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Skills for public health systems leadership: Reflections on practice

A qualitative research report

December 2023

Mapping
Values Systems change
 Integrity **Distributed leadership**
Collaboration Influencing
 Communicating **Boundary spanning**
Empowering others Evidence
 Determination **Humility**
 Trojan horse **Transformational** Bottom-up
 Shared vision **Population movement** Shared understanding
Joined up solutions Systems leadership



Purpose of the report

The role of public health leaders is ultimately to improve health outcomes, especially for the most vulnerable in our society. Public health leaders have to work across multiple 'systems' because the causes of public health issues are often complex and multi-faceted.

This report, via a brief literature review and interviews with public health systems leaders, aims to explore the role of public health leaders in driving change for better health outcomes and the attributes needed to be successful. We hope that the report findings will be useful for future systems leaders to develop their skills in these areas.

'[There isn't] a huge space for egos in true system leadership, I think. Because no one entity [dominates] – if something needs the coordination of more than one organisation, or more than one sector, it's a collective action, a commitment to success. So, I think for me, better system leaders, aren't in it for their own glory. They're in it for the glory of the greater good, collective good.' (Systems leader interviewee)

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Summary

The role of public health leaders is ultimately to improve health outcomes, especially for the most vulnerable in our society. Public health leaders have to work across multiple 'systems' because the causes of public health issues are often complex and multi-faceted.

This research set out to explore the role of public health systems leaders in driving change for better health outcomes, and the attributes and skills needed to be successful so that future systems leaders can develop their skills in these areas. The research involved two main stages: a review of the literature and interviews with eleven public health systems leaders.

The research questions were:

- What does systems change mean in a public health context?
- What is the role of a 'systems leader' and what is their understanding of systems change?
- What skills, attributes and characteristics do systems leaders need in public health?

The findings of the literature review and interviews highlight four key leadership traits needed for driving systems change in public health:

1. Seeing the bigger picture and choosing suitable approaches
2. Effective collaboration and boundary spanning
3. Empowering others to lead, building on the concept of distributed leadership
4. Maintaining strong underlying motivations and values, including the need for humility and a learning mindset

We hope that the report findings will be useful for future systems leaders to develop their skills in these areas.

1. Introduction

The role of public health leaders is ultimately to improve health outcomes, especially for the most vulnerable in our society. Public health leaders have to work with multiple 'systems' because the causes of public health issues are often complex and multi-faceted. For example, improving health equity requires facilitating action in fields affecting the determinants of health such as housing, education and employment, as well as access to healthcare.

Systems change refers to the intentional and strategic process of transforming complex systems to achieve improved outcomes, address challenges, and create positive impacts. There may be a range of triggers for systems change, which can include the recognition of challenges, inefficiencies, evolving needs, or opportunities for improvement.

Traditionally, leadership in public health may refer to the ability of key individuals to guide, inspire and influence, and direct others towards achieving a common goal or objective. However, over the last decade there has been a recognition that due to the complexity of public health issues, additional leadership skills are needed.

Systems leadership is a style of leadership that focuses on collaborating and influencing across multiple levels, organisations or sectors to address complex and interconnected challenges. Key to systems leadership in a public health context is driving 'positive change' on a broad scale, developing joined up solutions to complex public health issues for the benefit of society.

This research set out to explore the role of public health systems leaders in driving change for better health outcomes, and the attributes and skills needed to be successful so that future systems leaders can develop their skills in these areas. The research involved two main stages: a review of the literature and interviews with eleven public health systems leaders.

The research questions were:

- What does systems change mean in a public health context?
- What is the role of a 'systems leader' and what is their understanding of systems change?
- What skills, attributes and characteristics do systems leaders need in public health?

2. Literature review on public health systems change and leadership

A brief review of the literature on systems change theory and systems leadership in public health was carried out before carrying out the interviews of systems leaders. It is important to acknowledge that a systems-based approach in public health is a still rapidly evolving field, and as a result, there is not widespread agreement about what constitutes systems approaches in public health.¹

Key points

- Systems change refers to the intentional and strategic process of transforming complex systems to achieve improved outcomes, address challenges, and create positive impacts.
- The role of a systems leader is to influence and mobilise other leaders to develop a mutually agreed focus and shared understanding of the explicit goals of the system, which in turn can enable systemic change.
- Commonly identified skills needed to achieve systems change include the ability to work across services and organisations, build alliances and collaborations, lead through influence and persuasion, and bring about change through the exercise of soft power.

2.1 Systems change

Systems are defined as 'a set of interacting or interdependent component parts forming a complex whole'.² Systems change refers to the intentional and strategic process of transforming complex systems to achieve improved outcomes, address challenges, and create positive impacts. There may be a range of triggers for the need to change, such as current approaches failing, constrained budgets or simply the need to adapt and try new innovative approaches. Tackling the root causes of public health issues is highlighted by systems change theory as important for preparing the ground for change.

Some current areas of UK policy focus in which systems change is widely agreed to be required include obesity and climate change.³ Discussions of systems change commonly emphasise the need for broad-ranging interventions throughout society, involving significant change to policy implementation as well as behavioural change.³

Systems change can come about in one of two ways:⁴

1. Most commonly, change in a system comes from continuous, **smaller scale changes** (shifts in sub-systems), leading to cumulative and emergent larger scale change.
2. More rarely, systems change can take place on a **larger scale, and be transformative**, bringing about direct, significant shifts in the system.

Transformational changes to systems have the largest impact, however in many cases, incremental changes are required first in order for the larger changes to take place.⁵

An alternative way to conceptualise systems change is top-down vs bottom-up approaches.⁶ Top-down approaches focus on mobilising the leaders of organisations and institutions to share resources and networks. Bottom-up approaches focus on connecting individuals within organisations and communities to work together to create change over time by persuading leaders to join the movement. Top-down and bottom-up approaches can both occur at the same time to create systems change.

