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Llywodraeth Cymru  
Welsh Government

# Continuous Improvement

Delivering better public services:  
Methodology and theory

*sowing seeds*



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# Introduction

Continuous improvement (CI) is, in a nutshell, common sense formalised.

So, why do we recognise problems and issues and see opportunities to make things better, but often don't make improvements?

Is it because we are inherently resistant to change? The achievements of humans suggest otherwise – that we naturally look to find a better way.

Is it because of our lack of tolerance to uncertainty, making us more likely to stick with what we know?

Or, is it because we work in organisations where the culture doesn't encourage or support continuous improvement efforts?

This edition of Sowing Seeds introduces some common approaches to CI that you can use to break the 'Edward bear cycle'. It also explores how to gain commitment from everyone in the improvement journey.



**“People don't resist change they resist being changed”**

*(Senge, 1990)*

As A.A. Milne (1926) put it in Winnie the Pooh:

“Here is Edward Bear, coming downstairs now, bump, bump, bump, on the back of his head, behind Christopher Robin. It is, as far as he knows, the only way of coming downstairs, but sometimes he feels that there really is another way, if only he could stop bumping for a moment and think of it. And then he feels that perhaps there isn’t.”



What, why, when, how, where and who?

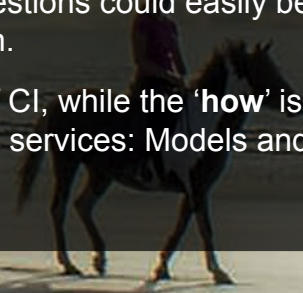


“I keep six honest serving-men  
(They taught me all I knew);  
Their names are:  
What and Why and When.  
And How and Where and Who”

*Rudyard Kipling, (1902)*

Kipling’s ‘six honest serving men’ – what, why, when, how, where and who – are the questions used in CI to increase understanding. These six questions could easily become the main vocabulary of any improvement-focused organisation.

This edition looks at the **what**, **why**, **when**, **where** and **who** of CI, while the ‘**how**’ is explored in Continuous Improvement - Delivering better public services: Models and approaches.



# What?

## What is Continuous Improvement (CI)?

CI is a way to **focus on quality**.

To focus on quality an organisation needs to have a clear understanding of **what needs to be improved**.

To understand this, an organisation needs to know **what is expected** of it and the services it delivers.

An organisation with **CI at its core** will have this information and can use CI to get better at achieving those expectations.

**“Continual improvement is a type of change that is focused on increasing the effectiveness and/or efficiency of an organisation to fulfil its policy and objectives. It is not limited to quality initiatives. Improvement in business strategy, business results, customer, employee and supplier relationships can be subject to continual improvement. Put simply, it means ‘getting better all the time.’”**

*Chartered Quality Institute (2016)*

It is also important to understand what CI is not. It is not:

- a set of tools (although there are many useful tools that help to deliver CI)
- something that is ‘done’ to people
- an approach to save money in the short term
- a project management tool
- one size fits all – you can’t simply pick up a process from one place and plant it in another

**“Improvement is not about using a set of tools and techniques. Improvement is not going through the motions of organising improvement teams and training people. Improvement is a result, so it can only be claimed after there has been a beneficial change in an organisation’s performance.”**

*Chartered Quality Institute (2016)*

## What does the term 'quality' mean?

Currently there are more than 2000 terms used in the English language to describe what being 'drunk' is! Yet in our organisations we often struggle to describe what quality is.

Put simply, quality is the ability to reliably meet expectations – it is not about being the best.

These expectations come from many 'voices', the most important being that of the customer (service user). Others include regulators, government and professional bodies.

There are quality expectations across every element of a service, not just the outcome (effectiveness). Others include safety, efficiency and timeliness.

So in public services, quality means to reliably deliver 'service user' focused, safe, timely, effective and efficient services.

