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Mind the Gap



Contents

Introduction

Part I – The Landscape

- Background
- Landscape Report
- Extract of Landscape Report for Baseline Identifier
- Partially Refined Problem Statement

Part II – The Implication

- User Needs Assessment
- Further Refined Problem Statement
- Application of Theory to User Needs Assessment
- Extrapolation of Theory Applied to the User Needs Assessment

Part III – The Sub-System

- Sub-System Processes
- Members of the Sub-System
- Training Needs
- Repetition
- Sub-System Summary
- Sub-System Implementation

Part IV – The Global Ecosystem

- Comprehensive Regular Reports
- Large System Implementation
- Summary

Part V – The Multiverse

- Conclusion
- Outstanding Work
- Lessons Learned
- Next Steps
- Bibliography



Introduction

Wherever we look in the NHS, a detailed web of data lurks underneath activity, promising insight at every turn. Why, then, do we find, rather than insight, conflict and misunderstanding from the very people who work together in order to try and improve provision for patients? Analysts and operational decision makers within the NHS work tirelessly to support patient care but, for some reason, there is a sense from decision makers that Analysts are more interested in making their pretty graphs. Equally, Analysts are regularly frustrated by decision makers who make demands on their time but without explaining what it is they want to achieve. At least that is how it appears.

With help from Health Foundation funding, we set out to bridge the gap between Analysts and operational decision makers. Our objective was to create a communication framework that enabled both sides of the divide to talk the same language, enabling the cutting edge AI, ML and DM tools to better inform how we create an improved health service for those who need it most – patients.

“We set out to bridge the gap between Analysts and operational decision makers”

Clearly this is a big task and one which only grew in size through the course of its execution. Even at the outset we only had a nebulous concept of the problem we needed to address given that the diffidence from a commonality of reference is as wide as it is varied. Analysts don't provide decision makers with the information they want, and decision makers don't give Analysts enough information about what they want / Analysts and decision makers don't communicate effectively / how do we enable Analysts and decision makers to communicate effectively?



Part I – The Landscape

Background

In such a vast space as the NHS, and such a wide and varied diffidence, it was clear that we should focus on a specific area in order to make sense of the accumulated information from our investigations. We are grateful, therefore, that a highly regarded NHS Mental Health Trust with a large Operational Directorate and Informatics department agreed to work with us to identify why these differences occurred. Due to the sensitivity of some of the information we may or may not have encountered, the Trust's only condition was anonymity in publication.

The Trust provides mental health and learning disability services. With a modest budget of around £150million, there are approximately 2,500 staff members serving an annual referral base of 70,000, and supporting around a quarter of these each month.

Upon the commencement of this review, the Informatics department at the Trust was made up of an Information team of 16 staff at varying levels of seniority, 14 in Development, and 10 in Business Intelligence along with the Head of Department overarching these. Totalling 41, this is a huge leap from the handful of members the team had only 10 years ago and underpins the investment in analytics within the Trust. The department was particularly keen to support this project as part of its process of continuous improvement.

The Operational Directorate itself has 50 staff across a large number of delivery teams. The complex structure of the department shows why they were such a good division to use for our analysis as not only were the routes to the Informatics service varied, but also from a diverse range of service users. The department covers a wide array of specialisms requiring all forms of reporting including, internal and external, regular and *ad hoc*.

It is worth noting at this point that whilst we are using this particular Trust to help us identify the root causes of a communication gap, the report itself is designed to be as generic as possible in order to work in any department, or, indeed, any NHS organisation. We will extract *some* of the excellent initiatives used by the teams, however, the required focus on the negative, should not be taken to be representative of what has consistently proven itself to be an excellent informatics team and a hugely positive and patient focussed Directorate.

Landscape Report

As part of the baseline identification process for this project, we produced a Landscape Report which identifies the activity of the Informatics team, the workload, workflow, sources, and importance along with a host of additional factors which may or may not influence how we examine the effectiveness of communication therein. Whilst the report itself is confidential, we have tried to include all relevant extracts in this report as anonymised as possible

It is worth noting at this point, that much has been done in an attempt to ensure the clear passage of information request between decision maker and Analyst. These processes and solutions include:

- Information request process to clarify expectations



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- Informatics Centre including dashboards for users to access information themselves
- Report Library to access and repeat previous report requests
- Information job ticketing to performance manage timely production

Extracting just one of these solutions, The Informatics Centre is a very clear and accessible route to an array of relevant and visual data. However, it appears that even this does not satisfy the conditions needed, whatever they may be, to create an effective communication process as this has been in place for some time and little has changed in the communications gap.

One of the main things the report highlights is that the complexity of classifying these reports would make it very difficult to create an overarching requirements solution as different types of detail would be required from the requestor at the outset. Even by simplifying their natures they could be categorised as:

- Internal or external
- Mandated or non-mandated
- Planned or unplanned
- Operational or organisational
- Existing formats or new formats
- Urgent or non-urgent
- Public (including Freedom of Information) or confidential
- Snapshot detail or over time trends

Indeed, the list of classifications could go on much further than this.

It would be a challenge for even the most technically skilled decision maker to be able to ensure they are providing all of the required detail, all of the time, for all of these reports. Therefore, we have to find a way to divide these reports so that we can investigate the forms of requests in a way which is most relevant to bridging the communication gap.

Extract of Landscape Report for Baseline Identifier

The Landscape Report provides an excellent starting point for identifying the activity that is most relevant for us to assess in this analysis. Within the report is an extensive, albeit not exhaustive, list of informatics workload:

"The Informatics team undertake a variety of tasks -

- *Producing key dashboards for external organisations, for example, Commissioners; Local Authorities; Monitor & the Health Social Care Information Centre, and for internal use within the Trust. These reports include the Trust's Board report, Clinical Commissioning Group dashboards, [Trust] Team dashboards, Monitor scorecard and the Social Care Indicators report.*
- *Producing KPIs (Key Performance Indicators) for the Trust. These include KPIs for delayed discharges, 7 day follow up from discharge from hospital, Crisis Gatekeeping Admissions, Clients on CPA reviewed within 12 months, Clients on CPA having a Honos Assessment in the last 12 months & Completeness of MHMDS Outcomes.*
- *Carrying out ad hoc clinical activity and workforce reports for the Trust. Requests are received from Trust management, Clinical Team Leaders (CTLs), individual clinicians or from admin staff.*

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- *[additional point split from above] The team is also responsible for any Freedom of information (FOI) requests on clinical activity.*
- *Production of dataset submissions such as for MHMDS, CDS & the RAP return for the Department of Health (DH) or local commissioners/partner organisations.*
- *Involvement in the development of new data collections such as the Clinical Record Self-Monitoring Survey (CRSM), Provider Compliance Assessments (PCA) and Social care indicator reports. These developments supplement data that is recorded on the [the Clinical Recording System].*
- *Carrying out new developments to automate reports so that managers and other key staff can receive reports in a timely manner. These developments are carried out using the Business Intelligence tools available such as SQL Server Integration Services and Reporting Services. Many of these reports are delivered via the [Online Reporting Business Intelligence Tool].*
- *Development of new data visualisation techniques to assist the understanding and analysis of the relevant report.*
- *Involvement in procurement and implementation of new software such as [the Clinical Recording System] to ensure it meets the Trust's requirements."*

When looking at this list it becomes even more apparent that the requirement for effective communication is critical in the requisition and provision of intelligent insight. Not all this activity pertains to the communication gap between decision makers and Analysts. We will, therefore, examine each "type" of activity to see whether it is relevant to our purpose.

- *Production of dataset submissions such as for MHMDS, CDS & the RAP return for the Department of Health (DH) or local commissioners/partner organisations.*

Pre-existing dataset submissions are easy for us to set aside from this project. Data requirements are set, criteria for the composition of that data is prescribed and the submission method is standardised. Given that communication between decision maker and Analyst is only of indirect relevance to this, we can say that such statutory dataset submissions are not directly influenced by the communication gap.

- *[additional point split from above] The team is also responsible for any Freedom of information (FOI) requests on clinical activity.*

FoI requests are external and therefore can be responded to literally without the requirement to establish sense over reference (more on this later), thusly, can be excluded from our scrutiny at this stage.

- *Involvement in procurement and implementation of new software such as [the Clinical Recording System] to ensure it meets the Trust's requirements.*

Given that the implementation of new software is a wider task than informatics production, any communication issues (if any) risen from this area may or may not relate to our area of scrutiny. Furthermore, they will likely be influenced by additional factors that are out of scope for this project so can comfortably be set aside from our investigation.

- *Carrying out new developments to automate reports so that managers and other key staff can receive reports in a timely manner. These developments are carried out using the Business Intelligence tools available such as SQL Server Integration*



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Services and Reporting Services. Many of these reports are delivered via the [Online Reporting Business Intelligence Tool].

This BI activity is largely based on the automation of pre-designed reports such that the requirement for decision maker input is limited to such an extent that any communication gap is too discrete for analysis at this stage. It should be noted, however, that any solution we identify, would need to address areas such as this should there be an issue of communication between Analysts and decision makers in automation.