To ensure the spread and sustainability of public health interventions, it is important to consider the complexity of public health systems and the role and interdependencies of smaller structures in working together to contribute to the overall system.⁷ Systems mapping methods are often used to study complex public health issues as they allow for a holistic, participatory and multi-perspective view, allowing systems leaders to:

- gain a deeper insight to the root cause of the problem;
- understand constituent organisations' places in the system and the interconnections between parts of the system;
- identify the points which may need intervention; and
- identify points of leverage that can be used to bring about change.⁸

A number of principles of effective systems change can be drawn from the literature. These include a need:

- To apply systems change in a sustainable manner to make it more likely to bring about long-lasting impact.⁷
- To develop a shared understanding about the complexity of the problem, which factors drive the complex problem and the potentially non-linear causal pathways, and then which steps are going to be taken to change how the system works and functions.⁹ This reflects the fact that complex systems are viewed, understood and experienced differently by various stakeholders.¹⁰
- For stakeholders to have expertise enabling them to work across different sectors and in the communities in which change is envisaged.⁹
- To share knowledge across boundaries; in some cases this involves working collaboratively with other sectors in order to achieve the right result.¹¹
- For relevant leaders to work together within and between organisations with the aim of creating a **“co-operative, integrative leadership culture – in effect collective leadership at the system level”**.¹¹

2.2 Systems leaders: roles

The role of a systems leader is to influence and mobilise other leaders to develop a mutually agreed focus and shared understanding of the explicit goals of the system, which in turn can enable systemic change.¹⁰ Given public health issues often have multiple causes and drivers which need to be addressed simultaneously, this requires working collaboratively across system components, organisations or even sectors, using the leaders’ networks and connections.

‘Leadership is not vested solely in those who occupy positions of authority and involves sharing leadership and coming together based on shared ambition.’¹²

Systems leadership is often referred to as a collective form of leadership with people working together at different places in the system and at different levels.¹³

Collectively developing, monitoring and evaluating frameworks to assess efforts to change elements of the system is also an important part of a systems leader’s role.¹⁴

2.3 Systems leaders: skills

Systems change is often driven by systems leaders who can recognise that change is necessary. One of the aims of this research was to further explore the skills believed to be integral to the role of public health systems leaders.

'Systems leadership is defined as a set of skills and capacities that any individual or organization can use to catalyse, enable and support the process of systems-level change.'¹⁰

Systems leaders possess a combination of knowledge, skills and mindset that can be applied across various organisations to catalyse and support change across the wider system.¹⁰

The research highlights a number of commonly identified skills needed to achieve systems change. These include the ability to:¹⁵

- Work across services and organisations
- Build alliances and collaborations
- Lead through influence and persuasion
- Recognise that delivering sustainable improvements usually takes time and considerable patience and perseverance
- Bring about change through the exercise of soft power
- Reflect honestly on experiences

Reaching across services and organisations or sectors to build relationships, interconnections and interdependencies can be referred to as 'boundary spanning'¹⁶ – a key skill of effective systems leaders. Boundary spanning requires networking skills and a strong ability to cultivate interpersonal relationships and to bridge interests, professions and organisations.¹⁶ Respect, honesty, openness, tolerance, approachability, reliability and sensitivity have also been identified as desirable qualities among boundary spanners.¹⁶ The 'best' boundary spanners are considered to be those with an easy and inviting personality, particularly those who are able to divest themselves of their organisational and professional baggage.

Another approach often associated with systems change is 'distributed leadership'. Rather than describing individual behaviours or actions, distributed leadership is considered a group activity or collective social process that occurs through the interaction of multiple actors or relationships.^{17,18,19,20}

Common to many definitions of systems leadership is the idea that leadership can be shared and is not the sole responsibility of one leader.¹²

2.4 Systems leaders: challenges

One of the most common challenges faced by systems leaders identified in the literature is handling the conflicting needs of stakeholders coming from diverse backgrounds.²¹ The skills outlined above, particularly those relating to working collaboratively, are key to ensuring that the needs of both the organisation and the stakeholders are met.

3. Systems leaders interviews

Eleven public health systems leaders were interviewed. The interviewees were selected based on being leaders in the public health field, having in-depth experience of leading systems change, and being senior and experienced within their role. Interviewees either held a global role or a role in leading systems change within a Welsh context. The systems leaders had expertise in a broad range of topic areas including obesity, violence prevention, climate change, gender equity, and health inequalities. Qualitative interviews were carried out virtually over Teams/Zoom (please see the [Annex](#) for full methodology).

Overall, the interviews highlighted that systems leadership inherently embraces the idea of influencing change within systems themselves, and driving change to improve health outcomes is a fundamental role of a systems leader. Leading 'systems change' is more complex than traditional 'change management approaches'. It often involves fundamental rethinking and alteration to existing systems and is generally broader and more complex. The findings explore the role of a systems leader, delving into their own recognition as systems leaders and why a systems approach is specifically needed for public health and highlights what participants viewed as important elements for building systems change.

Five main themes were identified from the interview findings, outlined in Figure 1 and explored in more detail below.