**“Put simply, it means getting better all the time”**

*Chartered Quality Institute, (2016)*

### Defining Quality

**“In its broadest sense, quality is a degree of excellence: the extent to which something is fit for its purpose. In the narrow sense, product or service quality is defined as conformance with requirement, freedom from defects or contamination, or simply a degree of customer satisfaction. In quality management, quality is defined as the totality of characteristics of a product or service that bears on its ability to satisfy stated and implied needs. Quality is also rapidly embracing the nature or degree of impact an organisation has on its stakeholders, environment and society.”**

### What quality is not?

**“Quality is not perfection, a standard, a procedure, a measure or an adjective. No amount of inspection changes the quality of a product or service. Quality does not exist in isolation – there has to be an entity, the quality of which is being discussed. Quality is not a specific characteristic of an entity but the extent to which that characteristic meets certain needs. The value of the characteristic is unimportant – it is how its value compares with customer needs that signifies its quality.”**

*Chartered Quality Institute (2016)*

## What are we trying to improve?

The short answer is: everything that affects quality. This means improving safety, effectiveness, timeliness and efficiency.

While CI often delivers significant cash-releasing and efficiency savings in the long term, the focus is firmly on improving quality. So it is important to recognise it **will fail** if it is used as a tool for achieving budget constraints.

### **In an organisation with CI embedded in the culture, what do individuals and teams improve?**

In the right culture and environment, they will take on anything they feel is within their gift to improve. Typically, anything in the way of delivering the service they recognise is needed. For example:

- delivering more of the things that make a difference
- doing less of the things that don't
- improving customer service – internal and external
- improving the quality of the process
- making the job safer and easier
- improving job satisfaction and competence
- improving the workplace environment

**“Continual improvement should focus on enablers such as leadership, communication, resources, organisation architecture, people and processes – in other words, everything in the organisation, in all functions at all levels.**

**Continual improvement should also lead to better results such as cost, productivity, delivery, responsiveness and customer and employee satisfaction. There has been a tendency to focus on departmental improvement which does not improve organisation results overall. Departmental improvements may merely move the constraints or problem somewhere else in the process chain.”**

*Chartered Quality Institute (2016)*

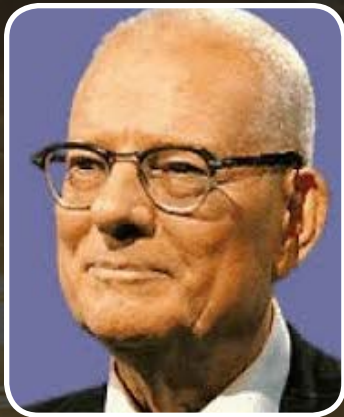
## What does an organisation that has CI in its core look like?

Considered to be the most important work on describing an organisation that has improvement at its core is that of Dr William Edwards Deming whose seminal book 'Out of the Crisis' (1982) challenges traditional points for management.

This section looks at two key elements of Deming's work:

- 14 key principles which significantly improve the effectiveness of an organisation
- System of Profound Knowledge' (SoPK)

### William Edwards Deming



He was an eminent scholar and teacher in American academia for more than half a century. He published hundreds of original papers, articles and books covering a wide range of interrelated subjects—from statistical variance, to systems and systems thinking, to human psychology. He was a trusted consultant to influential business leaders, powerful corporations and governments around the world. This includes inspiring and guiding the spectacular rise of Japanese industry after World War II, and the resurgence of the American automobile industry in the late 1980s.

The impact of his revolutionary ideas has been compared to those of Copernicus, Darwin and Freud. Others have referred to him as the father of the third phase of the Industrial Revolution.

He was a visionary, whose tireless quest for the “truth” and unwavering belief in “continual improvement” led to a set of transformational theories and teachings that changed the way we think about quality, management and leadership.

## 14 key principles for improvement

Deming (1982) offered 14 key principles for management to follow for significantly improving the effectiveness of an organisation.

Many of the principles are philosophical. Others are more methodical. All are transformative in nature. The principles were first presented in his book *Out of the Crisis* (2000).

