

Activating window of opportunities for healthy planning: reviewing regulatory, systems, engagement, capability and policy approaches

Abstract

Population health promotion depends on determinants, requiring appreciation of different systems. Spatial planning can influence these determinants, yet integrating health in planning remains difficult. This paper outlines approaches in regulatory compliance, leverage points, participation, capability improvement and policy windows to identify where actions can be most effective. Each approach offers distinct strengths: consistency, certainty, systemic impact, engagement entry points, capacity building and strategic timing. No single approach is sufficient; a hybrid strategy is needed to navigate complexity and activate opportunities across contexts. This paper advances effective healthy planning as a dynamic process requiring adaptability, situational awareness and capability development.

Key words

Healthy planning; Spatial planning; Systems thinking; Leverage points; Policy windows

Introduction

Drivers of health and wellbeing are complex and multifaceted, and the solutions needed to address them share this complexity. Many lie outside the traditional health system and instead sit within planning, housing, transport and wider urban development processes (Buck & Gregory, 2013; Dun-Campbell K et al., 2024; Rydin et al., 2012). Over several decades, sustained efforts have sought to strengthen the health sector's role in shaping the built and natural environment, including through healthy planning interventions and urban development policy (Chang, 2019; Newberry & Carhart, 2026). Healthy planning refers to practitioners working across systems, structures, and policies that influence place-making to advance health and reduce inequalities (Chang et al., 2022). Parliamentary committees have repeatedly recognised planning as a lever for improving population health and have recommended that health be treated as a material consideration in planning decisions (House of Commons Health and Social Care Committee, 2024; House of Commons Health Committee, 2016).

Changes to governance structures have created new opportunities for this alignment. The 2012 reorganisation of the English health and care system relocated public health responsibilities from the NHS to local government, enabling councils to coordinate action across planning, housing, transport and environmental services. National planning policy similarly requires planning authorities to take local health needs and priorities into account when preparing plans and making decisions (Ministry of Housing Communities & Local Government, 2024). In response, system partners increasingly advocate for a Health in All Policies approach tailored to local government structures (Local Government Association, 2022).

Despite these developments, translating evidence and guidance into consistent practice remains difficult. This has prompted interest in new models of capacity building and system change. Embedded researcher approaches, such as those trialled in Bristol City Council, illustrate how strengthening relationships between planning and public health professionals can activate latent opportunities within local systems (Chang, Carhart, Cook, et al., 2025; Ige-Elegbede et al., 2020; Le Gouais et al., 2024). Other studies have mapped key decision points in urban development—for example, the ‘upstream–midstream–downstream’ model developed by the UK Collaborative Centre for Housing Evidence (White et al., 2020). Systems mapping methods have been employed by researchers from the TRUUD (Tackling Root causes Upstream of Unhealthy Urban Development) project to map those components, levers and actors of the urban development decision-making system, such as local plans, use of health impact assessments, the role of politicians and the private sector (Black et al., 2022; Newberry & Carhart, 2026; Turnbull et al., 2025). Further systems work, such as Pineo’s causal loop diagrams and Pagani’s exploration of leverage points in social housing, demonstrates how revealing underlying structures can generate new opportunities for intervention (Pagani et al., 2025; Pineo et al., 2020).

As the evidence base, policy landscape and practical tools for healthy planning expand, researchers and practitioners increasingly question whether existing opportunities are being recognised and used effectively. Healthy planning already benefits from multiple windows of opportunity embedded in planning and health systems. However, a systems perspective reveals that opportunities achieve greater

impact when actions are aligned with local context, target the right actors, and deployed at the right moment (Chang, Carhart, Lee, et al., 2025).

In this context, this paper identifies and synthesises conceptual approaches that help illuminate where, within the planning process, action for health can be most effectively taken. These approaches vary in their disciplinary origins and practical applications, but each provides a lens for identifying points in the system where interventions can shift outcomes. For consistency, we use ‘windows of opportunity’ as an overarching term that encompasses these various concepts and approaches.

We adopted a narrative review approach to identify, interpret, and synthesise a wide range of literature relevant to understanding windows of opportunity in local spatial planning for health (McClellan et al., 2019). This method allowed us to draw together diverse conceptual models, establish clear definitions of key terms, and synthesise insights across the authors’ multi-disciplinary expertise. Throughout the paper, tables summarise the characteristics of each approach and distil their implications for healthy planning practice, making explicit how theoretical concepts translate into actionable insights for local planning and public health.