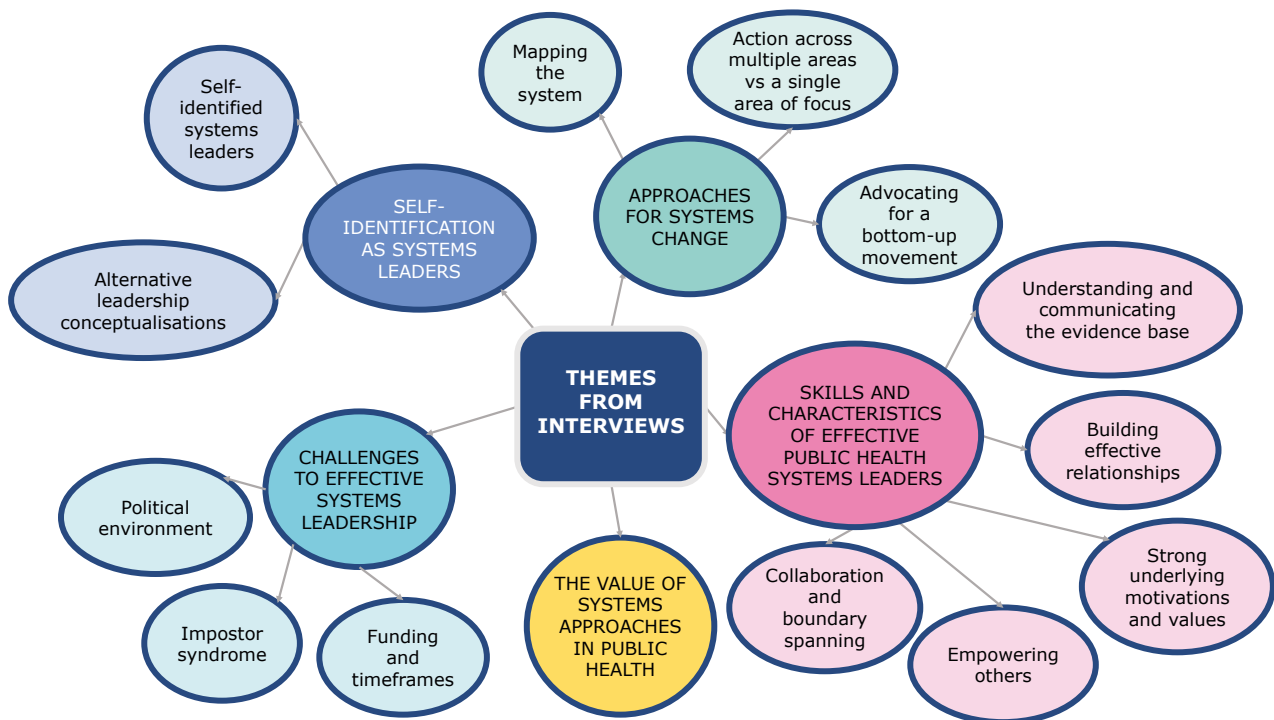


Figure 1. Theme map showing main themes and sub-themes from the systems leaders interviews analysis

3.1 Self-identification as systems leaders

The interviewees were asked whether they considered themselves to be systems leaders. Half of the interviewees believed they were a systems leader, and clearly identified that as their role. The other half did not see themselves as a systems leader or were unclear as to whether they were or not.

3.1.1 Self-identified systems leaders

One of the interviewees who were clear that they considered themselves a systems leader described their role as follows:

‘Systems leadership is about whole systems change, so it’s about making changes in the way that other parts of the system work together and to develop a capacity for systems leadership within those organisations as well. [...] We use the Clear Leadership Framework¹⁰ where we can really commit to working together and that’s the role of the strategy board and they follow it through into funding systems change within local areas. So, we say we don’t fund the system, so we don’t fund gaps or give additional funding into the system itself, we fund system change.’

One interviewee advised, ‘[the] **“lead from where you are”** point is the critical one’. This underlines the fact that anyone can be a systems leader, in whatever position they are in, if they identify and take the opportunities as they arise:

‘Sometimes that’s about just being the right person in the right place with the right knowledge and the right experience and the right ambition and the right bolshiness at the right time.’

3.1.2 Alternative leadership conceptualisations

One of the interviewees who did not self-identify as a systems leader said they had **'discovered that I'm a systems thinker'**.

Another interviewee described themselves as a 'facilitative leader':

'I would consider myself as someone who is passionate about systems working together. I think this is a distributed leadership, to be honest, I think it's very much a facilitative leadership, rather than standing on a box and declaring yourself a systems leader [...] It's bringing simplicity to complex challenges with partners working together galvanised on one or two priorities. So, my role is, I would consider really more around system facilitation than declaring myself to be a leader because I don't think that's what it's about, really.'

Several interviewees described themselves as 'gap fillers', for example:

'I would describe myself as a gap filler. If I see something that hasn't been done, I get anxious, and I feel we should try and do something about it.'

Another interviewee described being a fixer of problems:

'And I found that generally, the way I'd work is where I see holes that need to be plugged with better policy or law, I go and try and do that...I'm a mechanical fixer of problems where there's enough interest in fixing the problem to allow me to be ambitious. So I'm opportunistic, carpe diem!'

The quotes illustrate the differing approaches to identifying as a 'systems leader'. Those who did not recognise themselves as systems leaders described taking more opportunistic approaches to creating change and an ability to identify gaps and bring people together to try and solve issues or problems within a system. Those who recognised themselves as systems leaders adopted more formal approaches and cited systems change frameworks which could be systematically followed (such as the CLEAR leadership framework¹⁰).



These differences in self-identification perhaps reflect differences in knowledge and awareness of systems change as a discipline. Whether a more ad hoc or formal approach is taken, systems leaders need to be able to first identify the need for change and have the ability and personal motivation to bring about change.

3.2 The value of systems approaches in public health

The interview findings show the value and importance of systems approaches in a public health context. For example, in the context of obesity, one interviewee highlighted:

'A traditional, linear model of evidence tends to push us towards relatively straightforward evaluations of relatively simple interventions, which drives a particular type of response to, say, obesity, that is probably not the most equitable and effective type of response. So a systems approach says let's step back, let's look at the big picture here, let's look at the distribution of evidence from structural population level, down to individual level, let's see where that evidence sits, where there are gaps, what we might do about those gaps, how we might deal with uncertainty in this, in this situation.'

Public health issues such as obesity often have complex and interacting drivers, therefore action is needed across all the drivers to create change. This means working across different sectors and boundaries to bring diverse stakeholders together to achieve change. The same interviewee outlined the specific value that systems approaches can contribute in such cases:

'...a way of seeing the world and a way of seeing that the problems that we face, the public health challenges, as problems that exist within systems. They are not single, simple problems that exist in isolation, but they are difficult, messy problems that exist in the real world of a whole load of competing policy priorities, public opinion and political imperatives.'

