripes](#) and the associated [Safety Fundamentals for Teams and Safety Fundamentals for Person Centred Communication](#).

## Case study – Rural medical unit

This outreach service was nominated by the local health district executive to use the Team Stripes framework to help them prioritise areas for improvement. The unit leadership team initially engaged with the CEC via skype where they heard more about the framework and had the opportunity to ask questions. We were then invited to give a face-to-face presentation to the point-of-care multidisciplinary team (MDT) which comprised nursing, allied health and administrative staff.

The problem – The staff expressed frustration and concern with an approach to care which was not multidisciplinary in nature, and they identified it as directly impacting the patients, particularly at transitions of care.

Discovery – A one day visit to the site was made by the CEC program lead. The visit included a unit tour; observations of clinical communication - both structured and unstructured; and informal conversations with patients and staff.

The team chose to participate in a safety culture survey using the Safety Attitudes Questionnaire and they provided the opportunity for patients and carers to complete anonymous experience of care surveys. Other data relevant to the team was reviewed and collated with all data inputs presented to the MDT during a facilitated conversation.

The key priority agreed to by the team was to design and test a location-specific tiered communication process

A documented summary of the Discovery phase and the agreed way forward was provided to the team for their consideration.

Action planning – The local Team Stripes lead invited the CEC back to work with the MDT on a plan of action following agreement by the team on the key improvement priority. The full MDT were present at the second facilitated conversation where actions and timelines were agreed. The CEC then provided weekly coaching via phone for the first month and then on an ad hoc basis.

Conversations with the local lead following implementation of the new model confirmed that other changes to enhance the service had occurred as a result of the Team Stripes 'current state Discovery phase'.

Lessons learned – Intervention started from the first interaction; the first site visit and presentation stimulated robust discussion and a reflex review of current processes; When data is presented more team members will come on board.

## Team Stripes – The What

Team Stripes is a generative framework which is designed to support point-of-care teams to build a strong sustainable safety culture. The goal is to develop high-performance teams who work interdependently towards shared goals in an environment focused on a culture of safety. The ultimate outcome will be no tolerance for preventable harm yielding excellent patient and staff experience.

Drawing on Human Centred Design principles and using a mixed methods approach, Team Stripes takes a step back to appreciate the context of the clinical unit. Consistent with the philosophy of person-centred care where patients are not defined by a diagnosis, we acknowledge that each clinical unit has its own needs, identity, and culture.

The Team Stripes framework (Figure 2) commences with an engagement phase and is further represented by four stripes where the Discovery phase helps teams prioritise improvement opportunities based on local data. The data focuses on areas of risk within a unit as well as the unit's strengths so that interventions and risk mitigation strategies can be developed. This approach is an aspect of human factors learning. Embedded within and supporting the framework are the Safety Fundamentals.

The Safety Fundamentals are behaviours and processes recommended to teams to enhance teamwork and person-centred communication. Some of the Safety Fundamentals have already gained traction within NSW Health based on the accumulating evidence of their use in local and international health care settings. Teams have the option of adopting one or more of the Safety Fundamentals as a part of their work using the Team Stripes framework or as stand-alone interventions.

We have identified six Safety Fundamentals for Teams and seven Safety Fundamentals for Person-Centred Communication based on current system requirements. The Safety Fundamentals are reviewed in line with system needs.

Team Stripes is context driven recognising the unique identities of every clinical team with respect to team culture, patient cohorts and geographical setting.

The use of this framework will equip clinicians with the tools, education, and system awareness to foster a culture of safety.