Definitions and interpretation of key terms

We begin by defining the three key terms central to this research - *opportunity*, *leverage* and *intervention*. Each represents a distinct yet related concept that marks specific points within a process or system where action, influence, or change can occur, and together they provide the conceptual foundation for the approaches discussed in the remainder of the article. To establish a shared baseline

understanding, we first draw on dictionary definitions before situating each term within its wider academic context. While dictionary meanings offer a useful starting point, academic discourse acknowledges that such definitions may sometimes diverge from researchers' intuitive or discipline-specific interpretations (Dorst & Reijnierse, 2015). Recognising this, our use of dictionary definitions serves a deliberate and limited purpose: to anchor an initial common reference point from which a more nuanced, literature-informed discussion can proceed.

Opportunity

The meaning of 'opportunity' in the Cambridge Academic Content Dictionary is "*an occasion or situation that makes it possible to do something that you want to do or have to do, or the possibility of doing something*" (Cambridge Academic Content Dictionary, 2017b). What is possible can be understood in terms of action that may exist or occur if given the proper conditions.

In the wider literature, opportunity is often grounded in behavioural science models in which people's heuristic behaviours are shaped by different systems of processing information and decision-making including positive changes that require either rational/ conscious or fast/ intuitive efforts (Krämer, 2014). For example the COM-B Behavioural Framework as a system of three interacting domains that include *opportunity* as well as *capability* and *motivation*, and which are necessary in order to generate effective behaviour change (Michie et al., 2011).

Opportunity can also be understood in software development referring to upstream, midstream or downstream where an action goes from one step to the next along a

process. Opportunity can also be understood in the physical or social context, where much of the focus in healthy planning is on addressing upstream actions - the primary forces that shape downstream patterns and inequities in health, that is, the determinants of health (Commission on Social Determinants of Health, 2008; Williams et al., 2008). Applications of behavioural science to environmental challenges and improving population health can open opportunities in support of achieving policy objectives (Public Health England, 2020; Rankine & Khosravi, 2021).

Leverage

Cambridge Academic Content Dictionary defines 'leverage' as the "*action or advantage of using a lever*" (Cambridge Academic Content Dictionary, 2017a) where the use of the lever to get a particular self-interested result from someone else.

Inherent in understanding leverage is the exertion of power or effort in taking action to secure the shift necessary to achieve a desired outcome. In this context, an interpretation of leverage is the proportionate relativity between effort and outcome where the former will be greater than the latter as a result. The inherency of power dynamics in the common definition of leverage provides an interesting perspective in the context of health inequalities and a reference point for identifying barriers to power creation (Friel et al., 2021; Popay et al., 2020). Literature on studies of power distinguish different dimensions of power which can be useful to clarify our relative understanding of the application of leverage in the context of this article such as power-over, power-to and power-with (Pansardi & Bindi, 2021) and links to ability

and capability which is one of the domains of systems thinking on healthy planning (Chang, Carhart, Lee, et al., 2025).

The use of the leverage concept is common in systems thinking (Murphy & Jones, 2020) to uncover tools that can help achieve successful outcomes relative to effort. In this context, Meadows defines *leverage points* as specific places within a complex system where small, well-targeted changes can generate disproportionately large and lasting effects. Crucially, her concept emphasises effectiveness rather than the amount of effort applied, highlighting that interventions aimed at deeper structures, such as system goals, rules, or underlying mindsets, tend to be far more powerful than surface-level adjustments (Meadows, 2009). Leverage is also a common and essential concept in economics, where money is borrowed to invest or spend in order to significantly increase financial returns or gains (Anderson, 2014).

Intervention

An intervention can refer to policies, initiatives, services, and activities. Implementing an intervention is therefore considered an intended direct action to have a purpose that enhances an outcome for individuals or a population level. The medical definition of 'intervention' is "*the act of interfering with the outcome or course especially of a condition or process (as to prevent harm or improve functioning)*" (Merriam-Webster Dictionary, 2025). In another definition, intervention is defined as an "*organized set of means implemented in a specific context to meet one or several targets with respect to improving health and preventing disease*" (Litvak et al., 2020). An example is adhering to the National Institute for Health and Care Excellence (NICE) guidance on evidence-informed interventions such as on improving the

physical environment to encourage and support physical activity or prioritising indoor air quality in residential buildings.