3.3 Approaches for systems change

3.3.1 Mapping the system

A key initial step identified by systems leaders wanting to develop systems change is to map the system:

'I'd start by, by getting some kind of consensus among the people working on this about what is the system that we are looking at, we are working on, looks like. And so we map it out, we build a system map, and we say, okay, there are other system maps that could have been built, but this is the one we've built, this is what we're interested in looking at. These are the boundaries, because you can't look at everything.'

Mapping the system requires identifying the available levers for influencing or changing systems:

'What we're doing is we're mapping out a system and then we're looking for levers, not leaders, levers to influence that system, of which systems leadership is, is an important one. But it is just one of the potential levers for changing a system.'

One interviewee explained how systems leaders need to also include monitoring metrics when mapping systems and evaluating change:

'I think systems leaders make systems work. They kind of create a roadmap and inspiration and motivation, but also metrics for system performance.'



3.3.2 Action across multiple areas vs a single area of focus

A dichotomy of views emerged as to whether systems change is more likely to occur through facilitating action across multiple areas, or whether focusing on one specific area is more effective.

One view was that, as the problems were complex, action needed to happen across multiple areas and levels to address drivers of population health simultaneously. In relation to obesity, one interviewee recommended:

'[it's about] operating at multiple levels. I mean, I think we need to understand effective ways of working in systems. We need to work at all levels, across policy, practice and research.'

Another interviewee highlighted the need to work across the determinants of health to address health inequalities:

'I'm in the latter camp, [working across multiple drivers] really, because of the multifaceted nature of [...] inequalities. [...] It's poverty, it's housing, it's lack of fair work, it's lack of fair access to further and higher education, it's lack of access to services, you know, it can be lack of access to public transport, in one thing, it's very poor environments. It's breathing in polluted air, you know, so it's, it's a whole range of things. [...] It's societal. It's multifaceted. And it needs, well, it just needs an ecological approach, doesn't it? Individuals, families, communities, society. [...] I'm in that latter category because you can't just home in on one because everything is connected.'

Conversely, two other interviewees felt strongly that to build momentum, one area needs to be chosen and given focus, which could then act as a catalyst for other change in other areas. They both described this as creating a 'Trojan horse', in this context used to describe innovative approaches and mechanisms that allow entry into communities and systems where resistance might be high. Tackling diabetes was given as an example of a 'Trojan horse' which could lead to systems change in the NHS in the longer term, and ultimately a shift towards investment in prevention.

'There's a tactical element to this. And so more recently, I found myself talking about the Trojan horse and about diabetes. So somebody asked me, what did I mean by Trojan horse, last week, actually. And I said, well, with the Trojan horse, you got a horse, and you know, you call it a horse, you can see it's a horse. And that's the direct impact of what you're trying to achieve. But within the horse is something hidden. And that's the indirect benefits, knock-on ramifications. [...] And so if that becomes one of the things that galvanises the NHS on all the different sectors within the NHS, then that, to me, is a really key priority.'

Both interviewees highlighted the need for clear action and focused resources on one area to gain momentum for change, rather than diluting the focus with multiple ideas and suggestions for action:

'You take one idea, but it transforms the whole game. And because of that [...] it's a Trojan horse... if you want advocacy, you want a Trojan horse that's doable, that governments can commit to and make it happen in a timebound way. And then if you want to go and attack poverty or climate change as well, or after that, you can do that, but to get going, you get people to focus on the one thing that governments can do.'

Childhood vaccinations and its transformational impact on children's health outcomes globally was provided as an example of the benefits of looking at single issues when working towards systems change:

'You have to ask the question, what, what can be done, and what is going to be the single thing that's the biggest accelerator. So when they introduced vaccines, vaccines changed the way the world looked at child health. So as a result of that, they also brought in breastfeeding promotion, growth monitoring, oral rehydration salts, but it's the vaccines that changed the agenda.'

3.3.3 Advocating for a bottom-up movement

There was an acknowledgement that social movements can play a significant role in shaping public health agendas, policies and outcomes, meaning a 'bottom-up' approach is often needed to achieve significant change. One interviewee stated:

'From a political science perspective, [a bottom-up approach is] always the best guarantee for change.'

Another interviewee outlined that as a systems leader you may need to help encourage citizens to demand change, which can in turn build systems change:

'First, you need to create the demand. I mean, politicians in general, they respond very well to the pressure by their own citizens [...] and sometimes, you use even diplomatic skills to talk to groups who are very strong activists and they can do a role that maybe I can't, and they mobilise groups that then put pressure on the politicians, and all together, we are moving those agendas.'

A benefit of bottom-up approaches outlined by one interviewee is that individuals can identify and understand their role in the movement:

'When people feel part of the movement, they can find their bit in it.'

Other benefits of bottom-up approaches outlined by an interviewee are that the responsibilities and burden of systems change are shared across communities, organisations and leaders, and that including communities leads to culturally sensitive approaches:

'We have a focus on de-professionalising the system as well so that we're not constantly loading the burden of the system on the public sector where we know that funding is scarce, we're looking for communities to get involved for us to have a culturally sensitive approach to the ways that we are doing things as well, so building this very much into our communities and just driving change through as many leaders as we can.'

Developing a trauma-informed country as a social movement was provided as an example of a bottom-up, social movement, and how including the general population is crucial for achieving systems change:

‘So I think the work on adverse childhood experiences is definitely a social movement. I mean, I think social [...] movements are funny things [...] they’re a bit like culture in my mind. My experience is when you set out to achieve a social movement, it doesn’t work. If you set out for a kind of population ambition, and you work through everyone, you have to trust in that and create that environment and space for people to be comfortable in being involved.’