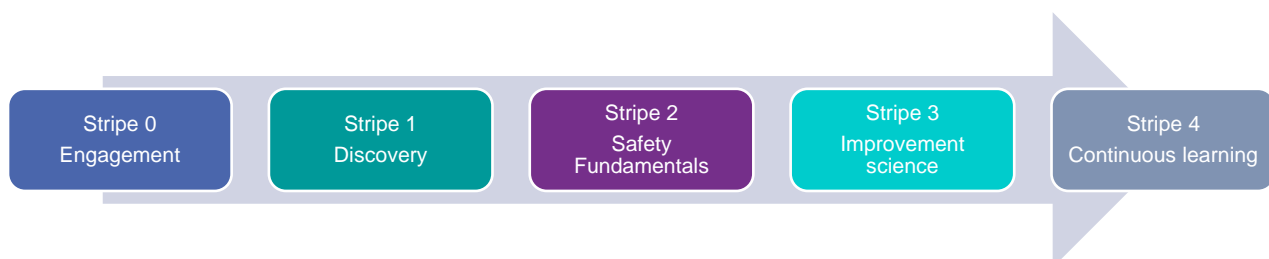


Figure 2: Team Stripes Framework

## Safety Culture

Team Stripes is about understanding and transforming local safety culture. Safety culture can be described as the values and behaviours, relative to risk, of individuals that make up a team. In learning environments where safety culture is strong, the team is guided by transparent and compassionate leadership. There are multiple components that make up safety culture where deficiencies in one can impact the performance of a team. For this reason, Team Stripes examines the multiple components to help identify the areas that present the greatest strengths to help improve the areas of greatest weakness. Safety culture improvement is less about what is being implemented and more about how the change is done and what incremental, unplanned changes happen along the way that boost the improvement.

Compassionate leadership involves a focus on relationships through careful listening to, understanding, empathising with and supporting other people, enabling those we lead to feel valued, respected and cared for, so they can reach their potential and do their best work. There is clear evidence that compassionate leadership results in more engaged and motivated staff with high levels of wellbeing, which in turn results in high-quality care (West 2021).

Taking the time to improve safety culture can not only reduce adverse events but also improve the wellbeing and engagement of staff. Entering an environment which nurtures a positive safety culture is recognisable by the energy and engagement of its staff, the ability of staff, patients, and visitors to collaborate creatively in a psychologically safe space, and the evidence of continuous learning and improvement. These are also known as high reliability organisations.



Figure 3: CEC Safety Culture Framework. 2022.



## Human Factors and Teamwork

Human Factors is about understanding the individual characteristics we bring to work from a social, cultural, and psychological perspective. These characteristics influence our actions in a way that can affect health care safety. The discipline of human factors is well known for its role in contributing to safety in other safety critical industries, such as aviation, because of the role that human error plays in incidents and adverse events. A goal of human factors is to design tools and activities to make it easier for individuals and teams to do the right thing in the right way. How the work environment, which includes the ways teams are formed, is designed is critical to ensure a symbiosis of the characteristics of the team members. There are multiple elements that influence human factors, such as leadership, safety culture, how we communicate and how products and services are designed. Human factors' theory has been important to the development of the work we present in this document when designing for a reduction in person-based errors that can be mitigated through communication and teamwork activities. To help overcome some of the human factors that affect safety, a scientifically based approach, such as Human Centred Design, is used.

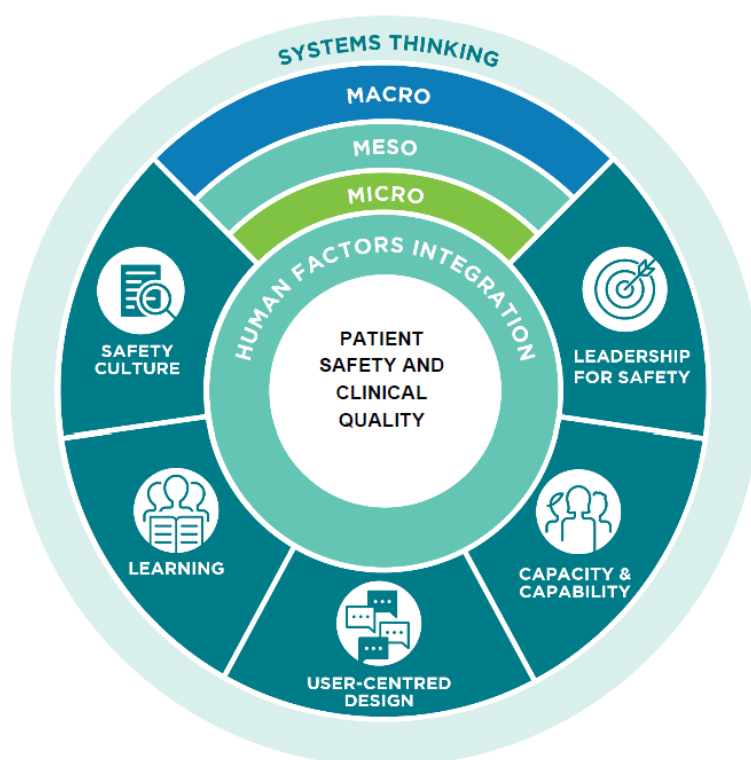


Figure 4: CEC Human Factors Framework 2020.