Public health interventions are complex, involving multiple components, diverse actors, and numerous causal and effect pathways. They are rarely designed or implemented, ideally, as single, isolated actions, and therefore should not be considered in isolation (Petticrew et al., 2019). A UCL *Lancet* Commission recommended taking a concerted effort and complex systems approach to the analysis and promotion of interventions that shape healthy cities (Rydin et al., 2012). That is why when evaluating health interventions, guidance emphasises the intervention's relationship among its context, implementation and mechanism, in how it achieves outcomes. This is commonly expressed in logic model, programme theory or more complex representations such as causal loop diagrams produced as a result of a collaborative research process, such as in Group Model Building (Moore et al., 2015; Voss et al., 2025). From a complex systems perspective, an intervention may itself be complex, whether due to the number and diversity of its components, the interactions among those components, or the complexity of the outcomes it produces (McGill et al., 2021; Movsisyan et al., 2020).

Discussion of relevant approaches

In Table 1, an *intervention* is a deliberate action introduced to change a system, whereas an *opportunity* refers to the contextual conditions that enable such action, and a *leverage point* identifies the specific place within the system where a small, well-targeted change can produce the greatest effect. Establishing baseline definitions of opportunity, leverage, and intervention provides a foundation for

engaging in discussions with local policy makers and practitioners on how they can be applied to reveal windows of opportunity in effective local healthy planning. To provide a practical illustration throughout the synthesis, we refer to healthy planning as activities undertaken by practitioners in the built and natural environment relating to the wider determinants of health in the local planning system.

Table 1. Summary of the three key terms as they relate to healthy planning

Opportunity	Conditions - situational, contextual, or environmental - that make a particular action or change possible, and emphasise how upstream determinants create or constrain the potential for downstream improvements in population health.
Leverage	A capacity to exert influence or apply effort in a way that produces a disproportionately greater effect, shaped by underlying power dynamics and, within systems thinking, specific locations in a system where well-targeted shifts can generate lasting change.
Intervention	An intentional, organised action, such as a policy, service, initiative, or activity, introduced within a specific context to improve health outcomes or prevent harm, typically involving multiple interacting components, actors, and pathways.

In this section, we examine five conceptual approaches which offer different ways of understanding where and how action can happen in the planning system to support health in the context of the three key terms in Table 1. Regulatory compliance will focus on the *opportunities* created by legal and policy requirements and translates these into *interventions*. Leverage points show how *leverage* can guide more effective *interventions*. Participation and engagement will focus on creating *opportunities* for communities and professionals that strengthening their influence or *leverage* of health in planning. Capability improvement models will show building capability over time can create *opportunities* for action. Policy windows will remind us that timing matters: when the right conditions align, prepared *interventions* can gain momentum and have greater *leverage*.

Regulatory compliance

The first approach to understanding windows of opportunity is through the lens of compliance to regulatory and policy requirements. Spanning from a range of disciplines such as law, management and political science, the theory of regulatory compliance relates to how individuals and organisations fulfil requirements they would be expected to meet (Drahos, 2017). Regulation can be understood in terms of exerting control of agency both in restrictive but also facilitative ways in terms of imposing specific sets of binding commands or rules, state actions to influence behaviours such as through incentives, penalties, deployment of resources or supplying information (Baldwin et al., 2011). Fiene argues regulators should focus their efforts on the 'right rules' and avoid over-regulation (Fiene, 2019). Compliance with regulations requires a proactive approach to identifying applicable laws, procedural guidance to ensure compliance, internal checks and balances, training and awareness, monitoring and auditing, and is an approach that is becoming multi-disciplinary with particularly relevance for healthy planning.

In the context of planning, reviewing regulation has been a clear focus by successive UK governments when progressing the planning reform agendas. The planning system has often been referred to by senior politicians across the political spectrum as a regulatory burden (Airey & Doughty, 2020) though countered by planning proponents to evidence the value of planning as essential for growth and economic well-being (Adams et al., 2016). A literature review has identified polling within the housing development sector consistently highlighting planning as the main barrier to growth (Chang, Carhart, Cook, et al., 2025). As a result, there has been regulatory initiatives:

- cut red tape known as the Red Tape Challenge in 2014 with the One-In, One-Out (OIOO) policy to remove or streamline thousands of regulations,
- abolished regulatory institutions perceived to be overly bureaucratic known as the 'bonfire of the quangos' in 2010 under the Conservative and Liberal Democrats Coalition Government and again in 2025 under the Labour Government, and
- enacted the Deregulation Act 2015 including to repeal requirement on local authorities in England to prepare sustainable community strategies.