The text in **bold** is where the principles here have been modified from the original to give them a public service focus.

| Public service focus                                                                                                                                                                                                                       | Original text                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| 1. Create constancy of purpose towards improvement of service, with the aim to become <b>safe, effective, efficient, timely</b> , and to provide jobs.                                                                                     | 'competitive and to stay in business'                       |
| 2. Adopt the new philosophy. We are in a new economic age. Western management must awaken to the challenge, must learn their responsibilities, and take on leadership for change.                                                          |                                                             |
| 3. Cease dependence on inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the <b>service</b> in the first place                                                                     | 'product'                                                   |
| 4. End the practice of awarding business on the basis of price tag. Instead, minimize total cost. Move towards a single supplier for any one item, on a long-term relationship of loyalty and trust.                                       |                                                             |
| 5. Improve constantly and forever the system of <b>service delivery</b> , to improve quality and productivity, and thus constantly decrease costs.                                                                                         | 'production and service'                                    |
| 6. Institute training on the job.                                                                                                                                                                                                          |                                                             |
| 7. Institute leadership. The aim of supervision should be to help people and machines and gadgets to do a better job. Supervision of management is in need of overhaul, as well as supervision of <b>those that deliver the services</b> . | 'production workers'                                        |
| 8. Drive out fear, so that everyone may work effectively for the organisation                                                                                                                                                              |                                                             |
| 9. Break down barriers between departments. People in <b>all departments must</b> work as a team, to foresee problems of <b>service delivery</b> and in use that may be encountered with the service.                                      | 'in research, design, sales and production'<br>'production' |

| Public service focus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Original text                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <p>10. Eliminate slogans, <b>commands</b> and targets for the workforce asking for zero defects and new levels of productivity. Such <b>commands</b> only create adversarial relationships, as the bulk of the causes of low quality and low productivity belong to the system and thus lie beyond the power of the workforce.</p> <ul style="list-style-type: none"> <li>• Eliminate work standards (quotas) on the <b>front line</b>. Substitute leadership.</li> <li>• Eliminate management by objective.</li> <li>• Eliminate management by numbers, numerical goals. Substitute leadership.</li> </ul> | <p>'exhortations'</p> <p>'factory floor'</p>              |
| <p>11. Remove barriers that rob <b>those that deliver the services</b> the right to pride <b>in the work they do</b>. The responsibility of supervisors must be changed from sheer numbers to quality.</p>                                                                                                                                                                                                                                                                                                                                                                                                  | <p>'the hourly worker of his'</p> <p>'of workmanship'</p> |
| <p>12. Remove barriers that rob people in management and in <b>support functions</b> of their right to pride <b>in the work they do</b>. This means, inter alia, abolishment of the annual or merit rating and of management by objective.</p>                                                                                                                                                                                                                                                                                                                                                              | <p>'engineering'</p> <p>'of workmanship'</p>              |
| <p>13. Institute a vigorous program of education and self-improvement.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                           |
| <p>14. Put everybody in the organisation to work to accomplish the transformation. The transformation is everybody's job.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                           |

## 'System of Profound Knowledge' (SoPK)

After a lifetime of work in quality improvement, Deming defined his 'System of Profound Knowledge' (SoPK) in 1987. Almost 30 years later the SoPK is still at the core of all quality improvement approaches and it describes what you need to know to improve quality.