# Human Centred Design

Human Centred Design (HCD) is an iterative process which involves the ‘end-user’ or human perspective through all phases regardless of whether the design is the creation of a process, service, policy or product. HCD is used to gain an individualised, context-driven approach which means gaining an understanding of the people (end-users) and their needs first. In other words, HCD always puts people before product. Practitioners who use HCD principles believe that all problems are solvable and the people who hold the answers are the ones that are facing the problem (Futuregov 2017).

HCD is commonly represented by four phases.

1. Learn from the people you are designing for
2. Understand the context for the use of the solution
3. Develop and start testing prototypes; and
4. Implement and learn.

We have overlaid the Team Stripes framework into the principles of HCD. The Discovery phase of Team Stripes is where we seek to understand the problem(s) from the perspective of the team and take the time to appreciate and learn from what goes well. Often the team will identify many opportunities for change during the Discovery phase. It’s important at the end of the Discovery phase to continue to engage with the point-of-care team to celebrate and learn from their strengths and to identify the most important improvement priority(s). Prioritising one or two improvement areas, can see a higher likelihood of success which is sustainable. Improvements in one area are likely to have a domino effect and improve other areas. The principles of HCD underpin all aspects of the Team Stripes framework.



Figure 5: Human Centred Design Process

# The Framework: Unpacked

## Stripe 0 – Engagement



### Connect

Teams either self-refer or are referred by their executive leadership. To ensure commitment to the program it is important that the point-of-care staff are engaged, interested, and feel a part of the process prior to commencing the Discovery phase.

### Discuss

The first contact is usually a presentation of the framework and discussion with the leadership team, which might include executive leadership as well as the clinical unit leadership. If the executive leadership are not present it is important that they are aware of the team's involvement in the framework.

### Present

Presentation to the point-of-care team gives them the opportunity to ask questions and to understand that the work is a partnership approach.

### Commit

An agreement is reached between the clinical team via the leadership and the CEC to proceed with the Team Stripes framework. Part of this commitment is the establishment of local governance and the appointment of a local lead who will lead from the perspective of the local team with CEC support.

Executive leadership provides organisational support and is crucial to advancing and sustaining safety and quality improvement activities. The organisational executive is the conduit to the Local Health District (LHD) executive and will ensure a shared vision in line with the values and strategic priorities of the organisation, LHD and NSW Health.

### First contact – The first intervention – Catharsis and insights

The first contact with the teams is an opportunity for them to reflect and recognise what they do well and question the perceived barriers to achieving their goals. We have observed teams, both leadership and point-of-care who, once they realise that this is a partnership approach, have become emotional and shared how they stay motivated by continually striving to improve. Teams have also had 'light bulb' moments where they realise opportunities for change which they can start early.

## Stripe 1 – Discovery

The Discovery phase is an assessment of the ‘current state’ of a clinical unit.



### Gather

Use tools to assess what is going well and discover the priority areas for improvement. Suggested tools to use during this phase:

- Safety culture survey using a validated instrument
- Patient and carer experience surveys
- Safety data (voluntary incident reporting system)
- Other data specific to the team, for example: compliments received

### Observe

This is a method of data collection where we seek to better understand the context within which teams work through observations in clinical practice. They are an opportunity to view teamwork and communication processes and to have unstructured conversations with staff. Consistent with human factors’ theory, observations help the observer to appreciate the natural variability that occurs and how teams adapt. This allows us to see a snapshot of work-as-done rather than work as-imagined.

### Exchange

Key findings from the Discovery phase are presented to the point-of-care staff using an evidence-based model. The findings are used to guide a facilitated conversation towards a practical and tangible improvement priority.

All outputs from the Discovery phase are presented to the team in a written report.

### Agree

The team reviews, shares and considers the report which contains a proposed way forward.