One interviewee stated that in the absence of sustained and effective national leadership, systems change on inequalities needs to operate at a devolved or local level:

‘So the negative reason for working with cities is that we can’t get national action, so let’s try and get local action and to advocate for [...] communities of practice who can still make a difference. [...] Then let’s see how we can try and marshal their actions.’

However, bottom-up and top-down approaches were not necessarily seen as an ‘an either-or choice’. One interviewee stressed that top-down leadership is required as well as bottom-up, grassroots organisations to effect change in the determinants of health:

‘I think leadership on social determinants of health has to come from the head of government. [...] I’m not saying it should all be top down, but we need leadership through the system from the head of government, and then we need grassroots organisations. We need people to get involved.’



3.4 Skills and characteristics of effective public health systems leaders

Interviewees highlighted five key skills and characteristics needed for effective systems leadership: understanding and communicating the evidence base; building effective relationships; collaboration and boundary spanning; empowering others; and strong underlying motivation and values (see section 2.2 for a definition of boundary spanning).

3.4.1 Understanding and communicating the evidence base

Interviewees discussed how they accessed and analysed evidence in their roles as systems leaders, and how they used evidence to drive systems change. There was general agreement across the interview findings that it is important to have an adequate depth of knowledge in the areas they are working in, recognising that it is not feasible to be an expert in all areas of public health:

'I'm obviously not an expert. But I do need to have some underpinning knowledge so that I sound credible, and authoritative when I talk.'

In addition, it was important that systems leaders have the relevant evidence available in a way that is responsive and current, which also requires drawing on the expertise of others and being aware of current debates:

'I always try and have the evidence at my fingertips for something, know what the science is, know what I can offer, know what's known, know what's reasonable. Review, review, check, do I know enough? Do I know, never enough, but I do my very best or ask a friend, phone a friend. But equally, really listen to the debates and produce the information, or the evidence when they need it, and where possible inspire, because people, people need to believe they can. And that's, I think I have a tiny bit of that in me, but I don't, I see others who do it much better than me'.

However, there was a recognition that evidence does not lead to change in and of itself, but forms one part of a process that can lead to systems change:

'Evidence doesn't lead to political change [...] first is the moral argument for change. The second is the evidence. And the third is pathos, engaging people's sympathies, empathy.'

Being secure with the evidence underpinning arguments being made, and having the ability to share that knowledge with others in a way that enables change, was said to be key to delivering systems change:

‘The enabler is the fact that you are able to access research now, and able to access so much information, and you’ve got to get your argument watertight before you go out there [...] I think it’s really important to [...] cut through the noise, to stick to evidence-based argument.’

3.4.2 Building effective relationships

A common attribute of the leaders interviewed was their ability to build important, strategic relationships and to create a strong network of a variety of stakeholders. As one interviewee succinctly put it: **‘you need your networks’**. Another powerfully stated that **‘networks are incredible’**. One participant spoke about how they can **‘always reach out to that network of trust’**, and the importance of a **‘good group of people that, that believe on the same need for change’**. The participant talked about having trusted colleagues which they could use as a sounding board and to discuss ideas. The individuals that are within this network were described as like-minded, with a similar mindset and a keen motivation to create the same change.

It was clear from the interviews that systems leaders did not consider creating effective relationships an easy skill. It was described as requiring a lot of work and time to build up and maintain. As one interviewee put it:

‘Effective partnership governance takes real, real work.’

Relationships needing to be managed in order for them to remain resilient and hence work effectively was also highlighted by other interviewees. For example, one interviewee discussed the importance of **‘building durability of relationships’**, but also recognised the very real issue of churn and change: **‘just as you’ve built a relationship somebody moves on and you have to start again’**, highlighting that this reality requires patience, resilience and the awareness of the need sometimes to build relationships back up almost from scratch.

Building relationships and using those networks to drive towards the aims of systems leaders was described by one interviewee as potentially having a calculated quality to it:

'It's a bit Machiavellian really, but I'm just thinking, you know, where are my allies? How can I ask them to help?'

Humour was highlighted by one interviewee as a potential way to build effective relationships:

'It's all about shared values of people to make a difference. And that is about building that relationship because they're really important. And a bit of humour [...] makes a big difference in people feeling comfortable.'

3.4.3 Collaboration and boundary spanning

Multiple interviewees emphasised the importance of collaboration when working towards systems change. Several interviewees described systems leaders as 'collaborative leaders' when asked what they understood by the term systems leadership:

'Systems leaders are collaborative leadership, really, it's how do people who work across different systems get together and change ways of working so that we can be more collaborative.'

Collaborative leadership isn't solely related to 'complex systems' as collaboration can occur between two organisations. However, participants did identify it as a key part of creating change in a complex system. There was a need to work in a 'collaborative spirit'; to give something away in the hope of generating net benefit in the longer term, which implies the act of generosity and unselfishness. In that sense then collaborative leadership is a large part and key ingredient in the make-up of systems leadership. For example:

'Systems leadership is about whole system change, so it's about making changes in that other parts of the system work together and develop capacity for systems leadership. Systems leaders are collaborative leaders really, people that understand that you need to work across boundaries in order to make things happen.'

The importance of boundary spanning in systems change was also highlighted. One interviewee identified a range of skills needed to be an effective boundary spanner:

'You have to be able to work outside hierarchies, outside formal authority, you have to be able to influence, you have to be able to build consensus, you have to be able to build this common purpose. There's a whole skill set in being an effective boundary spanner.'

3.4.4 Empowering others

A common theme centred around the role of systems leaders in empowering others to lead, share their expertise or experience, and identify their role in systems change processes.

For example, one interviewee described empowering others to lead as a key skill of a systems leader:

'You're asking me about being a systems leader, in a way, the argument that I'm trying to make is to try and get the Prime Minister or the First Minister or the mayor, or the chief executive of the city council to be the leader. Not me. My argument is to try and get them to be the leader.'