The SoPK has four elements:

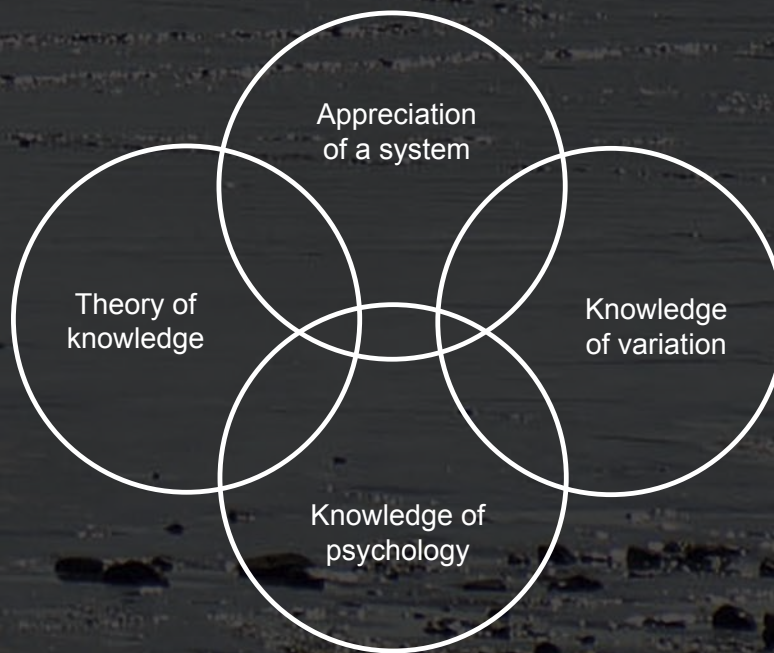
- **Appreciation of a system** – to improve a system you need to understand how the system works; what is its purpose; what is expected of it and how much of it do we need to do.
- **Knowledge of variation** – the importance of the right measurement of the right things, which should be related to the purpose and not arbitrary, and how to react to what it is telling you appropriately.
- **Theory of knowledge** – everyone in the organisation should be engaged in the knowledge of what is going on and exploring how to improve it.
- **Knowledge of psychology** – most important of all is understanding people and what motivates them. You can have the best practice and evidenced way of delivering a service and yet be unable to implement it without understanding people.

### Theory of knowledge

**“Dr. Deming railed against management that blindly asserted opinion as fact, out of convenience or ignorance. Instead, he challenged management to test its opinions, theories, hypotheses, hunches and beliefs against data to truly understand what is going on, and learn what is necessary to improve the situation. Learning needs to be continual and organisation-wide. Theories need to be developed, applied and tested to advance knowledge in a systematic fashion.**

**To help management continually gain more and better knowledge, particularly about its processes and products, Dr. Deming championed the Plan-Do-Study-Act (PDSA) cycle, which was first introduced to him by Walter Shewhart. Also known as the Deming Wheel or Deming Cycle, PDSA is a systematic and dynamic process covering theory and application that yields valuable knowledge, not simply data or information. It is a means for achieving a never-ending cycle of valuable learning for the continual improvement of a process or product.”**

*The W. Edwards Deming Institute (2016)*



### **Appreciation of a system**

**“Perhaps Dr. Deming’s greatest contribution and biggest departure from the past was to view an organization as a system. He defined a system as a network of interdependent components that work together to try to accomplish the aim of the system. The aim for any system should be that everybody gains, not one part of the system at the expense of any other. In a business context this includes shareholders, customers, suppliers, employees, the community and the environment. Dr. Deming used the analogy of an orchestra to illustrate the concept of a system, “An orchestra is judged by listeners, not so much by illustrious players, but by the way they work together. The conductor, as manager, begets cooperation between the players, as a system, every player to support the others. There are other aims for an orchestra, such as joy in work for the players and the conductor.”**

**“Taking a systems approach enables management to view its organization in terms of many internal and external interrelated connections and interactions, as opposed to discrete and independent departments or processes governed by various chains of command. When all the connections and interactions are working together to accomplish a shared aim, a business can achieve tremendous results – from improving the quality of its products and services, to raising the entire esprit de corps of a company.”**

**“Through illuminating demonstrations, brilliant statistical models and real-world examples in business, Dr. Deming showed time and again how thinking in terms of a system is critically important for discovering, analysing and solving a wide range of problems that businesses continually face, including processes, product design, customer satisfaction and even company morale. Indeed, in his estimation the vast majority of the problems a business is having lie in the system. Improve the system, and the problems go away.”**