- *Involvement in the development of new data collections such as the Clinical Record Self-Monitoring Survey (CRSM), Provider Compliance Assessments (PCA) and Social care indicator reports. These developments supplement data that is recorded on the [Clinical Recording System].*

As with pre-existing dataset submissions, the data requirements are set. Whilst the collation and presentation of this data may or may not be open to interpretation, these requirements are requested externally and therefore beyond the scope of our project given our concern for internal decision makers.

- *Producing key dashboards for external organisations, for example, Commissioners; Local Authorities; Monitor & the Health Social Care Information Centre, and for internal use within the Trust. These reports include the Trust's Board report, Clinical Commissioning Group dashboards, [Trust] Team dashboards, Monitor scorecard and the Social Care Indicators report.*

If these dashboards are with externally-set requirements, then they are set aside as above. If not, we will have to examine them as part of KPI reporting as below.

- *Producing KPIs (Key Performance Indicators) for the Trust. These include KPIs for delayed discharges, 7 day follow up from discharge from hospital, Crisis Gatekeeping Admissions, Clients on CPA reviewed within 12 months, Clients on CPA having a Honos Assessment in the last 12 months & Completeness of MHMDS Outcomes.*
- *Producing key dashboards ... These reports include the Trust's Board report, Clinical Commissioning Group dashboards, DPT Team dashboards.*

These reports can be viewed as regular and need to be of a consistent theme to ensure progress can be tracked from meeting to meeting and review to review etc. These reports may not form a huge problem for the communication gap as they are pre-agreed, but we need to see if they, in themselves, create an imbalance of dialogue which exacerbates the issue of information, knowledge and intelligence transfer.

- *Carrying out ad hoc clinical activity and workforce reports for the Trust. Requests are received from Trust management, Clinical Team Leaders (CTLs), individual clinicians or from admin staff.*
- *Development of new data visualisation techniques to assist the understanding and analysis of the relevant report.*

Finally, we can see the areas which, most likely, contribute to the greatest diffidence of information exchange between decision maker and Analyst. New and *ad hoc* internal reporting.



Therefore, we can see that the problem of communication exists on new and *ad hoc* internal reporting which is potentially exacerbated by the production of regular internal KPI data (perhaps more indirectly through interpretation of figures that do not correlate with either desire or expectation).

This is not to say that the complexity of mental health analysis, resource allocation and, recruitment issues do not have an impact on the pressures felt by such a dynamic department. Even though these may be reasons why people believe they are resultant of a communications gap between decision makers and Analysts, they are not direct causes of it.

Partially Refined Problem Statement

As such, we are now in a position to be able to further investigate the communication gap. We have identified that the personnel concerned are informaticians and decision makers. We have also identified that the requests that cause the difference in understanding will, most likely, relate to internal *ad hoc* reports or new internal report techniques. In addition, we need to consider the regular internal reports.

Therefore, the problem statement is now, "how can we bridge the communication gap between the informaticians and decision makers within the trust relating to internal KPI reporting and requests for *ad hoc* and new data and intelligence techniques". While this problem statement may still appear quite vague in what we have refined, the "who, what, where and when" of the issue have now become apparent, enabling us to progress to the "why" and, ultimately "how".



Part II – The Implication

User Needs Assessment

We need to examine the “why” of the problem; why is there a communication gap between decision makers and Analysts? This is likely to be a question for which there is no one definitive answer, but rather several subjective reasons. By understanding the needs of the users, we should be able to set aside the indirect and associated reasons from the ones that will be directly involved, whether they are subjective or not.

As part of this project, a highly skilled Senior Information Analyst was seconded from the Trust and supported by the Health Foundation to undertake a painstaking qualitative research process to interview 20 Trust employees including Analysts, decision makers and allied personnel.

The sample was balanced to include seven staff from the Informatics team, and seven staff from the Directorate clinical and managerial teams, with a further cross-cutting group of six people to include representation from a commissioning body for the Directorate (either NHS England or local Clinical Commissioning Group) and also at least three staff from the headquarters directorate whose work relates strongly to processes and relationships with the Informatics team (for example, Project Management, Board members/Exec and other Headquarters functions).

This ethnographic, purposeful selection (Harding & Whitehead, 2013) sought to select those respondents who might be best informed and thus best able to reflect upon and contribute information around both the Directorate and Informatics at the Trust. This was conducted with the primary goal of understanding where communication breaks down and hopefully, therefore, identify why.

We must raise a note of caution at this stage as, due to the very nature of the interviewees’ subjectivity, their responses could easily have been influenced by internal or external factors. Therefore, whilst it will be useful to draw out overarching themes, statistical comparison would be erroneous. Indeed, we will have to interpret the responses, even those forming overwhelming trends, to satisfy ourselves of their pertinence to our inquiry.



Before we analyse these themes, we need to note the prompts made in the questionnaire so understand what sort of information was solicited and what would have been presented in its own right. The themes highlighted within the questionnaire (Appendix 3) itself are:

- Format of Information
- Content of Information and Decision Making
- Quality of Information and Service
- Barriers
- Facilitators

Clearly, the participants are going to be pulled in certain directions with any questionnaire. Fortunately, the design of the prompts was such that it allowed for a free response, reducing the impact of leading answers into a framework that is predisposed to an *a priori* description.

Nonetheless, we need to be aware of this whilst reviewing the themes to be sure that any implied “why’s” are not being presupposed. It makes sense, then, to examine each of these themes, with a mind to the context of the interview, to identify whether their presence in our communication gap for KPI and *ad hoc* internal reporting can constitute the reason for it, an exacerbation of it, an effect of it, or simply a regular but unrelated conjunction with it.

Over-reliance on unplanned strategies and last-minute decisions

This theme speaks to, in part, a strength of the Trust. Due to the nature of changes within any NHS organisation, there is a developed ability to produce output or change with a strategy that is made at the time that it is delivered. Unfortunately, this has seemed to create a “can-do” culture which has clouded the “can-do-better”.

The responses given detail how this impacts the work of the Analyst. Comments returned to the last minute strategies resulting in a quick churn of reports with no time to reflect and create a strategy for their delivery.

However, no matter how frustrating this is, the Analysts appear to be performing within these constraints and delivering the reports. As such, the need to rely on unplanned strategy appears to be more of symptom of the communication gap rather than the gap itself.

Churn, throughput and “firefighting”

Similarly to unplanned strategies, the volume of work for Analysts to produce and the hunger for data from operational requirements results in a large number of requests. Many of the people interviewed felt these came through at such a rate that they could not be acted upon effectively, nor produced in the most efficient manner. This has left the larger, regular reports in a cycle of production; presentation just-in-time, and top level examination with little or no time for in depth review or the application of intelligence.

This tends toward the regular, KPI-type of reporting for meetings such as the Directorate meetings, rather than the irregularity of *ad hoc* ones. However, it does imply that there is a question over the size of these reports. This suggests that a simpler option would free up time for the Analyst to provide greater insight and enable the decision makers to fully digest



the content, thus improving the effectiveness of the intelligence. It seems that a chokepoint exists with the sheer volume here.

Need for better processes

One needn't conduct a review of staff to know that this is likely to be true at every organisation worldwide. However, what does "better" mean in relation to KPI and *ad hoc* reporting? Clearly, KPI reporting could have better processes by simplifying the report structure as we have seen, but how could we apply this to *ad hoc* reporting?

By analysing the comments in greater detail, we can see that the process in question relates to the requisition of data; a phone call to the Head of Department; an email to their favourite Analyst; an email to a shared inbox; a call to an Analyst; a "water-cooler meeting". We can see that the process is begun by an array of catalysts, which results in the team inevitably being pulled in different directions with controls over work allocation being made very challenging. Much work has already been put into this area which is helpful.

Emails, passing conversations, panicked phone calls, are largely ineffective ways of communicating complex issues. The key part to any effective communication process, as we will see later, is ensuring understanding. An email or a phone call is not an appropriate method to understand whether someone interprets that which you have told them in the same way that you understand it. It needs to happen face to face. Obviously, time is precious in the NHS, but a better process has to include a process for ensuring understanding or else effective communication will be more of an occasional coincidence rather than the norm that it needs to be.

Need for better training and ongoing support

If there exists a communication gap then it clearly implies that effective communication training is required. This is why asking about training in the questionnaire was a low-risk strategy. With that said, "effective communication" is a very broad subject and one to which we must return later in our inquiry.

Systems training and operational training for the decision makers and Analyst community respectively, may also be an option but perhaps a premature one and one that might offer more of a distraction to the workforce as a resource than is required.

Having established that the communication process as it stands does not ensure understanding, to then make a leap to claiming that technical training would improve matters is, perhaps, a leap too far. Whilst it may aid communication in the future, at this juncture, there is no evidence to support that conclusion. If people feel they would like to know more about the other party, effective communication may itself be the solution.

Resource shortages

The NHS is adequately funded, said nobody, ever. There are resource shortages so self-evident that they would make the preamble to the declaration of independence. Sadly, as a result of knowing this, it frequently becomes the culprit in an array of dysfunctional systems. The ethics of the NHS dictate that before resources are added to any system, that system needs to be operating at its optimum level for its resources. To do anything else would be



like trying to keep a bath full by turning on the tap before putting the plug back in. Whilst additional resource may be helpful, or even essential, we need to fix the leak before we put anything back in.