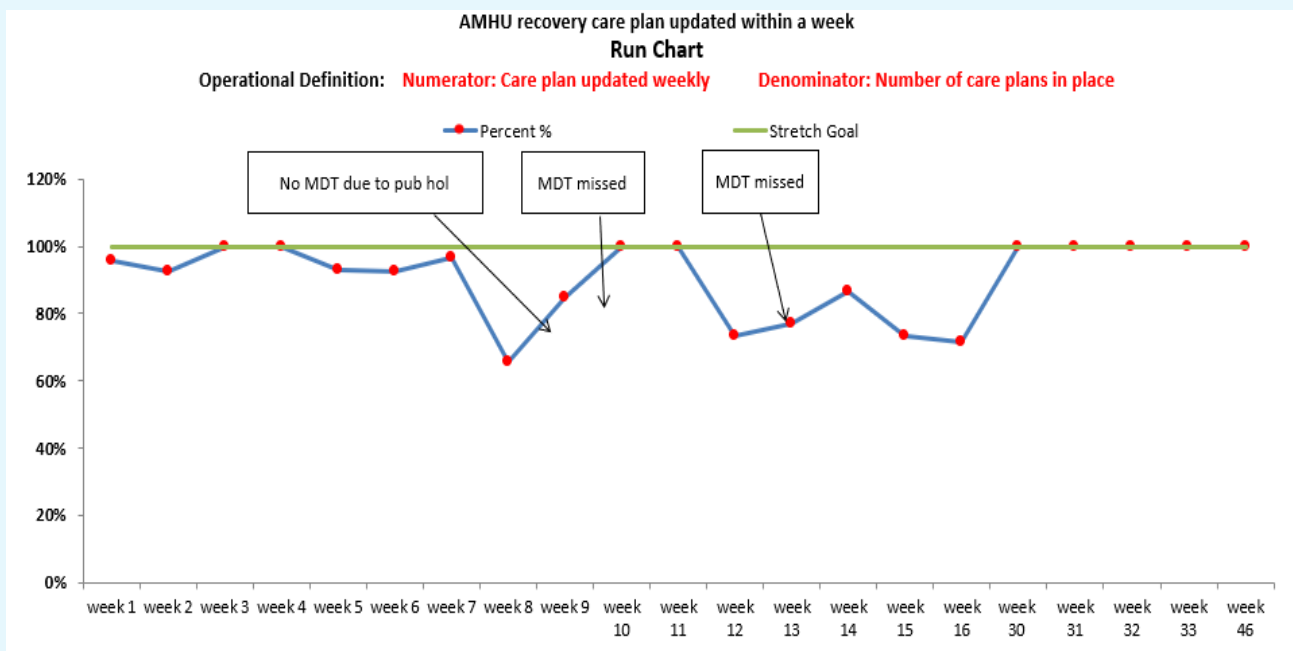
Following the Discovery phase teams are supported to implement relevant safety fundamentals (Stripe 2) and build capability in the application of improvement science methodology (Stripe 3) which will give them the necessary tools to progress through to sustainable outcomes. This method, and the ability to choose change ideas based on priority, will ensure a service-specific approach to safety culture and quality improvement.

## Case study – Metropolitan Mental Health Unit

When this team opted to engage with the Team Stripes framework, they described their multidisciplinary communication processes as often unstructured and sometimes ad hoc. The identified gaps in communication contributed to consumer harm, staff frustration and poor morale.

A local team made up of inter-professional point-of-care team members was established early, at the time of the 'Discovery' phase. The mental health Quality and Risk manager, who at that time had the opportunity to participate in the CEC's Mental Health Improvement Coach program, helped to drive the work through coaching and the use of practical tools. This was described as one of the greatest enablers for the team who used improvement science methodology to develop, test and implement changes.

Some simple changes, such as changing the location and structure of multidisciplinary team meetings, had positive impacts. More staff were able to participate in the meetings and there was an improved flow of communication. These changes were reflected in a decrease in the number of recommendations from serious incident reviews which related to communication and a positive increase in the number of staff who felt that they were active participants in consumer care. An inpatient recovery e-plan was developed which resulted in 100% of consumers having a completed plan on admission and updated within the week. There was also an increase in the documentation of consumer and carer goals from <20% to 100% for both.



The team said that using the Team Stripes framework provided them with a structure and format for their interventions. They went on to say that it was helpful to have the 'Discovery' phase summary report which included the aggregated data. Overall, the framework provided a direction and plan which helped them keep to their goals.

## Stripe 2 – Safety Fundamentals

National and international evidence indicates that health care associated risk is often connected to gaps in communication and teamwork. The foundation of all the Safety Fundamentals (SFs) is to enhance teamwork and person-centred communication.