*The W. Edwards Deming Institute (2016)*

## Knowledge of variation

**“Why did something go wrong?” “Why are results so poor?” “How can we repeat this success?” The job of management is to not only ask these and other important performance-related questions, but also to find the right answers and take the right course of action. Dr. Deming provided the means for management to do just that through knowledge of variation.**

**“In any business, there are always variations, between people, in output, in service and in product. Drawing on his training as a statistician and the ground-breaking statistical theories of his mentor, Walter Shewhart of Bell Laboratories, Dr. Deming located two types of variations within a system – common cause and special cause. Common cause variations are problems built right into the system, such as defects, errors, mistakes, waste and rework. In a stable system, common cause variation will be predictable within certain limits. On the other hand, special cause variations represent a unique event that is outside the system, such as a natural disaster, or an unexpected strike by public transportation workers.”**

**“Distinguishing the difference between variation, as well as understanding its causes and predicting behaviour, is key to management’s ability to properly remove problems or barriers in the system. However, without knowledge of variation, management might very well (with the very best intention) take action that actually makes things worse. Just as important is that through knowledge of variation, management realizes that attributing a problem to a person, instead of the system, is misguided and misleading.”**

*The W. Edwards Deming Institute (2016)*

## Knowledge of psychology

**“The final, and in many ways the most important and difficult, element of SoPK is about people. Indeed, management can create the best system, know all about variation and knowledge, and still not have a successful organisation if they don’t understand people, and particularly what motivates them to want to do a good job.”**

**“Dr. Deming understood the fundamental truth that people are different. Management must be aware of the differences and use them for optimization of everybody’s abilities and inclinations. He also understood that people are primarily motivated by intrinsic needs, including taking pride in workmanship and working with others to achieve common goals, in contrast to simply being motivated by monetary reward, which he viewed as a short-sighted external form of motivation.”**

**“Not surprisingly, Dr. Deming rejected management-by-carrot-and-stick rewards, as well as other common practices, such as quotas and merit ratings, which seek to affix blame and reward to individuals. In their place, he urged management to create an environment of trust, relationships, interdependence and pride of workmanship.”**

*The W. Edwards Deming Institute (2016)*

# Why?

## Why does continuous improvement (CI) help organisations?

CI will help build a culture that delivers a service user focused organisation where everyone will look to improve the way things are done.

CI will deliver higher quality services that are safer, more effective, more timely, more equitable and more efficient. This means better services with better use of resources.

## Why do we need to have CI embedded in the culture of public services?

In the public service all the work we do, and every process that is part of that, is to serve our communities – better, sooner, now and in the future. Bombay Hospital's motto is an adaptation of a Gandhi quote emphasising this point.

This could vary from face-to-face contact with service users, to processing purchase orders for equipment to deliver the right service, to supporting a workshop to share good practice which in turn will benefit service users.

Service users are central to all our processes, whether we see them on a daily basis or not. Therefore, they should also be central to all our improvement efforts.

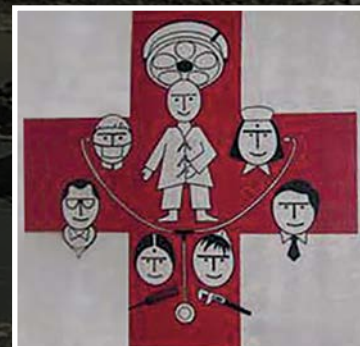
To see some of the great improvement work happening across the public service in Wales, look at the case studies and award submissions published on the All Wales Continuous Improvement Community website: [www.goodpractice.wales/awcic](http://www.goodpractice.wales/awcic).

So, the main reason for improvement is to serve our communities better. However, this needs to happen in a rapidly changing and developing world with ever increasing pressures on our resources. CI, as part of the culture of public services, will help deliver the improvements needed to meet these demands.