Two distinct skillsets and other dichotomies Systems – the physical and the conceptual

These themes have been grouped due to the overlaps in the opposing subjects contained within. If one puts aside the potentially inferred conflict in linking the juxtaposed we can see how all of these elements contrast:

- Technical vs non-technical
- Analytic community vs operational community
- Medical vs non-medical
- Patient facing vs data facing
- Soft system models vs technical system models

It is the last of these that provides us with our greatest clue as to why there exists a communication gap. When people speak different languages (and cannot speak the other), no understanding exists in the communication. When people speak the same language, understanding exists but it exists only as the receiver of the information understands that

***"There is no truth
beyond interpretation"***
Campbell

information, that is to say, how they interpret the words used. Leading itself very much to the phenomenological, existential, post-structural, and post-modern schools of thought, we are clearly in a situation where the cognitive inputs for these two very different groups of people are different enough to create a substantially different

conceptual framework. As the post-structural critical theorist David Campbell famously wrote, "there is no truth beyond interpretation" (Campbell, 1993).

This, then, is our biggest indication as to what causes the communication gap, the lack of a shared conceptual framework.

Summary:

- KPI and regular internal reports can be large, time consuming to produce and too long to fully read with the regularity with which they are required.
- Training will be required in some capacity, but we will not know where until we build the plan to bridge the gap.
- Current requisition processes (perhaps even the ones being improved) are insufficient to ensure understanding and may alleviate some of the symptoms but will not solve them. There needs to be a method of ensuring understanding in the requisition and delivery process.
- We need to find a way to create a shared system of shared understanding between groups who operate in otherwise distinct systems.



Further Refined Problem Statement

We are therefore in a position to have a much more concrete problem statement as we know why the communication gap exists:

How can we create a shared conceptual framework for the creation of internal *ad hoc* and KPI / regular internal reporting between decision makers and Analysts which will enable the production of succinct and accurate information.

Application of Theory to User Needs Assessment

At this stage it would well be worth recapping our investigation. We began with the problem that Analysts felt that decision makers wouldn't give them the information they need and that decision makers felt that Analysts didn't give them what they asked for.

In looking at solutions for this, we identified that externally mandated reports and Freedom of Information requests didn't fit into this category which leaves our inquiry looking at internal *ad hoc* reports and KPI/Board paper reports. We noted that KPI and Board paper reports fall into a pre-existing format but this feeds into fluctuations in data interpretation.

We need to find a solution which:

- Creates a shared understanding
- Streamlines regular cumbersome internal reports
- Ensures the requisition process includes some assurance of understanding
- Identifies the training and communication framework required to fulfil the solution

These are all very complex issues and all prevent Analysts in supporting decision makers with insightful intelligence and intelligence tools. However, their solution will require a discussion on the nature of communication and understanding in order to fully comprehend the nature of this interaction.

This is no small task and one that has been discussed ad nauseum for thousands of years. Fortunately, there has been a confluence of opinion across a wide range of disciplines. If we look at these theories, briefly, we should be able to see where a commonality exists and, therefore, enable us to apply a solution.

Martin Heidegger

An early 20th Century German philosopher, Heidegger is credited with being the greatest exponent of phenomenology (and the grandfather of existentialism). Grossly simplifying his theories, in *Being and Time* (Heidegger, 1927), he posited that the world exists as phenomena experienced by us. It will either be viewed by its utility, i.e. the stool is for sitting on, or by its physical qualities, the stool is a one foot diameter circular piece of plastic with four vertical cylinders of equal length protruding from the underside and is situated by the coffee table in my living room.

Heidegger suggested that we experience the world by its utility, what he called ready-to-hand, and live our lives interacting with the world accordingly. However, when that utility ceases to function we experience a form of angst where the world is no longer as we expect it to be. We begin to look at the physical qualities; one of the legs is shorter than the other for instance. The object ceases to become a chair and becomes something else, something without use, what he calls present-at-hand.



The problem for us is that utility is highly subjective. I use a stool to sit on. My partner uses a stool to rest their feet. My mother (contrary to my advice) uses a stool to reach things from shelves she is too short to reach. How we interpret these things is based on experience. All the actions that have occurred and all the phenomena which have become apparent to us. Heidegger believed this to the extent that he felt no two people could possibly share an identical conceptual framework as a result.

Gottlob Frege

Known as the father of analytic philosophy (language, logic and mathematics). In his attempts to reconcile these arts he noticed that we use language on two levels "On Sense and Reference" (Frege, 1892). The "sense" aspect is what we mean by a word (its utility to put it in Heidegger's terms) and the reference being the way you can determine something as being "that". Ultimately, from a reductive perspective, Frege's reference boils down to the physical qualities Heidegger saw as present-at-hand. Therefore, we view the world on a day to day basis by the sense or utility of it. We identify by reference only in some form of analysis. This goes some way to explain how we can talk using the same words and mean something completely different.

Post-Structuralism/Post-Modernism

Unfortunately, the rise of Jean-Paul Sartre in the mid-20th century resulted in theorists looking more at why things appear broken and the anxiety this causes (Sartre 1943) and less than the interaction between sense or ready-at-hand-ness as phenomena. The collapse of the cold war forced a global change in this perspective.

Whilst the world was interpreting existentialism as an artistic relativism, the realism of self-centred state action fell apart. Why the Soviet Union "fell" could not be solved by traditional models of political realism where "life is nasty, brutish and short" (Hobbes, 1651) so international relations experts began to use interpretive relationships as an explanation.

Post-structuralism became the prevailing thought which identified the actions of states and their actors as being created by the way in which they interpreted the world, rather than prescriptive human nature. The relationship the UK had with the US or France was more as a result of a shared conceptual framework; we understood in a similar way and therefore our interpretations were likely to follow a similar path. This is why Campbell stated, "there is no truth beyond interpretation" (1993).

Soft Systems Modelling

Shortly after this (but posthumously published), Donella Meadows wrote about the nature of soft systems, particularly in relation to professional relationships. In her book "Thinking in Systems", (Meadows, 2008) Meadows cites a wonderful Sufi teaching:

"you think that because you understand 'one' that you must therefore understand 'two' because one and one make two. But you forget that you must also understand 'and'."

Devon Partnership is a large system, composed of many smaller systems. The overall purpose of the Trust is to promote the mental health and learning disability services of the people of Devon. All parts of the system have this in common. However, the smaller sub-



systems have a different function or purpose; finance's function is to manage the flow of money and not overspend; Specialist Services' is to provide care for the specialisms under it's remit; Informatics' function is to provide clear insight to service delivery teams to support informed decision making. All of these sub-systems exist in order to promote the mental health of the people of Devon.

Extrapolation of Theory Applied to the User Needs Assessment

We can see, then, that each of these theoretical frameworks have a shared notion of understanding. That each actor understands in relation to their own conceptual framework. They cannot ignore it and they cannot be divested of it, it can evolve and it can be added to, but for the actor to understand, they must interpret.

This gives rise to the circularity that a person identifies the world around them through interpretation and that interpretation identifies the person. This hermeneutic system does not pose any logical issue as it not a causal one. Instead, it creates a lens. The more broad that lens in terms of interpretation, the more inclusive the circle. Like Marxism is a lens, or feminism, or rationalism, or healthcare decision making, or healthcare analytics: each has a shared conceptual framework, not an identical one.

Promoting the mental health of the people in the region is an identifier of the Trust's system, providing clear insight to service delivery teams could be regarded as the identifier

Each actor understands in relation to their own conceptual framework. They cannot ignore it and they cannot be divested of it.

of the Informatics sub-system (though this is just one interpretation!). Due to the fact that there are dramatically fewer concerns about communication within systems, the problem exists when systems interact. Given the importance of the interaction between analytics and operations, it doesn't take a great leap of imagination to understand why any gaps in communication are likely to be so frustrating.

- There is a communication gap between teams
- There is a lack of ensuring understanding between requisition and service
- The lack of understanding will be at least exacerbated, if not caused by, communication between the conceptual frameworks of two sub-systems
- Sub-systems have dramatically fewer internal communication issues
- Therefore, for new internal, *ad hoc* reports, if we effectively create a temporary sub-system for each request, the communication gap will be bridged.

However, the qualification of "effectively create" is also a shifting of the question from how can we improve communications to how can we effectively create a sub-system.

Fortunately, this is something we do quite often when we create teams. Our awareness of the issues surrounding our objectives should help us pull together the processes to make it "effective".



Creating an *ad hoc* or new internal reporting sub-system

Meadows explains in greater detail what a system and sub-system is throughout "Thinking in Systems". Firstly:

"A system must consist of three kinds of things: elements, interconnections and a function or purpose."

We could produce a full textbook on how to create one sub-system which would still fall short of describing all the dynamics contained within (which we are not going to do here), but we can already identify our three main ingredients:

Elements – Our actors or, in this case, Analysts and Decision Makers (while there may be many more, this is our minimum requirement).