### Improvement coaching

Improvement coaching and skill building will help to set the conditions for continuous learning and safety improvement. The coaching starts when the multidisciplinary team have considered the Discovery phase report and are ready to assess the opportunities for change. The team then ranks the improvement opportunities and appraises them for impact (of risk reduction) and ease (of implementation). An action plan is then developed which will lead the team to Stripe 3 and capability development in improvement science methodology. Improvement coaching commences at Stripe 2 to prepare the team for autonomy in future safety improvement activities.

The SFs appear here as a practical place to start the improvement work. For example, some teams have identified SFs, such as the Multidisciplinary Team Rounds at the Bedside, and have worked towards implementation using improvement cycles.

### Safety Fundamentals for Teams

The Safety Fundamentals for Teams ([SFTs](#)) are an activity which focuses on strengthening behaviours that impact safe and quality care. When effectively implemented and regularly evaluated they have the potential to deliver quick, measurable gains and are associated with positive staff and patient experience.

The use of the SFTs is consistent with the research on the waves of innovation (Gharferi, et al. 2016). The SFTs fall into the third wave which goes beyond the technical and structural innovations which occur in the first and second waves.

The third wave moves towards organising for high reliability. The focus is on the practices and behaviours of point-of-care teams. That is, a recognition of the nuances of clinical teams in terms of culture, patient cohort and geographical setting and embraces the natural variations that



occur that affect safety such as the way individuals and teams interact and organise their work so that they recognise when things are going wrong before it happens. Multidisciplinary teams develop processes in an environment where staff feel safe to speak up and are deferred to for their expertise and not their hierarchical status. These behaviours include learning from errors.

The six (current) SFTs were collectively defined by the CEC following a review of the literature and wide consultation. They are practical and reliable tools that can be adapted and implemented in most health care settings to strengthen and maintain a culture of safety. In other words, teams are not restricted to a 'one size fits all' method. As the system changes and new evidence is available, the current group will be revised.

Each of the SFTs have tools to support implementation. Consistent with the context-driven focus of Team Stripes we support the modification of the tools to suit the context within which they will be delivered, that is, if adherence to the key principles of the SFTs is preserved.

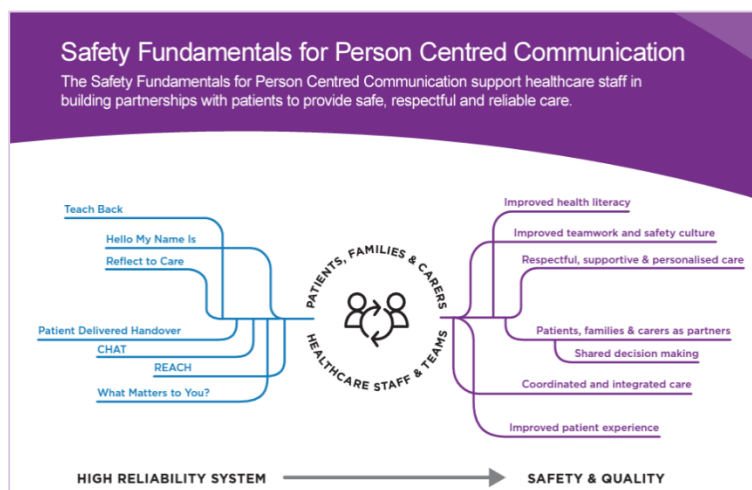
They are ...	They are not ...
Behaviours and processes which help build the conditions for continuous learning	A bundle
Mostly evidence-based and have been adopted throughout NSW Health	Mandated by policy (apart from safety huddles)
Practical ways to enhance teamwork and communication	A checklist

Table 1: Characteristics of Safety Fundamentals

## Safety Fundamentals for Person-Centred Communication

Like the Safety Fundamentals for Teams, the Safety Fundamentals for Person-Centred Communication (PCC) are a group of tools and resources that are already used to some extent within NSW Health. We have selected the current group to help healthcare staff identify and apply these tools and resources in practice. The Safety Fundamentals PCC have been

informed by evidence and chosen in partnership with consumer and clinician networks. They reflect the emphasis on improving communication, person-centred care and safety, and the relationship between these elements. The Safety Fundamentals PCC complement the Safety Fundamentals for Teams to promote improved clinical care, and safety and quality for the NSW public health sector.



## Stripe 3 – Improvement science

Improvement science is an evidence-based methodology which is used to plan, test and implement changes in a sustainable way.



### Plan

The Discovery phase improvement priorities are addressed using improvement science.