Key to empowering others is being able to help others from different areas 'see the bigger picture' so they can then understand their role and capabilities within it:

'But people [who] are really good at detail often don't get the big picture. So you have to break the big picture down in ways that help them understand the bit that they can, and it's kind of oh, I get it, I can do that bit.'

Several interviewees noted the importance of being able to create a space for contributions from different individuals and organisations. For example:

'The systems leader is dependent on wisdom diversity. Right? You don't want all these people the same, that think the same as you [...] You want people that are opposed to your [...] idea and will challenge you on it [...] you want them to feel comfortable to express different opinions, otherwise you're not [...] an effective systems leader.'

The quote above is interesting as it could be argued that avoiding groupthink and inviting challenge and diversity of opinion is a feature of all good leadership. It is nevertheless a really important facet of good systems leadership. It is particularly important to systems leadership relating to public health as working effectively across boundaries with different sectors entails having the ability to listen to others' perspectives which may be different to a 'public health view' and to be open-minded to possible solutions.

There was discussion on how you can build systems change. One interviewee who reflected on how you create change and action related to the climate emergency stated:

'I do think often, it does build organically [...] Whereas actually, what you want to create organisationally, I think, is the ability for people to contribute to change.'

Many interviewees outlined the value of acknowledging others' different ways of thinking and perspectives when trying to achieve systems change:

'You constantly need to acknowledge that they probably know a lot more than you do, but that they may not have thought about stuff the way you have thought about stuff, and that your perspective has legitimacy too'.

This was linked to a recognition that no systems leader can be an expert in all topics, driving the need to empower those with more expertise to lead:

'For systems leaders, because none of us have experienced leadership in every sector, in every organisation, we have to be open-minded to seek to understand and listen to what it's like, by colleagues in another sector. When you're talking about sharing assets to achieve a common ambition, you've got to leave the preconceived ideas behind and trust the process of engagement.'

It was outlined that providing the space to share perspectives and expertise, within and across organisations, empowers others to feel able to contribute to change:

'What you want to create organisationally, I think, is the ability for people to contribute to change.'

3.4.5 Strong underlying motivation and values

Consistent across all interviewees was passion for their work and driving change. Almost all interviewees were motivated by the need to make a difference, for example, to the lives of vulnerable people, or to public health decision making or policy making:

'I guess the honest answer is I'm motivated by two things. One, a genuine desire to see greater fairness in society and hence in health, and, secondly, a feeling that the ideas are getting through, we're making a difference. If I thought that we had these good ideas and no one was listening, I'd rapidly run out of motivation, and I'd think of something else to do.'

Another interviewee similarly reflected on their own motivation for the work which they did, saying:

'I cannot bear the impact disasters have on people, and it really saddens me. And it's constantly thinking of the individual and how they cope and what we can do to make their lives better. At times of terrible crisis.'

One interviewee described being motivated by improving the use of evidence in public health policy:

'I was just angry with, with the idiocy, the stupidity, that naivety about how we approached the health of people, as, as if the people are some sort of machine where you can tighten the bolt and put some, some grease in it, and, and then you fix it. That's not true. And the, the continuous alternative ontology of policymaking for health that is false, needs to be challenged. So that, that motivates me. Anger, anger, that we could do better.'

A high degree of passion also came out strongly from the interviews. For example:

'I think it's the excitement that you can, and you can work with people who make it work and who are as passionate about it as you are. And I think all I do is just to help to increase that commitment to we must deliver.'

Another consistent characteristic of the leaders interviewed was the high degree of humility they exhibited. Being humble was highlighted as an important characteristic for systems leaders by more than one interviewee. For example:

'I think it's really important to be humble and not assume that one has all the answers oneself and accept that there are potentially different ways of addressing some of these problems.'

Another interviewee reflected on the link between being humble and working collaboratively:

'You need to have, in your heart, a sense that collaboration is the right thing to do, and they often say you need to leave your ego at the door, this isn't about you being right all the time, this isn't about you getting the best for your organisation, this is about you doing the best thing for everyone, for the system. So you need to have an open mind to change and not be ego driven, you need to understand that everyone has different needs, different perspectives, and you need to respect them, so you need to be building durability of the relationships.'

The interviewees had all held senior positions and led significant systems change work, but consistently demonstrated humility as a fundamental value. This demonstrates the importance of distributed leadership as a powerful model for systems change. As one interviewee put it:

'I've always encouraged others to lead. I always want somebody to do it better than me. I've said it all along, I'm sure somebody else will do it much better than me, but until they appear, or they have the time, I'll keep plodding on, and trying to help. That's all I can do.'

Another interviewee similarly reflected on how good systems leaders work for the 'collective good' rather than to pander to their own ego:

'[There isn't] a huge space for egos in true systems leadership, I think. Because no one entity [dominates] – if something needs the coordination of more than one organisation, or more than one sector, it's a collective action, a commitment to success. So, I think for me, better systems leaders, aren't in it for their own glory. They're in it for the glory of the greater good, collective good.'

The theme of humility linked to another value that came out prominently across the interviews, which centred around the importance of constantly learning from others. Open-mindedness and a constant willingness to experiment with new approaches and to learn from mistakes were highly valued:

'If it doesn't go right one meeting, I go back, I think what could I do differently. I try a different tack. And then I'll come at it from a different angle' and they said, 'And, you know, and all of us, you know, sometimes we get it wrong, and how do we support each other? And how do we learn from that?'

Another interviewee recommended the adaption of the principles of 'fail fast and learn', noting:

'The public health approach is to try things, learn from them and do better. [...] We don't look to fail, but if we do, we need to learn from it.'



However, the importance of learning from others was placed within a context of needing a strong underlying motivation, something driving them, in order to effectively drive wider change:

'Everybody that I've had the privilege of even talking to, being with, they've all either taught me something or they made a difference, and I just go wow, fantastic. Well done. How can I learn from you and things like that? It's, I think getting people to believe that the training they've had has enabled them to do what they can do. But they also need to have I suspect a little something, another reason to help them to do it.'