Function or Purpose – this is the objective of the sub-system such as a report, analysis, intelligence or data.

Interconnections – this is how all the pieces fit together: communication. We have already identified that effective communication involves ensuring understanding and that ensuring understanding involves some element of face to face discussion (in the vast majority of cases).

Taking this understanding a stage further:

- *"A system is more than the sum of its parts"*
- *Many of the interconnections in systems operate through the flow of information*
- *The least obvious part of the system, its functions or purpose, is often the most crucial determinant of the system's behaviour*
- *System structure is a form of system behaviour. System behaviour reveals itself in a series of events over time."*

"A system must consist of three kinds of things:

elements, interconnections and a function or purpose."

Meadows

There is a trail of logic we need to follow in this description. If the most crucial determinant of the system's behaviour is its function or purpose and system structure is a form of system behaviour, then it follows that the structure of a system is crucial to the output. Therefore, the interconnections between the elements must be appropriate to facilitate a shared conceptual framework.

There is a note of caution at this stage. Soft systems modelling is a highly complex subject and one which would require further analysis in more mature business systems. Fortunately, as the NHS changes with such regularity, this introduction of the fundamental SSM principles is largely free from prejudice. However, as those involved become more aware of the processes, they begin to prejudicially define the process themselves, before the system, thus distorting the hermeneutics and the ability of the *system* to self-define. As the system develops, one cannot assume that the application of other SSM techniques would work as well without appropriate further examination.



When looking at the interconnections of elements within the system, we need to understand how that communication would function. The University of Nebraska recently published a paper outlining 11 of the most significant influencing tactics. Given that we are trying to influence the behaviour of a system through communication, then it is important that we do so in the most effective way:

<i>Tactic</i>	<i>Definition</i>	<i>Effectiveness</i>
Pressure	Behavior includes demands, threats or intimidation to convince others to comply with a request or to support a proposal.	Low
Assertiveness	Behavior includes repeatedly making requests, setting timelines for project completion or expressing anger toward individuals who do not meet expectations.	Low
Legitimizing	Behavior seeks to persuade others that the request is something they should comply with given their situation or position.	Low
Coalition	Behavior seeks the aid of others to persuade them to do something or uses the support of others as an argument for them to agree.	Low
Exchange	Behavior makes explicit or implicit a promise that others will receive rewards or tangible benefits if they comply with a request or reminds others of a favor that should be reciprocated.	Moderate
Upward Appeals	Behavior seeks the approval/acceptance of those in higher positions within the organization prior to making a request of someone.	Moderate
Ingratiating	Behavior seeks to get others in a good mood or to think favorably of them before asking them to do something.	Moderate
Rational Persuasion	Behavior uses logical arguments and factual evidence to persuade others that a proposal or request is viable and likely to result in task objectives.	Moderate
Personal Appeals	Behavior seeks others' compliance to their request by asking a "special favor for them," or relying on interpersonal relationships to influence their behavior.	Moderate
Inspirational Appeals	Behavior makes an emotional request or proposal that arouses enthusiasm by appealing to other's values and ideals, or by increasing their confidence that they can succeed.	High
Consultation	Behavior seeks others' participation in making a decision or planning how to implement a proposed policy, strategy or change.	High

Figure 2: University of Nebraska, Influencing Tactics

We can see here that there are two elements that create the most effective form of influence, and both are relevant. Inspirational appeals are fortunately covered by the wider Trust system, improving mental health provision for the people of the region. This leaves us with consultation.

In consultation, there is no hierarchy, no authority and nothing is beyond consideration. Therefore, if we are to achieve this, the sub-system needs to be collaborative. There can be no stages of hierarchy, all elements must be equal. This will help create a consensus. This joint ownership is essential in creating a shared conceptual framework. It focusses the elements on the same outcome so that the decision maker's objective isn't "I need data so I can do this" and the Analyst's objective isn't "I need to produce data that highlights a fault or a success" but rather "we need to produce data that shows this". The "this" will be a jointly owned, understood and achievable outcome. By creating joint ownership, many of the environmental factors that act as a barrier to communication are removed leaving, predominantly, understanding.

It is important to note that as part of this joint ownership is a cultural neutrality. If any of the elements to a sub-system retain any function of another sub-system to which they belong it will skew the interaction to the one in question if it is not directly relevant to it. We cannot change conceptual frameworks but a conflicting function would remove joint ownership and, as a result, damage the ability of the sub-system to create a shared understanding and thus prevent effective communication.



Part III – The Sub-System

Sub-System Processes

Rationale

We are now in a position to work on first part of our refined problem statement:

- How do we create a soft sub-system for new or *ad hoc* internal reporting that enables the ensuring understanding and shared conceptual framework between actors from two different sub-systems: analytics and decision-making?

The difficulty in prescribing a sub-system process is that it needs to be defined by the entity that owns it. Another hermeneutically closed loop. However, that does not mean that the entity that owns the system can't provide a guide into what it should look like.

We have seen that one of the biggest aspects of effective communication is ensuring understanding. In addition to this, we have noted that you nearly always need to ensure understanding in a face to face setting. Whilst this is not always easy, it will prove to be vital to the success of the sub-system. Every request must be worked up face to face, and in partnership. The decision maker and the Analyst must work on the delivery of intelligence as equals. Co-production is a crucial factor in ensuring all parties in the collaboration are bought-in to the output.

Design

There exists in place a good system for managing requests for services from the Informatics department whereby the Informatics Department Head, say, Assistant Director of Informatics, is emailed and she then distributes it to the team. However, this will need to be relaunched and be operationally led (perhaps a re-launch sub-system with an Operational Director and the AD of Informatics would be appropriate) whereby there can be no exceptions to this request for services, or at least if there are, it is the Operational Director and Head of Department who approve it in truly exceptional circumstances.

As recent circumstances have shown how well video conferencing can work, where a clinician may be time-critical with patient care, a conversation over video call would be an adequate substitute in the rare occasion that it is required.

It should also be noted, at this stage, that all requisitions should be made with clear timescales detailed as an embedded part of the process. Where possible, this should ideally include detail on whether the information request impacts on other reporting or service provision which are dependent upon it and their timescales respectively.

It is also worth repeating that the design of this sub-system is the responsibility of the organisation in question. Whilst potential solutions may be indicated in this, or any other, report, the final decision must be an internal one to maintain ownership of the process.



With that said, the process is likely to look something like the following:

New / Ad Hoc Internal Report Request System

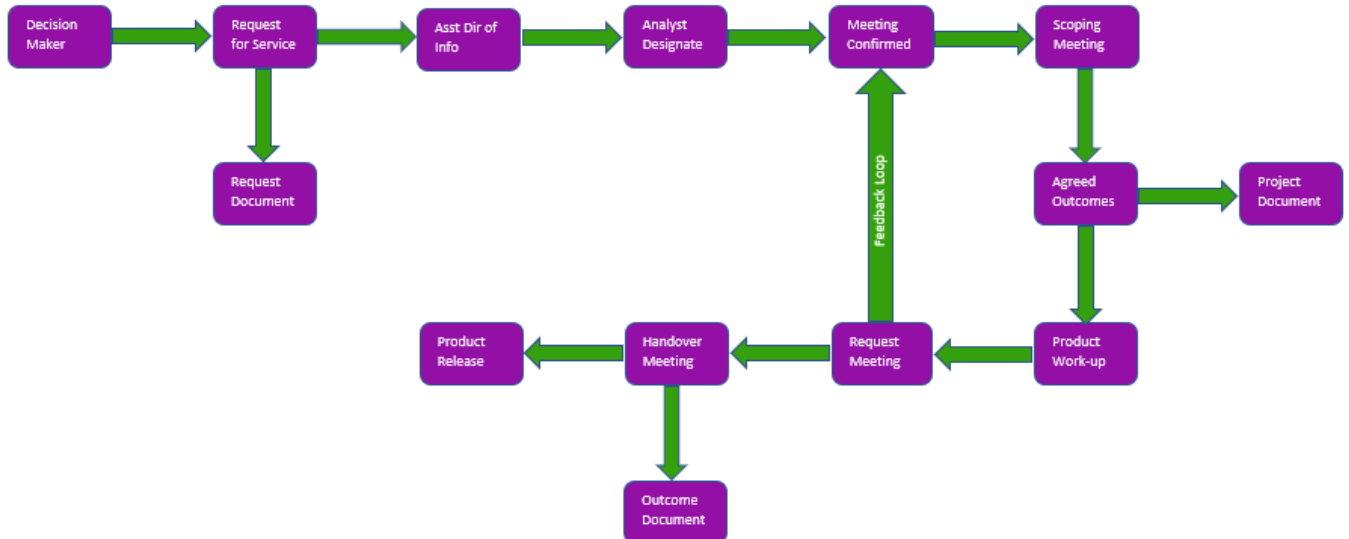


Figure 3: Sub-system flow chart

Members of the Sub-System

There should be a minimum of three people involved in the sub-system; the Analyst, the decision maker and the Information Lead. However, of these, only the decision maker and the Analyst need to be involved in the meeting. Nonetheless, wherever possible it is advised that a third person is involved in the meetings to act as a guarantor of joint working. Ideally, this would be someone else with an interest in the output. This could be a BI Developer, a decision-making peer etc. but it should not be a direct supervisor or subordinate in the organisational hierarchy to any of the other members of the team. It is important that all members of this intelligence sub-system are equals. Even if all members try to act in this way, if there is a direct relationship of authority in another sub-system, that will likely have an unconscious effect on the one we are creating.