## Bombay Hospital Motto

**"A patient is the most important person in our Hospital. He is not an interruption to our work, he is the purpose of it. He is not an outsider in our Hospital, he is a part of it. We are not doing a favour by serving him, he is doing us a favour by giving us an opportunity to do so."**

*Mathatma Ghandi*



# Who?

Gone are the times when ‘the boss’ knows the answer to the problems that our organisations face. We are now in a time where solutions come from collaboration, team working and, most importantly, involving **everyone**.

As improvement is the desired outcome it follows that everyone should engage in CI. And, more than that, **everyone** should be positively encouraged and supported to work together to continually develop improved services.

**“If you think you know the answer then you’re probably wrong!”**

*Professor Chris Bones,  
Summer School 2014*

## Who is responsible for improvement?

Rather than thinking it’s an individual’s responsibility to improve, a better way to think about this is that it’s everyone’s responsibility.

No one is exempt:

- professionally – to get better at what they do
- service delivery – to continually look to improve the way things are done and deliver better services

This challenge must come with support as no-one should be expected to do both of these without it. This support often comes in the form of a dedicated CI team. This team will typically deliver more complex improvements, deliver training in improvement skills and facilitate improvement across the organisation.

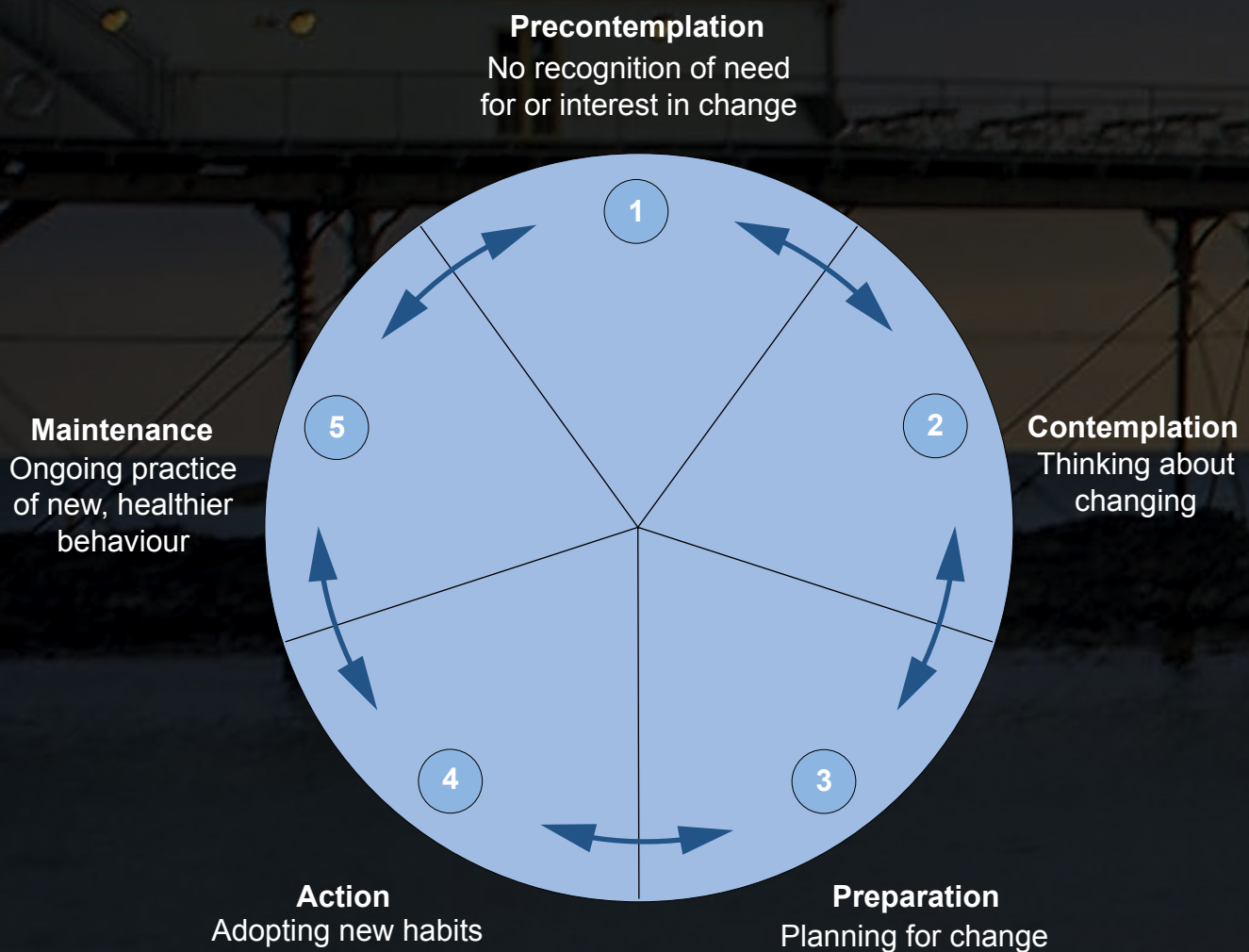
# When?