Despite deregulatory efforts by successive governments, regulations have their place in securing certainty and consistency. Adopting regulatory compliance theory can be an intuitive initial position to adopt given the nature of the planning system as a legal determinant of health (Gostin et al., 2019; Montel, 2023) and where in the UK planning system, the main legislation that sets out the rules and processes for the preparation of local plans and making planning decisions is set out by the Ministry of Housing, Communities and Local Government in the Planning and Compulsory Purchase Act 2004 as amended and secondary regulations.

In English planning, the National Planning Policy Framework (NPPF) must be taken into account in preparing the development plan and is a material consideration in planning decisions. As a result, the standard task when approaching any process in planning policy and decisions, whether as the determining authority or development promoter, is to initially review whether the proposal meets the NPPF requirements. The NPPF requires planning policies and decisions to enable and support healthy lives, through both promoting good health and preventing ill-health, especially where

this would address identified local health and well-being needs and reduce health inequalities, and take into account and support the delivery of local health and wellbeing strategies (Ministry of Housing Communities & Local Government, 2024). These requirements plus many others outline the standard national requirements for healthy planning and can be easily identified and mapped out, (Public Health England, 2021).

There are successful examples in recent planning reform measures that demonstrate how regulation can create opportunities, use leverage, and enable interventions to advance a healthier food environment. The UK Government amended the Use Class Order in September 2020 to remove the A5 hot food takeaway use class and reclassifying it as *sui generis*. This created an opportunity by changing the contextual conditions in which decisions are made, immediately requiring full planning permission for any change to or from this use. This regulatory change also acted as a leverage, where a relatively minor legislative adjustment produced an important and broad effect on local authority control. Similarly, the December 2024 revision to the NPPF introduced a new paragraph restricting new hot food takeaways around schools. This was an intervention aligned with NICE guidance on cardiovascular disease prevention that opened an opportunity for local authorities to act even without an existing local policy (NICE, 2010). By introducing national policy, this change activated deeper leverage by shifting the rules and goals guiding planning decisions. These examples illustrate how hard regulation can rapidly open windows of opportunity by reshaping system conditions to accelerate healthier planning outcomes.

Table 2. Summary of regulatory compliance characteristics and healthy planning

Regulatory compliance (e.g. Drahos & Fiene)	Highlights for healthy planning
Legal and Regulatory Environment	• Optimise legal determinants of health by embracing a role for proactive regulation. • Promote situational awareness by understanding relevant baseline regulatory and policy requirements that have been put in place to promote healthy planning. • Secure compliance by ensuring consistency of policies and decisions in accordance with these requirements.
Risk Management	
Policies and Procedures	
Internal Controls	
Training and Awareness	
Monitoring and Auditing	
Reporting and Documentation	
Compliance Culture	
Accountability and Enforcement	
Continuous Improvement	

Leverage points

An understanding of the nature of leverage points helps identify where they exist or can be created within a system, which is essential for generating meaningful impact on desired process and impact outcomes. Leverage points refer to places in a system or process where small, strategically targeted shifts can trigger significant change, based on how system elements interact and influence one another (Meadows, 2009). Meadows ranked twelve leverage points from least to most effective, beginning with parameters such as standards and rules, then buffers such as mitigation measures, and progressing to deeper structural and transformational points including system goals, shared visions, underlying paradigms, and ultimately the ability to transcend paradigms (Meadows, 1999).

Identifying where to intervene can, however, be counter-intuitive—particularly in unfamiliar systems, or where interventions are weak or failing to achieve their intended effects (Abson et al., 2017). For example, research into London’s social housing system found that applying leverage point thinking revealed alternative, potentially more effective solutions for increasing affordable housing supply (Pagani

et al., 2025). Pagani's findings echo earlier systems work by Forrester of housing in the US. Despite the wide adoption of Meadows' framework, critics argue that fully understanding the relationships between interventions is essential, cautioning that oversimplification can lead to flawed policy recommendations. Although Meadows' leverage points is being widely adopted and mapped out in different sectors and applications, it has its limitations and critics have highlighted the need to having a fully understanding of the relationships among interventions than over simplifying them to reach flawed policy recommendations (Murphy, 2022; Weinblatt, 1970). Such an observation of simplification also applies to other concepts discussed throughout this article.