Training Needs

For this system to operate effectively, some training needs will need to be investigated. The most thorough process would be to conduct a training needs analysis on every individual who would be involved in requesting or producing information in a temporary sub-system such as this. This, however, is time consuming, particularly considering the value of the training in its own right along with the ancillary benefits. (Training is regarded as one of the biggest positive influences on staff morale and retention along with enabling team building with colleagues in the training. It is also suggested that it promotes an array of contingent benefits such as problem solving, creative thinking and debate.)

Given that the range of training that is appropriate to ensure this strategy works effectively is small, it may be more prudent to offer the training to all those who would be involved in the process. The training should be developed in a way that is focussed on the outcome of effective sub-systems but within a framework that allows the benefits to be experienced in other sub-systems (knowingly or otherwise).



The required training (resultant from a needs analysis or uniformly applied) will directly follow the skills one might expect are required in a joint venture:

- Effective Communication
- Written Communication
- Effective Meetings and Facilitation
- Team Building

Clearly these are all large subject areas but they should be tailored as suggested above. It should, therefore, be possible to abbreviate the packages so that all four can be delivered in two working days (though extensive packages can roll into four days for each course!). An experienced Trainer would be able to identify the training requirements for a workforce. It could be done in a shorter timeframe but the training will be less effective and longer would be less relevant and therefore less impactful.

**Training is regarded
as one of the biggest
positive influences on
staff morale and
retention**

Repetition

A result of this process is that it will take a little more time to get the right result. This, in itself, will save time as a requisition will not need to be made over and over. However, a busy decision maker shouldn't have to usurp the time of a busy Analyst if they don't need to.

It is worth noting at this stage that the coproduction of work at the Trust is a great example of where joint ownership works well (Ward Dashboards etc.). Indeed, the report library has also reduced the amount of duplication of report requests seen by the department. However, the fact that this isn't utilised every time is an indication of the importance of a shared vested interest.

A busy decision maker is not going to look at a list of previous reports if they can just request the report again, they don't have time. This pushes the request through Informatics which creates a "double-handling" of the work. If the decision maker would be involved in that request as well, it may make them more likely to identify the information themselves.

Clearly this leans toward a degree of technical skill in searching and identifying the report they require and replicating it. This is where some additional technical training may be required. This should be done at the point of launching the new process to enable full confidence in their ability. Any other technical training required seems unlikely at this stage due to the fact that, in relation to specific request sub-systems, they will have a collaborative partner in the designated Analyst to cover that aspect of the work. Any more than this is imparting expertise in an area that has more than enough work to do already!



Sub-System Summary

The creation of sub-systems for new or *ad hoc* intelligence requests will create joint ownership of the process. Face to face meetings will ensure understanding and joint ownership will allow for free-flowing information. Soft skill training of all participants will remove foreseeable barriers to success and documentation of the process will allow decision makers to access the information, with training, as they will have a similar vested interest.

However, the process to implement this approach needs to be managed closely. The implementation will need to follow a clear, if succinct, project management methodology.

Implementation

The advantage of the sub-system is that it only involves a small number of people to pilot and it can easily be expanded from there. What is critical is that it is a clinically / operationally led initiative. This is crucial as otherwise we run the risk of operational staff viewing the initiative as another Informatics initiative, not an operational one. Whilst the Information Lead's involvement is important, Analysts are already bought into the idea of intelligence in data.

Training should be provided to a group of people most likely to progress with the sub-system initially but training groups should ideally be between four and eight delegates so the Trainer can ensure understanding. From there, the Information Lead can pass a request for services onto an Analyst whereupon the sub-system begins to self-identify. There may be the requirement to remind the group about joint ownership and cultural neutrality but the forms should make this explicit anyway.

The positive outcome that will arise from this will enable a wider roll out where the process of all requests go to the Information Lead for dissemination. Once all stakeholders have received the relevant training, the sub-system methodology is ready for full launch.



Part IV – The Global Ecosystem

Comprehensive Regular Reports

The interviews with participants from the Trust also raised the problems of comprehensive regular reports impacting on churn and lack of ability to identify issues quickly to remedy them. On the face of it, this is a very different challenge than the ones faced by new and *ad hoc* reports. But is it?

We are now in a position to frame the second part of the refined problem statement:

- How can we create an environment where intelligence and reporting for large, regular internal reports is enhanced in order to save time and increase understanding of the intelligence in a useably similar way for all users within a system?

Realistically, we noted that anyone who has a direct interest in the new report would be involved in the sub-system. For our theory to be correct, it must apply for a “re-boot” of existing reports. We should be able to compose a temporary sub-system that creates a new version of the report in question and for it to be implemented. All the benefits of the sub-system methodology would remain, joint ownership, cultural neutrality, effective communication, and effective team working.

The challenge we face here is that there is a much larger number of stakeholders with a direct interest in these reports. Whether we are looking at the board reports or Directorate Meetings, to treat the sub-system in the same way would involve shutting down the Trust for weeks. Clearly, this is not an option. However, if we view the system like an IT system, say, an EPR, we may have a workable methodology. Before we can explore this, we must frame a solution to examine.

From here we will use the term report to relate to an overarching reporting tool. The issues this report needs to address is (as previously noted and as contained in the interview notes):

- The report must be able to map trends over time
- The report must be able to accommodate forecasting AI tools
- The report must be easy to read for all members of the system
- The report must be able to provide solutions for all levels within the system
- The report must be recognisable to all levels of the system

We have seen through the course of the interviews that RAG ratings are liked by some and not by others. We have also seen that SPC charts contain good detail but don’t give an at-a-glance view (which were created for mature systems and it is debatable whether the NHS stands still for long enough to ever have a mature system). There is no chart that will ever satisfy all users within such a large system but we can accommodate to all these requirements.

For the purpose of this inquiry, and this is not intended as a definitive solution at this stage, if we create a visual that could be presented to all levels in the same way (albeit with slightly different targets) we can start creating an at-a-glance tool that will allow for problem



areas to be flagged. A simple drill down to the detail would then allow for the statistical analysis or intelligence below.

This is similar to something the Informatics team have already created, certainly the latter stages, but it is one that was Informatics led. This removes the cultural neutrality that any successful change process requires. A non-IT predisposed member of operational staff could easily view the Informatics Centre as just another "techie thing" that someone else deals with. This is another indicator as to how a proposition such as this would need to be implemented, as with the report requisition subsystem, by being clinically / operationally led.

Therefore, if we create a pictorial representation of the Trust that can be drilled down by directorate, by KPI, by Factor of that KPI and by Measure. However, as we have seen, the standard RAG rating is weakened by its own simplicity. It is widely agreed that only red lights are ever acted upon and that is either to shy from or to probe. In principal, it is amber which should be investigated and red requires immediate action. Even green lights need to be monitored to ensure best practice continues.

As stated previously, the solution design MUST be owned by the organisation in question, however, if we just modify the RAG solution (which was always good in theory) we could use something like AIM to respectively substitute the RAG rating and representing:

A - ACT
I - INVESTIGATE
M - MONITOR

This is only a potential solution and highlights only what RAG ratings should have represented. Each of these can therefore be drilled down through until a point that will require a divergence in the optimal presentation of data. Again, the owning sub-system of the KPI would have a better idea of what the optimal solution would be, but they are likely to be something like:

- An SPC chart
- CQC data visual
- A set of administrative routines
- An AI/ML-type tool for forecasting

Whether the final drilldown was limited to these options is again an operational decision, but there are the benefits of retaining understanding by using a simplified number of choices so that more users would benefit from the intelligence.