To successfully drive change, interviewees stressed that above all there was a need for patience and humility, while combining many of the other attributes of effective systems leaders identified above:

'Patience, it's difficult work and you don't often get a reward for your efforts in any kind of short timeframe, it seems to be you just start to build up a collaborative way of thinking, so you need to be patient, you need to be determined, you need to be steely.'

Interviewees stressed the 'privilege' they felt doing the work they do, and how this motivated them in their work as systems leaders:

'What a privilege it is to work in the area of health equity, to know what you do every day is trying to create a fairer world. It's an absolute privilege. So it really is motivating.'

3.5 Challenges to effective systems leadership

Interviewees were asked for their views on the challenges to systems leadership. Challenges repeatedly identified by interviewees were the political environment, funding and timeframes, and impostor syndrome.

3.5.1 Political environment

The challenge of achieving systems change in a political environment emerged as a strong theme from the interviews.

One interviewee highlighted the lack of levers the public health system has to influence fiscal policy to improve inequalities:

'The public health system is one small part of the influence on the health of the population, given the dominance of political influence, fiscal policy, you know, what's happening in terms of poverty and inequalities. Now, of course, the public health system ought to be influencing that to reduce poverty and reduce inequalities, but most bits of the public health system have very little, if any influence over things like fiscal policy.'

This was echoed by another interviewee who stressed that achieving systems change requires funding and political will, which can be a challenge to obtain:

'We've developed an evidence base, and I'm fairly confident in that evidence base [...] Now we need will, political will, we need resources.'

Being aware of broader political headwinds, for example, in terms of opportune moments to advocate and targeting the needs of specific ministers, were put forward as a way of addressing the challenges of working in a political environment:

'I talk a lot about tactics because a lot of this is about knowing when to push forward, when to hold back [...] and knowing, you know, what is, if you can ever know, what goes on in the minister's mind, what is going on in the minister's mind in terms of our agenda?'



3.5.2 Funding and timeframes

Funding was discussed in around half of the interviews, with interviewees emphasising the importance of financial support to drive change. One interviewee discussed how the system continues to operate in a context of significant financial deficit, making system shifts towards prevention fundamentally hard to achieve:

'In that context [of financial deficit], how you secure a shift towards prevention, early intervention?'

Another interviewee highlighted how change interventions are tied to the duration of the funding they receive, meaning funding systems tend to lead to a plugging of short-term gaps in the system rather than facilitating long-term and sustainable systems change. They advocated for the opposite approach:

'Don't fund gaps [...] Fund interventions and ways of working that illustrate how you would work together in a change programme rather than just feeding a system that isn't sustainable.'

Embedding new methods of working in a sustainable way was said to avoid a constant need to **'pump money into the system'**.

Linked to the funding challenges outlined by interviewees was the significant amount of time that interviewees stated is needed to create, embed and monitor lasting systems change:

'Systems change takes years. It's not a matter of doing a project of a year or a few years, it really is the long haul that you need to [...] do.'

Many interviewees therefore argued that to achieve real systems change, short timeframes will not lead to the desired outcomes:

'This can't be a technocratic approach where you say we have four months or two weeks or even three years to do something.'

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The final sub-theme of challenges to effective systems leadership covers impostor syndrome; the idea that one's success is not fully deserved or has not been achieved through one's effort or skill. This was mentioned by a number of interviewees, who described feeling unsure of themselves, especially in the early part of their careers. One interviewee spoke about how:

'I've always felt that somebody would tap me on the shoulder and say, come on, everybody here knows that you don't belong. So, you better go.'

Another interviewee shared their feelings about how they did not think it was unusual to have a bit of impostor syndrome, suggesting that this is perhaps par for the course in a complex systems setting where there is considerable uncertainty of knowledge and action:

'I can't imagine doing a job where you feel you've got the knowledge for everything.'

A gender dimension was also prevalent in the interview findings, suggesting that impostor syndrome particularly affects women:

'This is a really common one among women [...] I really, really, really enjoyed writing the book. But I really felt like an impostor. You know, who was I to write a book?'

They went on to give sound advice:

'We still have an incredibly patriarchal society [...] The single thing I often say when I'm talking to young people is that [...] if you just follow your passion [...] nobody is an impostor in their own passion. [...] Another person also had good advice for dealing with impostor syndrome: "so you need to overcome that feeling and make it part of the process, it will always be there. When you start looking at others knowing that they're also going through it then you start feeling less odd one out".'



A key point, expressed by our final interviewee, an expert in their field, is that it can affect anybody, at different stages of their career:

'I always feel, do I know enough? Should I be here? Is there somebody better? And you, you're never certain, but you do what you can. And I always get anxious. And I try really hard to encourage people that if they have the knowledge, if they have the engagement, if they have the passion, then it's fantastic. Go and do it, please do it better!'

4. Discussion

The research aimed to gain insight into the leadership skills needed to achieve systems change in public health. Bringing together the findings from the literature review and interviews with systems leaders, we outline the four key leadership traits.

4.1 Seeing the bigger picture and choosing suitable approaches

The research showed that the ability to see the bigger picture is particularly important for systems leadership in public health because of the need for diverse partners to work towards common goals. Systems leaders need the ability to communicate the bigger picture to help build cohesion and a long-term focus across a broad range of actors, as well as to empower others to see and understand their role in the broader system.

Systems mapping was put forward as a helpful way to gain a deeper insight into the problem, to recognise the points which require intervention, and to identify the levers that could be used to change the system.

The literature and interviews showed that there is no 'correct' way to approach systems change. Both bottom-up and top-down approaches were said to have merits. They are not mutually exclusive and can be combined for maximum effect. While somewhat based on preference, choosing between focusing on single issues or working across multiple areas simultaneously to drive systems change was shown to be dependent on broader contextual factors such as the political and fiscal landscape.