### Capability building

Teams are advised to link in with local improvement advisors who can support the work and help them navigate the associated tools, and/or access the suite of tools and webinars on the [CEC website](#). There is also a faculty of staff at the CEC who can advise on how to build local capability. The CEC's Quality Improvement Data System ([QIDS](#)) provides users at all levels of an organisation with a single point of access to information and tools for the purpose of improving the safety and quality of health service delivery. QIDS transforms data from several sources into a unified platform with standardised and customisable analytic and improvement tools. A shared space means that you and your team can communicate in one space about whatever improvement priority you're working towards.

### Output

After testing your change multiple times, implement.

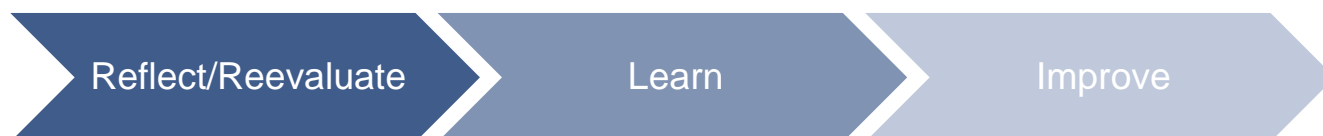
### Celebrate

Acknowledge the changes that have been made and give recognition to the team.



## Stripe 4 – Continuous learning

Leading change requires committed multidisciplinary input and taps into all aspects of safety culture: reporting, high-trust, learning, just, restorative, informed and adaptive. To maintain a culture of learning create a space for regular briefings and debriefings which includes information on actions taken, feedback and reflection on lessons learned and what improvements can be made now?



Reviewing and evaluating can occur at any time during change implementation. Some teams review the Discovery phase data at 12-18 months and repeat the evaluations to understand the new current state.

### Reflecting

Take the time to pause and reflect at regular intervals and, check in with all stakeholders and use the following questions as a guide:

- Where have we come from?
- Have we made an improvement?
- What has been the impact on patient care?
- What went well? Why?
- Were there any unintended outcomes? What impact did this or these have?
- Was there engagement from the multidisciplinary team?
- Have we closed the loop and shared our findings?
- Have we celebrated our wins?
- What are 3 things that had the greatest impact (enablers and barriers)?
- What can we improve now?
- What will we do differently?
- [Action plan](#) going forward

## Conclusion

Team Stripes is a relevant and accessible generative framework for teams working at the microsystem. The framework has been adopted by multidisciplinary teams who, so far, have creatively made process changes to improve communication and person-centred handover. The Safety Fundamentals have proved useful and continue to be applied in clinical units across the state. These tools do not work in isolation; when implemented well, they will reap the rewards of an enhanced culture of safety observed in improved staff and patient experience.

The experience of using Team Stripes to date has been with disparate teams who care for patients from a broad range of diagnostic groups. However, of note is that no matter how different these units were in the service they provided, the teamwork and communication process change opportunities were aligned. A key learning is that allowing teams the opportunity to create or modify processes according to their local needs is integral. Another observation is that teams embraced the opportunity to participate in the safety culture survey and were encouraged by its targeted use *'it's about us'*.

In terms of readiness to change, the experience so far has reinforced that a 'bottom-up' approach is a driving force. However, in one instance a 'top-down' approach was met with initial reluctance which was overridden by the high-performing nature of the clinical team and the ability of the newly appointed Nurse Unit Manager (NUM) to visualise opportunities and act.

Teams have reflected that the support of an objective observer helped them to address blind spots in their practice which had been missed when their unit was viewed from an internal lens. We will continue to learn and support teams who choose to work through the Team Stripes framework.

## Discussion

The research on teams has taught us that teamwork is a complex phenomenon and does not occur as an automatic consequence of mixing the right people with the right skills and knowledge. Teams depend on strong leadership that sets clear direction where team members understand their roles and responsibilities. Safe, quality patient care is best delivered in an environment where members feel safe to speak up, innovate and receive feedback. Attention to staff wellbeing along with recognition and reward is viewed as a necessary resource to ensure safe health care delivery.

With established communication processes to assist care coordination, team members recognise the need to rely on the different skills members bring to the team and to work interdependently towards a shared goal. For the broad health care system to achieve high reliability, context-specific attention needs to be given to the smaller systems that make up the organisation.

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For further information about Teamwork and the Safety Fundamentals:  
<http://www.cec.health.nsw.gov.au/improve-quality/team-stripes>

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