Commentaries are emerging to further develop Meadows' spectrum of leverage points into more multi-layered and multi-leverage-point approaches, emphasising that meaningful transformation often requires a combination of incremental and radical shifts (Evans et al., 2024). Meadows' spectrum implicitly involves questions of power and agency: someone must have the capacity or authority to activate a given leverage point, aligning with broader definitions of leverage discussed earlier.

Importantly, leverage points that may be considered 'least effective' in Meadows' hierarchy may nonetheless be the most practical opportunities for action in the short term. In healthy planning, for example, mandating Health Impact Assessment (HIA) represents an accessible 'low hanging fruit' intervention that can still generate wider system effects. However, because such parameter-level changes sit at the lower end of Meadows' leverage spectrum, their impact is amplified only when complemented by wider transformation, such as addressing professional knowledge gaps (Sharma

et al., 2022). In this way, HIA can serve simultaneously as an intervention and an opportunity to influence higher-order leverage points (e.g., policies and corporate objectives) are also targeted. When applied to HIA practice, intentionally leveraging multiple system levels, rather than relying solely on procedural requirements can open opportunity to foster systems thinking and empower practitioners to leverage outcomes within their spheres of influence (Edmonds et al., 2019).

Table 3. Summary of leverage points characteristics and healthy planning

Leverage points (e.g. Meadows)	Highlights for healthy planning
Constants, parameters, numbers	• Optimise effectiveness by pinpointing particular points. • Promote strategic thinking by acknowledging systems approach and design of interventions. • Facilitate empowerment when carrying out interventions within respective spheres of control.
Size of buffers and stabilizing stocks	
Structure of material stocks and flows	
Length of delays	
Strength of negative feedback loops	
Gain around driving positive feedback loops	
Structure of information flows	
Rules of the system	
Power to add, change, evolve, or self-organize system structure	
Goals of the system	
Mindset or paradigm out of which the system arises	
The power to transcend paradigms	

Degrees of participation and engagement

Windows of opportunity can arise when authorities are required to set out their process and outcomes from public and stakeholder involvement in public policy settings. This ensures that those directly affected have the opportunity to comment on individual proposals, while the wider professional community - including health stakeholders - can help shape the broader spatial planning and housing growth framework within which those decisions are made. In public health research, standards for public involvement are usually set out on how best to involve members of the public including methodology design, research and reporting of results (NIHR,

2024). This allows those directly or indirectly affected by interventions, patients and those accessing health services to be given the chance to help make research more relevant and useful. A review of the literature identifies several challenges and barriers to public involvement in the built environment. While policymakers recognise the importance of inclusive participatory planning, there is less consensus on which approaches best support meaningful and equitable engagement (Leyden et al., 2017). These challenges shape how opportunities for participation are enacted, rather than whether such windows of opportunity exist.

Arnstein developed a typology, or ladder, of public participation in the context of urban planning which both provides a critique of current participation models and an introduction of a model of true participation (Varwell, 2022). In the ladder of eight levels, the lower levels aimed at achieving a desired outcome through non-participatory approaches such as public relations tools; the middle levels employ tokenistic methods to inform and consult the public such as through surveys; and the upper desired levels where responsibilities are either shared or owned by the public such as through majority in committees and project management. Inherent in her model is the concept of the application and concentration of power as a means to redistribute social justice.

Critiques of the original Arnstein model suggest it fails to acknowledge the diversity of knowledge and experience of the public and professionals particularly at the higher levels of the ladders, possibly systemic barriers and the requirement for establishing trust concurrent to power sharing (Tritter & McCallum, 2006; Varwell, 2022). This includes consideration of relational factors such as trust, shared vision

and governance that can make or break embedding the health in all policies approach in planning (Such et al., 2022). The notion of power imbalance underpinning effective participation should be understood in the wider context such as resource constraints and knowledge gaps. Her model was latterly adapted into the Ladder of Engagement - to focus on the quality of relationships with stakeholders with twelve distinct levels (Friedman & Miles, 2006), and the Engagement Pyramid – to help strategic considerations about entry points depending on how people are willing to commit in different ways with six levels representing the intensity of engagement (Rosenblatt, 2014).

In one spectrum where some planning activities may warrant a consultation such as seeking consensus on options for a masterplan where people simply express their views while on the other end, activities may require partnership working and more intense commitment such as on securing aligned delivery for social infrastructure. In practice, each level may be appropriately suited to different circumstances, and all levels may be employed at different points of the planning process from evidence gathering to impact assessment to project delivery.