Possible Solution

If we look at the possible AIM pictorial representation of the Trust to begin with:

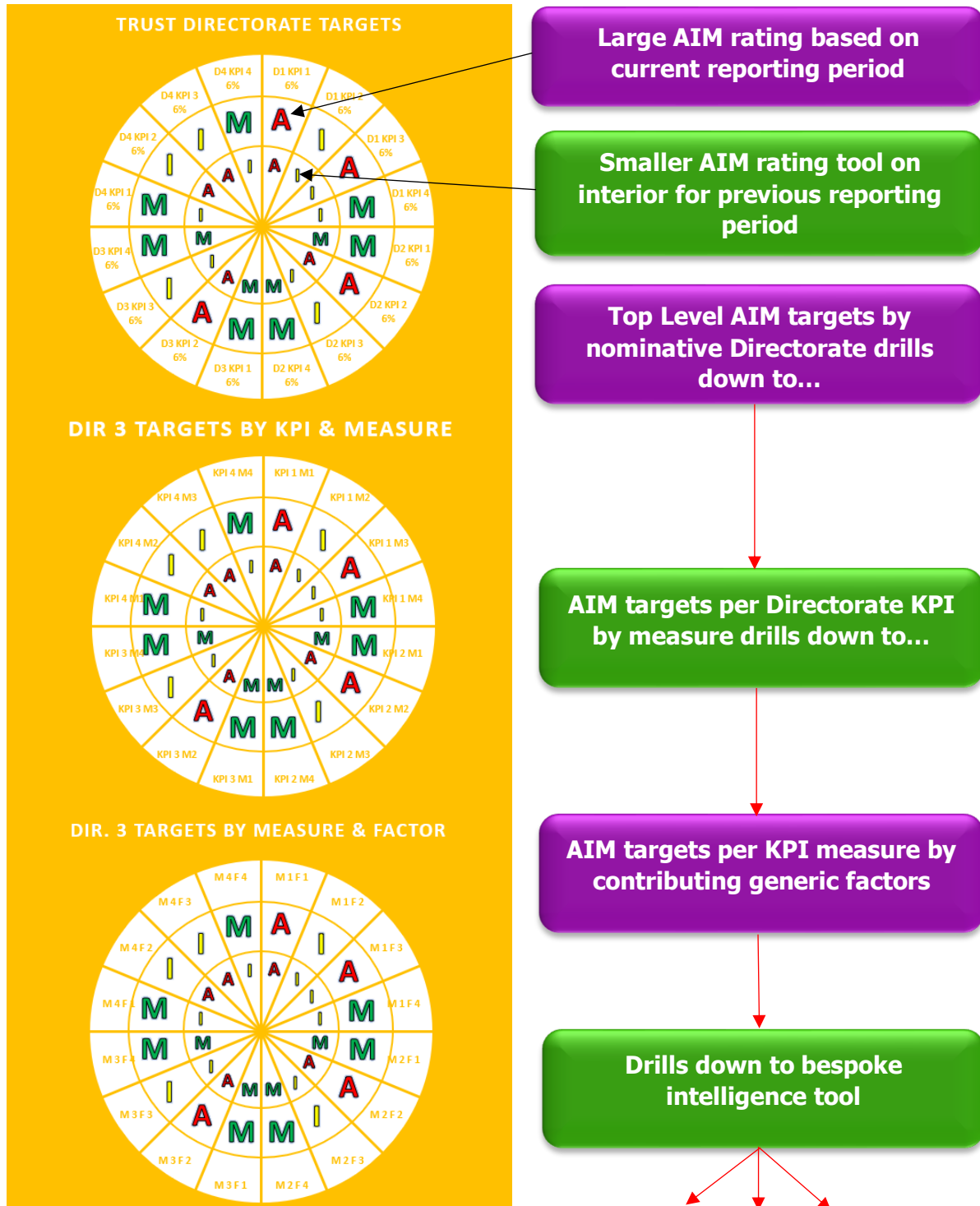


Figure 4: Simple representation of all levels of targets throughout the Trust



DAVIES FURLONG CONSULTING

In this example the wheel at the top highlights the top-level targets of (for argument's sake) four directorates, the one in the middle for a specific directorate and the one at the bottom breaks down the KPIs into measures and factors.

Targets are AIM rated for instant recognition of deviation from target. The larger, outer letters show targets for the current reporting period and those inside for the previous one.

One might choose to add an "E" for exceeding (blue) to indicate an unexpected exceeding of target as these often indicate a weakness in affiliated targets. Alternatively, one might choose to add arrows indicating a rise or fall in the metrics. This example is simply to demonstrate what the organisation develops through the soft-system modelling exercise, though, perhaps, this gives a useful starting point.

At the end of the drill down, graphs bespoke to each area can be developed as appropriate to give the full level of detail and intelligence.



SPC Information

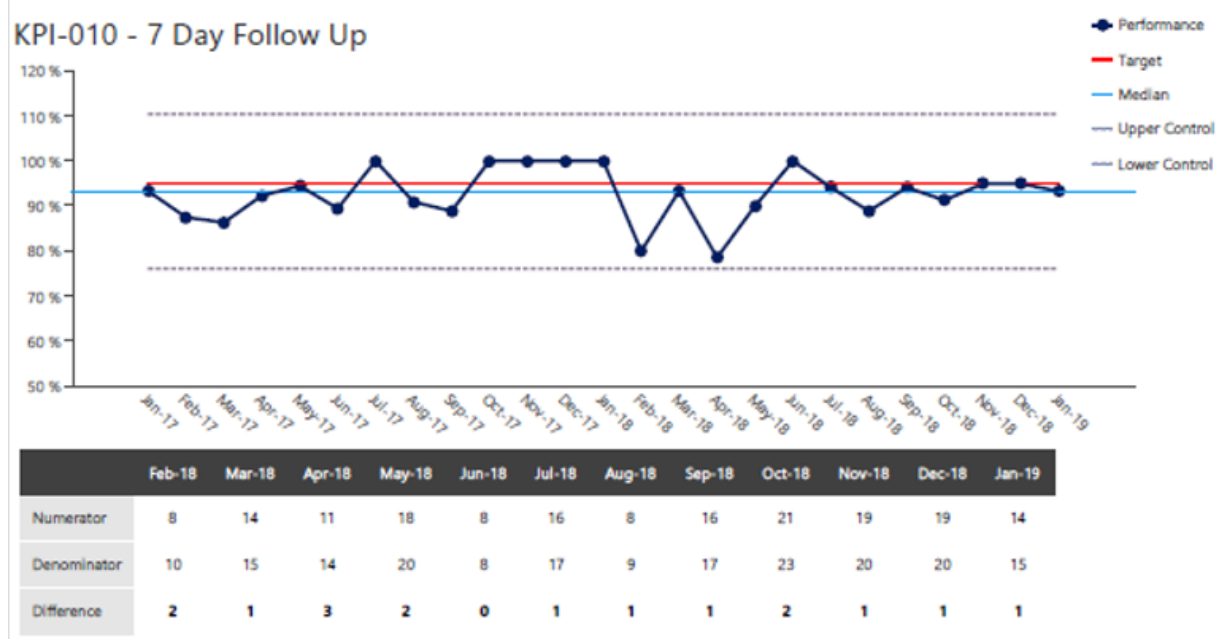


Figure 5: SPC chart

This has been taken directly from the Informatics Centre as highlighted in the Landscape report (Appendix 1).

AI Tool

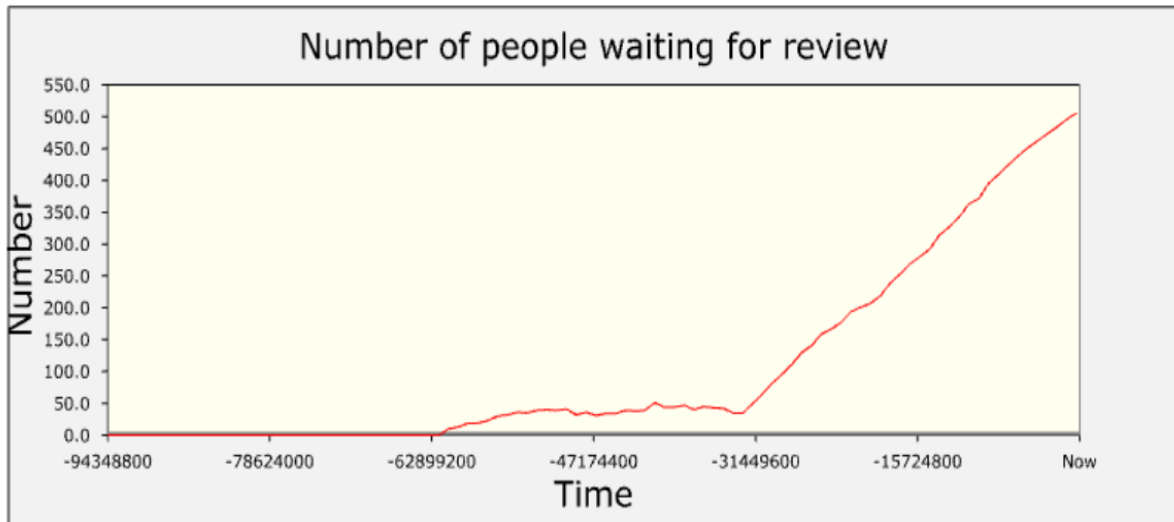


Figure 6: AI Forecasting tool

This is a graph taken from an AI tool developed by one of the very talented Information Managers at the Trust. This tool has a series of variables which can be adjusted to indicate what would happen if certain changes were implemented on any given indicator. This is the place at which the Analytics team can add real value. By working together, the sub-system can use technological advances to advance patient care with powerful computer generated



intelligence. Furthermore, through organisations like AphA (the Association of Professional Healthcare Analysts), these techniques can be shared with similarly systematically aware NHS entities.