This means a key skill of public health systems leaders is to be able to understand and assess the state of the system, the motivations of the people and organisations who form that system, and the broader political and fiscal environment to determine the most appropriate and effective approach for the specific aim or issue at that particular time.

4.2 Effective collaboration and boundary spanning

A key theme to emerge from the literature and interviews was the requirement for systems leaders in public health to work within and outside their organisations and to foster collaborative relationships in order to effect change – also referred to as ‘boundary spanning’. Building relationships across organisational boundaries and investing time in developing networks enabled systems leaders to bring people with them on the systems change journey, despite not having traditional authority over them. Networks were also said to be valuable for acting as sounding boards and providing support.

There was alignment between the qualities interviewees outlined as being important for effective boundary spanning and those identified in the literature, including respect, honesty, openness, tolerance, approachability, reliability and sensitivity.¹⁶ Systems leaders must effectively use their networking skills to influence others to join and drive systems change. Building and maintaining relationships and learning to be resilient in the face of churn and change were found to be key tenets of systems leadership in this landscape. An important skill identified in the interviews was the ability to listen to and value other people’s perspectives and to balance sometimes conflicting viewpoints and needs of stakeholders.

4.3 Empowering others to lead, building on the concept of distributed leadership

The ability to inspire and develop distributed leaders across organisational boundaries was identified as a key systems leadership skill. Systems leaders need to be able to motivate stakeholders who may have different perspectives to align with their vision and build a ‘coalition of the willing’.^{15(p7)}

A reliance on a model of distributed leadership was a notable feature of interviewees’ leadership practice. This linked to many of the systems leaders not defining themselves as a ‘systems leader’ and many feeling that they were not experts in their field.

At the same time, interviewees felt that it was critically important that systems change work be underpinned by a strong evidence base, particularly to ensure credibility and to persuade others of the need for change. Distributed leadership allowed systems leaders to rely on and galvanize the perspectives and expertise of others, using this to fill gaps.

The research showed that systems leaders in public health are required to empower upwards (for example to ministers, senior politicians or local government leaders), as well as downwards (for example to more junior colleagues, communities, and other organisations working in relevant spaces).



4.4 Maintaining strong underlying motivations and values, including the need for humility and a learning mindset

It was clear that each interviewee was spurred on by a deep-rooted motivation to make a difference. The ability to articulate the values they associated with their systems leadership roles to others enabled them to bring people with them and to create a shared vision to inspire change.

Values centred around appreciating and bringing in the perspectives of others, being open-minded, as well as not being afraid to try new approaches and to learn from mistakes, came out clearly in the interviews. This echoes findings from the literature that being able to learn, adapt and change is key to good systems leadership.¹⁰ In addition, leaders were genuinely humble in their approach, working towards the 'common good' rather than personal achievement. This humility was also linked to their desire to inspire others to lead (see section 4.3).

These motivations and values helped systems leaders to continue to work in challenging circumstances. Identified challenges included political barriers, the short-term nature of funding when trying to ensure sustainability of systems change and the fact that true systems change takes time and needs patience to see results. Numerous interviewees identified impostor syndrome as a personal challenge.

Conclusion

Leading systems change is a vital skill needed in the field of public health; the ability to influence decision makers and to inspire others to lead change and to facilitate this to happen. Now more than ever, with fiscal constraints and the need to shift health systems towards prevention, having the leadership skills to bring partners on the journey is essential. At a global and national level, complex public health issues such as climate change need a systems response. This means that public health leaders need to have the ability to understand the bigger picture, to present a vision on how sectors can work together, and to bring those sectors along to collaboratively come up with and implement joint solutions.

Whether leading at a local, regional, national or global level, driving systems change is a core public health skill. This research defines the traits of public health leaders who have been successful in driving systems change. We hope that this report encourages the development of these traits in future leaders.

Annex: Interview methodology

This research project was a collaboration between Public Health Wales and the University of Wolverhampton to gain an understanding of the leadership skills which are needed to drive systems change in public health.

Research aims and questions

The purpose of the research was to provide an overview of systems leadership in terms of the approaches that are taken by leaders in creating and influencing change in systems within the field of public health.

In particular, the research aimed to examine the key attributes of leaders that drive systems change and to understand the skills needed to drive change. Informed by the literature review, through the programme of interviews the questions asked were:

- What does systems change mean in a public health context?
- What is the role of a 'systems leader' and what is their understanding of systems change?
- What skills, attributes and characteristics do systems leaders need in public health?

Participants

Participants who were significant leaders in the field of public health and who had been involved in driving systems change were identified. Participants were selected based on their characteristics of leading across a broad area within public health that had the attributes of a system, and who were senior and experienced within their role. There was representation from a broad range of topic areas including obesity, violence prevention, climate change, gender equity and health inequalities. Participants were selected for either their global role or their experience in leading systems change within a Welsh context. There was a balance of genders.

However, one limitation was that the individuals were selected and we had to make a pragmatic decision to identify participants quickly who would be able to shed light on the issues.



Interviews

A series of qualitative interviews were conducted via Microsoft Teams and the interviews conducted lasted around 1 hour each. The participants were invited to take part in interviews via email and the interviews were conducted between March and April 2023. Interviews were recorded via the Teams recording function, and then professionally transcribed.

Interview questions

The interview schedule was put together by the research team. The interview schedule provided us with a chance to adapt the line of questioning dependent upon the response from the interviewees which allowed for a deeper understanding of the roles, skills and mindset of these individuals.

Analysis

The digital recordings of the interviews were transcribed and subsequently imported into Nvivo analysis software. Main themes emerging from the transcripts were identified in Nvivo by the main researcher and then discussed and further refined by the whole team.

Ethical considerations

The interviews were recorded for the purpose of transcription and analysis, interviewees provided informed consent, and confirmed at the beginning of the interview that they were happy to be identified in the research. Ethical approval was received from the University of Wolverhampton FABSS ethics committee.



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