## When is the right time to do continuous improvement (CI)?

The real answer is **all the time**.

CI should be part of the everyday workings of an organisation. However, the reality is often very different and even within organisations people are at different places in their readiness to engage in CI.

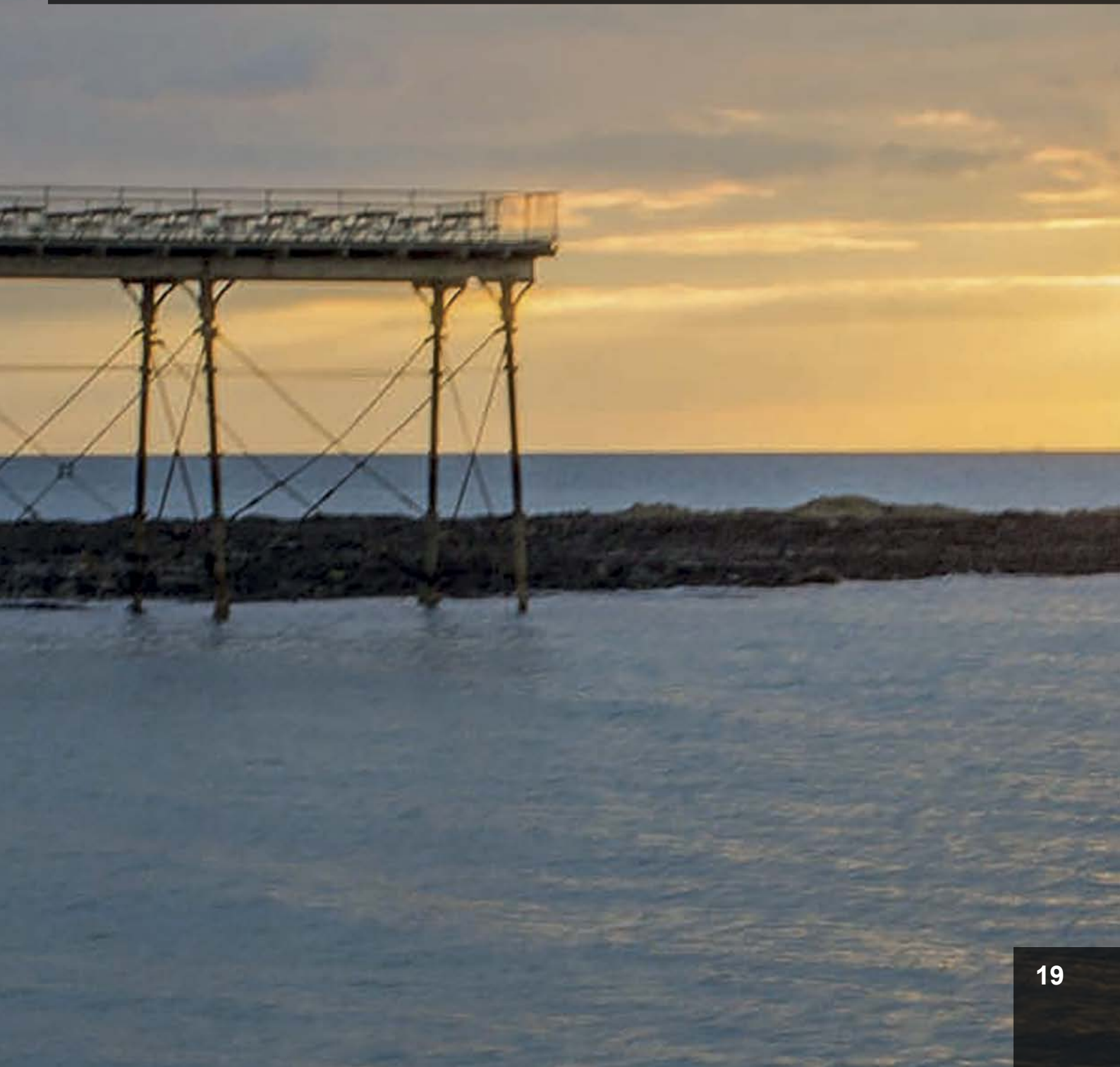
This model from Prochaska, DiClemente and Norcross (1992) is useful in understanding when to engage staff in improvement. The model demonstrates stages of change that happen in terms of behaviour change. It has been used extensively in this field to identify which stages people need to move through before they are willing to act.