CQC level data

Category	KPI	Target	Latest	Page
Safe	KPI-010 - 7 Day Follow Up	95%	93.3%	Page 3
	KPI-279 - 48hr Follow Up	95%	81.4%	Page 3
	KPI-454 - Meds Reconciliation in 72hrs	95%	87.6%	Page 4
	KPI-446 - Falls	-	40	Page 4
Effective	KPI-186 - Accommodation Status	-	-	Page 5
	KPI-187 - Employment Status	-	-	Page 5
	KPI-029 - Gatekeeping	95%	100.0%	Page 7
	KPI-399 - CPA Reviews (12 Months)	95%	91.8%	Page 7
	KPI-348 - IAPT Recovery Rate	50%	53.7%	Page 8
	KPI-374 - IAPT Access Rate	15.8%	14.6%	Page 8
	KPI-434 - IAPT: Treated within 6 weeks	75%	94.9%	Page 9
	KPI-435 - IAPT: Treated within 18 weeks	95%	100.0%	Page 9
	KPI-416 - Seclusion Incidents	-	19	Page 10
	KPI-427 - Incidents of Restraint	-	54	Page 10
KPI-452 - EIP Engagement within 2 Weeks	53%	63.2%	Page 11	
Caring	KPI-363 - Compliments	-	65	Page 12
	KPI-364 - Complaints	-	25	Page 12
	KPI-437 - Patient FTT - Would Recommend	85%	91.7%	Page 13
	KPI-489 - Staff FTT - Would Recommend	-	54.8%	Page 13
Responsive	KPI-487 - 10 day target	-	13	Page 14
	KPI-478 - Bed Occupancy	-	108.9%	Page 17
	KPI-459 - Length of Stay	-	-	Page 17
	KPI-475 - Attended Contacts	-	24636	Page 18
	KPI-476 - DNAs	-	4.9%	Page 18
	KPI-253 - Delayed Discharges	7.5%	3.5%	Page 19
	KPI-468 - PICU - Currently under review	-	12	Page 21
	KPI-490 - Outlier Bed Days - Inappropriate Out of Area bed days	-	2150	Page 22
Well-Led	KPI-211 - Sickness Absence	4%	5.6%	Page 23
	KPI-308 - Compulsory Training	90%	99.5%	Page 23
	KPI-238 - Supervision In Date	90%	81.6%	Page 24
	KPI-239 - Appraisal In Date	90%	78.3%	Page 24
	KPI-386 - Governance Risk Rating (Monitor)	5	5	Page 26
	KPI-165 - Monitor Rating for Finance	1	1	Page 26
	CQJIN - CQJIN 2018/19	-	-	Page 26
	CCGReq - CCG Contractual Quality Requirements	-	-	Page 26

Figure 7: QCQ Key Lines of Enquiry

Routines

This would simply be a manageable list of prompts for front end administrative staff to double check that best practice has been followed. These could simply look like (arbitrarily):

- Have the cases been coded correctly on the system?
- Has the follow up call been allocated to an appropriate professional?
- Have the cleaning contractors' schedules been quality checked?

Reporting Tool Map

Now, mathematically, by the time one has drilled down a number of layers, the number of charts required grows geometrically. Even just using the arbitrary structure we have used, the report map would look as figure 8 with each of the 64 end charts effectively requiring a sub-system requisition process.

There may well be some form of duplication which may save time but, to be done effectively, the work on this tool must be front-loaded.

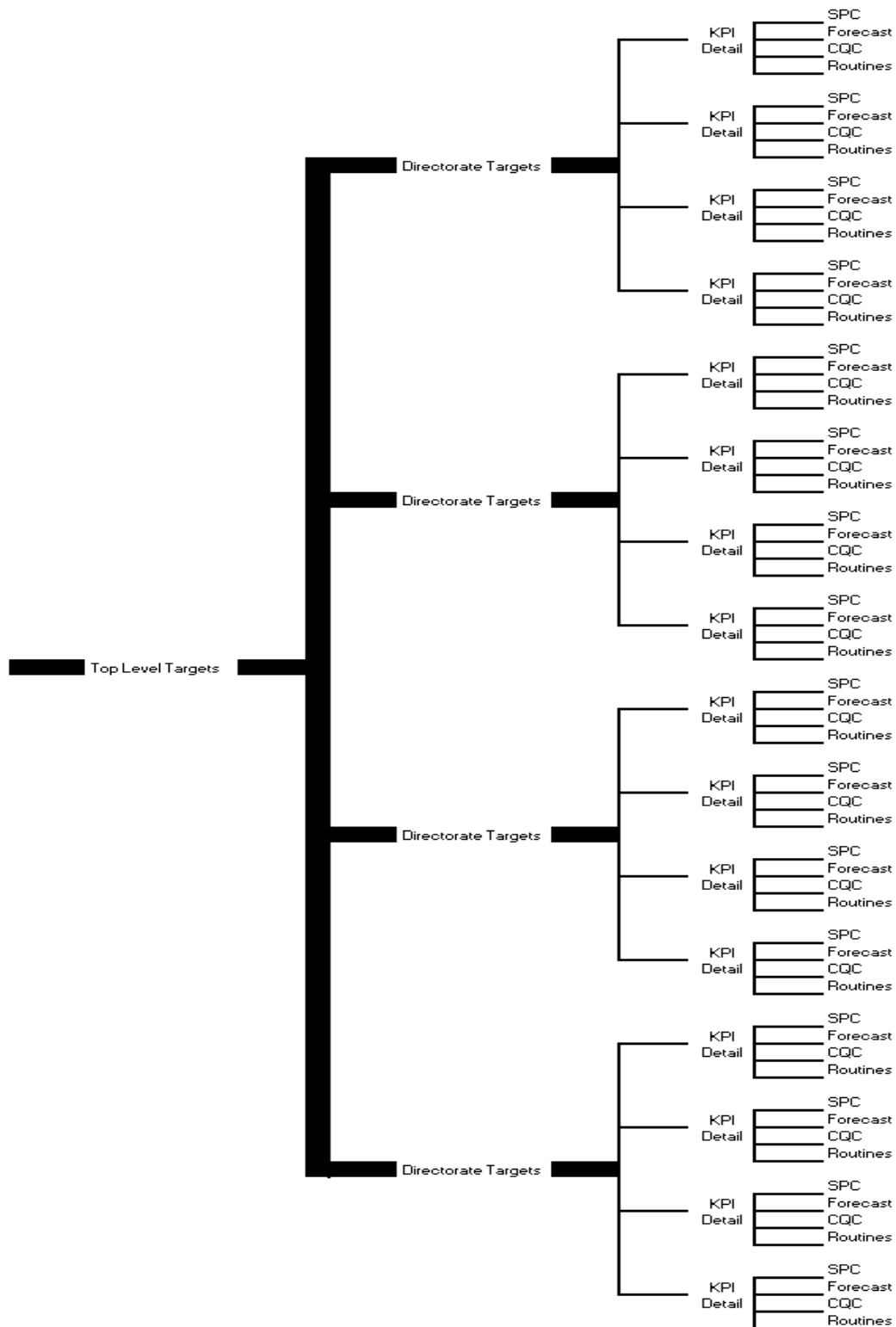


Figure 8: Reporting tool clickthrough map

For the sake of cracking the hermeneutic circle of interpretive reporting, if we assume a model like this works for the purpose of understanding how we would go about the process of implementing it.



Large system implementation

We have already noted that it may well be worth using an implementation process similar to that adopted by installing a new EPR system into a Trust. For the purposes of this investigation, that is to say creating a soft system in order to implement changes in the reporting process, we can highlight the key areas. There will undoubtedly be some divergence from the metaphor, but the processes should be similar.

Project Board

All successful implementations of this size need to begin with the creating of a Project Board. The Project Board will be responsible for signing off on solutions, managing risks and issues, holding the Project Lead to timescales, and pulling together workstreams and working groups.

Process Mapping and Requirements Gathering

Most EPR implementations begin with a procurement process. The initial part of that procurement process is a top-level requirements gathering to identify the broad strokes of what a new system will need to achieve along with what the current one does. Once this has been identified, the requirements of the new system can be pieced together and put out to tender.

Communications Strategy

In our example, the "tender" will go out to the stakeholders involved in the new reporting tool. This will be in the form of the communications strategy which lays out the objectives, processes and involvement to the general population. An effective communication strategy will involve an initial face to face discussion as part of small groups, followed by regular email updates. A timeline should be made clear at this point. The best communication strategies for large projects build up the positive anticipation of the system until final release at which point all stakeholders will examine the final product. It is this stage which confirms their learnings throughout the process, enables system competence and, ultimately, successful usage.

Working Groups

Working groups should be formed from diverse members of the stakeholder body to discuss ideas of what the final product should look like (in EPR implementations this will be process mapping of the current system and a wish list of what the perfect system would look like). Training, as per the simple sub-system model, should be provided as these groups will effectively be sub-systems in their own right. These groups should each be focussed around a particular function of the Trust. Where the Programme Board has identified a preferred model, this can be used as a "stick man" for the groups to build on. This is often preferable to ensure stakeholders know what is expected of them.

Storyboard

Once the requirements are compiled, they can be used to create a storyboard of what the final model will look like. This needs to be clear and unambiguous so the Developers can create exactly what is required.