We often get to Stage 4 – Action and then make the mistake of assuming everyone is at that stage too. So we try to move straight into ‘action’ before we:

- explain the principles behind what we are doing
- ensure there is recognition from the team that a change is needed, and
- involve the team in preparing for change.

When teams are involved from the outset, especially in the scoping stage, they may not see the major issue that needs resolving as a priority. However, by dealing with their issues first, you are more likely to get them on board to deal with improvements they may not initially engage with.



# Where?

## Where do ideas come from?

... It happens best on the 'shop floor'

Ideas come from **everyone** connected to the service, from suppliers to service users and from the CEO to a work experience student.

No-one has the monopoly on ideas or recognising opportunity to improve. People should be actively encouraged to contribute and each contribution should be considered and taken forward with the person whose idea it is (if appropriate). Giving people the support to experiment with their ideas is a key motivator to engage in improvement. It is also important to recognise that a lot of ideas will fail (failure is explored further in Part two of this Sowing Seeds).

## Where should CI sit within an organisation?

CI is not an 'as well as' for the organisation. To be successful it needs to be embedded in the culture. CI should exist throughout an organisation – not just in a bolt-on team.

CI shouldn't sit in a finance or project management function as it is not a 'tool' for the organisation to save money or a project management approach.

## Where is CI happening across Welsh public services?

The All Wales Continuous Improvement Community (AWCIC) is a network of more than 500 CI practitioners involved in leading and delivering improvement. They have knowledge and experience of CI techniques used across the public service in Wales.

The level of engagement in CI does vary between, and inside of, organisations – from enthusiastic individuals persevering to drive forward improvement to nationally supported improvement approaches.

A recent survey completed by AWCIC identified:

- people would value more support to achieve CI within their organisations
- those involved in CI are very open to collaborate across organisational boundaries.

# Conclusion

This edition has explored the **what**, **why**, **when**, **where** and **who** of continuous improvement (CI).

The challenge now is **how** to do it.

Continuous Improvement - Delivering better public services: Models and approaches looks at how CI can become a part of an organisation. It will explore the more common methodologies that may already be familiar to you, and touch on some of the engagement challenges that can be faced when trying to do CI.



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<https://www.deming.org/>



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Mae'r ddogfen yma hefyd ar gael yn Gymraeg / This document is also available in Welsh.