Development and Testing

If the model was similar to the one identified where targets are RAG rated and drilled down until a choice of graphics, the graphics themselves should be treated as a sub-system as per the *ad hoc* or new internal reports shown earlier. This can be completed after the initial, simple, model is complete. The important part of this phase is that the Developers are clear on what is required of them and deliver to the specification

User Acceptance Testing

Once all the development is complete and the technical testing has been carried out, it needs to be user tested by members of the working groups for each workstream. This will form the beginning of the final stage of the communication strategy. The feedback from the

user testing will form a substantial part of the training material ready for roll out.

Training and Product Launch

Training should then be carried out for all members and conducted in as short a period of time as possible and to be completed at the point of which the system model is ready to be rolled out. Throughout training, the benefits of the new model should be made clear and new features enthusiastically highlighted.

Floor-Walking

Once the model is live, "super-users" should be present in order to provide floor-walking support. One of the biggest failures of EPR implementations is that users forget their training and when faced with using the system in a live environment, any problems become inflated and people tend to revert to the old process. The same is the case with new soft systems. If people don't know how to extract target data from the system, they will just email their Analyst.

Process Review

The new processes will then need to be

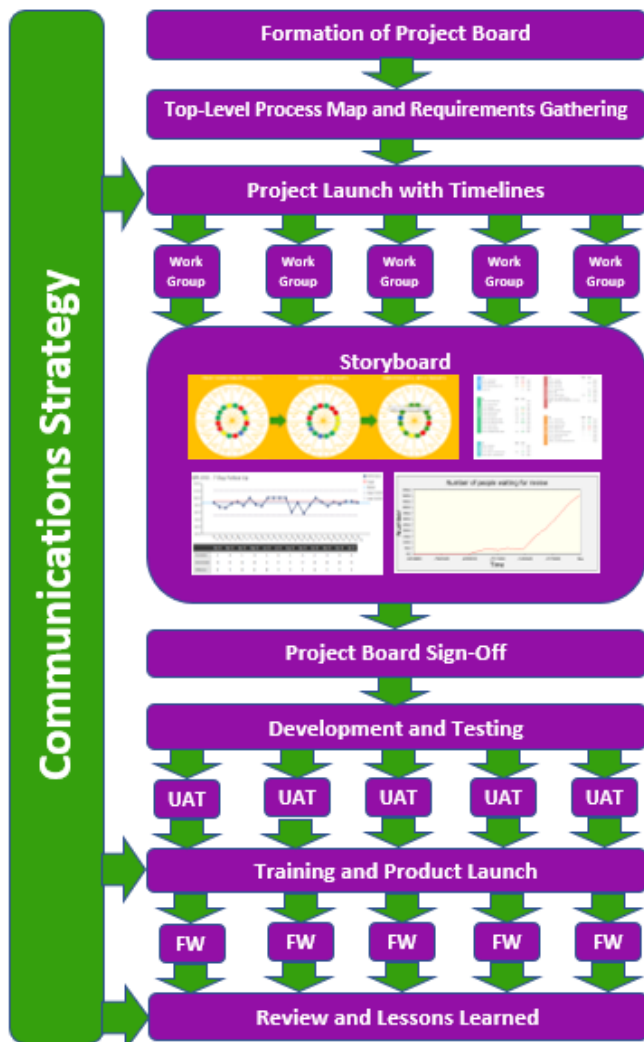


Figure 9: Implementation flow chart

reviewed with lessons learned and be constantly monitored to ensure it remains fit for purpose.



Summary

We have been able to demonstrate that, by implementing a phenomenological epistemology, the post-modernist view of subjective interactions requires a soft systems methodology, which includes stakeholders in the design process in order to create, not only joint ownership, but also a shared conceptual framework which should, when understanding is ensured, bridge the communication gap between decision maker and Analyst.

Furthermore, the application of this process on a small sub-system, also indicates that it is possible, if markedly more challenging, to “scale-up” this process in order to create a macro model which is shared throughout a Trust and gives everyone from a ward clerk to a CEO, information presented within the same visual, and indeed conceptual, framework. This application should speed up report production, make the assimilation process much quicker and allow for the information within it to be more effectively used.

Whilst the model that we used to examine this process was arbitrary in itself, there is a chance that the Informatics Hub currently employed is the best model. However, the examination showed that the process to create the final product is what would have created the shared conceptual framework which would make ensuring understanding so much easier.

We were very fortunate to be able to utilise the experiences of the Operational Directorate of our Mental Health Trust to investigate the communication gap between Analysts and decision makers. The phenomenological investigation showed us that despite being in a very specific service, with very specific requirements, the issues were as subtle as they were broad. Therefore, our solution is equally as subtle. Whilst it may appear time consuming at the front end, the benefits of effective reporting and communication will save so much time at the point of use, that it makes the initial investment not only prudent, but essential.

As satisfying as potentially resolving a reporting issue within the Directorate may be, we are fortunate that the solution is subtle and based largely around soft-system methodology. The reason this is so fortuitous is that it should, therefore, be equally as applicable in other departments, if not organisations.

Indeed, the application of a wider system model for larger, internal, regular reporting requirements lends itself to this model being rolled out throughout the Trust.

Yet our investigation need not end there. If this applies to one provider, could it apply to other provider services throughout the County? Could it be applied to other mental health Trusts throughout the region? There is nothing in the investigation or interview collateral that implies the issues addressed are unique to the County or wider region, why couldn't it be applied nationally? If applicable nationally, could the utility of our conclusions enable its subtlety to be used in a commissioning environment, or even beyond?



Part V – The Multiverse

Conclusion

Through the course of this investigation and meticulous work conducted by our Senior Information Analyst and the Operational Directorate at the Trust, we have been able to refine the question of “how do we close the communication gap between Analyst and decision maker” to the following two problems.

- How do we create a soft sub-system for new or *ad hoc* internal reporting that enables the ensuring understanding and shared conceptual framework between actors from two different sub-systems: analytics and decision making?
- How can we create an environment where intelligence and reporting for large, regular internal reports is enhanced in order to save time and increase understanding of the intelligence in a useably similar way for all users within a system?

By being able to constantly refine the requirements, we were able to create a hermeneutic circle which contains the self-actualisation of sub-systems to solve these problems in their own right. A soft sub-system is, in itself, a solution to the communication gap, provided the actors are brought together to create a shared conceptual framework.

A soft sub-system is, in itself, a solution to the communication gap

Indeed, by creating a system for larger reporting solutions, adequate project management will enable the flow of information to percolate through and the shared understanding created from whole system change and the associated sub-systems will therefore facilitate a shared notion of targets, progress, patient flow, or whatever else the reporting is set up to achieve. So a CEO can walk to a ward, see a divisional manager’s scorecard and have a meaningful conversation about the reasons for it with a Ward Clerk.

Furthermore, we have established a process whereby Analysts and decision makers can now work together to produce advanced intelligence. They now have a forum whereby they can discuss what AI or machine learning tools will help the advancement of decision making in healthcare.

**Analysts and decision makers
can now work together to
produce advanced intelligence**



Outstanding Work

Whilst what we have seen through this inquiry has been dramatic and potentially profound, there is still much that needs to be done. This inquiry could be an interesting investigation that gathers dust on the shelves, or it could be set to improve the utilisation of intelligence throughout the NHS. For the impact to be felt, we need to take the following steps:

- 1) Further test soft sub-system methodology on creating a shared conceptual framework for individual reports, where communication between the actors is better than it was previously
- 2) Test the macro model to create an overarching reporting tool which creates a shared conceptual framework and enables easier digestion and production process
- 3) Roll out the successful models throughout an NHS Trust
- 4) Roll out the successful models in multiple providers
- 5) Roll out the successful models in differing NHS organisations

With organisations already expressing interest in taking these ideas further, the support received from Devon Partnership has proven invaluable in bridging the communication gap so that soon we may be able to say "Mind the gap...? What gap?".

Lessons Learned

One of the key lessons to take away from this process is the scale of the subject matter. We began this journey looking to establish a communication framework in parallel with reporting and AI tools to remove the question altogether. We have learned that just understanding why the communication gap exists involved a complicated qualitative analysis process along with a complete process mapping of an entire Informatics department.

We also found that, not only does the scale of a subject erode available time, but also that stakeholders who are involved in providing patient care, cannot always make themselves available for an internal study when it suits the project leads. This leads to further delays when rearranging meetings etc. Such factors need to be planned into future planning documents.



Next Steps

This, therefore, helps us identify other opportunities to implement our findings. Provided there is no immediate political change within an NHS body and we apply our learnings of how long the process will take, any NHS organisation where a communication gap exists between Analyst and decision maker can benefit. In fact, our team is able to offer the following:

- Suitability Review (around two days for scoping, assessing and producing a recommendation report)
- Initial Consultation Report (which would take around a day's scoping, a day with each affected directorate, a further day with Informatics and two days collation).
- Implementation Consultation Report (which would take around two weeks longer and involve a full implementation plan and 3 full days of training to be taken when required).
- Implementation Partnership (which would take anything from three to six months depending on the required cultural change and size of organisation).

To discuss how Davies Furlong Consulting and our Implementation Partners can help, please get in touch.



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