Windows of opportunity for participation and engagement in planning for health can be identified by examining the regulatory, policy, and guidance mechanisms that structure how stakeholders are expected to be involved. For example, local authorities are required to produce a statement of community involvement (SCI), which sets out the methods and tools to engage communities throughout the planning process. Although research indicates that SCIs are often under-utilised and tend to function more as a compliance exercise than as a vehicle for meaningful

involvement (Parker et al., 2021), their statutory basis nonetheless constitutes a formalised opportunity for engagement. Similarly, healthcare providers have a duty to cooperate with planning authorities in preparing spatial plans, yet this requirement does not extend to planning applications nor include statutory public health authorities, an omission that has prompted calls for public health to be designated as a statutory consultee (House of Commons Health and Social Care Committee, 2024). National planning guidance also positions local authority directors of public health as the first point of contact for planning applications with significant health implications. Taken together, these provisions demonstrate that multiple institutionalised windows of opportunity for engagement already exist within the planning system, even if their potential is not fully realised in practice.

Table 4. Summary of participation and engagement characteristics and healthy planning

Participation (e.g. Arnstein)	Highlights for healthy planning
Manipulation	• Legitimise health stakeholder status in the planning system. • Optimise influence of health evidence in decision-making processes. • Embed health perspectives and expertise throughout the system. • Strengthen community capacity to participate meaningfully in planning processes.
Therapy	
Informing	
Consultation	
Placation	
Partnership	
Delegation	
Citizen Control	

Capability improvement model

Previous approaches often treat windows of opportunity as static moments in time or end points. However, in practice, the ability to take action, achieve outcomes, and build relationships depends on processes that unfold and mature over time.

Opportunities are shaped not only by timing but by the gradual evolution of capability, confidence, and organisational readiness. This evolution requires learning,

adaptation, and refinement with experts developing their skills over years, policies evolve through cycles of testing and revision, poor-quality housing can be retrofitted, and run-down neighbourhoods can be regenerated. These examples illustrate that meaningful and sustained change is cumulative and developmental, which is why improvement and maturity models are essential for understanding how systems grow their capacity to recognise and act upon windows of opportunity.

There are models that focus on systems improvement and maturity aspects of organisations to better evaluate and track their ability to learn lessons and improve in a specific capability area. For example there is the maturity model developed by Sheffield Hallam University focused on the conditions for addressing physical activity inequality (Shearn et al., 2024) and many others in systems change evaluation and applied fields such as healthcare administration (Kolukisa Tarhan et al., 2020). Such models embrace the kind of pragmatic approach needed to address the determinants based on understanding organisational culture and human behaviour in order to guide organisations select improvement strategies.

Among such models, the Bradley Curve, also known as the DuPont Bradley model, has supported organisations, such as NHS Property Services, assess safety performance in the workplace and moving towards reducing injuries (Pinto Goncalves Filho & Waterson, 2018; Sutherland, 2020). There are four stages of growth and maturity in the Bradley model. The first stage is 'reactive' where work compliance is in response to an incident or regulatory change; the second stage is 'dependence' where workers are being compliant to mandatory rules and procedures; the third stage is 'independence' as workers take more ownership and

are empowered to go over and beyond compliance; and the final stage is 'interdependence' where safety is a shared organisational culture, and teams are actively collaborating.

Evidence indicates that situational and behavioural factors are strongly linked to improvements in actual safety performance (Cooper, 2018). This aligns with behavioural change frameworks such as COM-B, which emphasise modifying capability, opportunity, and motivation to influence behaviour. To drive positive change, organisations should prioritise establishing clear situational awareness, such as through guidelines and structured processes that supports desired behavioural shifts. This approach corresponds closely with several challenges commonly seen in implementing healthy planning at the local level, particularly the lack of local government capacity and insufficient policy certainty in national policy and local plans (Chang, Carhart, Cook, et al., 2025; Ige-Elegbede et al., 2020).

To begin at an advanced stage would not be optimal and can be counterproductive as the necessary foundations may not be in place such as establishing trust among officers, setting out the evidence base and identifying effective ways of working through the planning process. This is particularly pertinent in areas where planning for health may still be in their infancy, such as where there may not be a current local plan policy for health in place which is 62.4% of current local plans from a recent study (Chang et al., 2024), or there may not be an established relationship and way of working between the planning and health teams in the local authority.

As planning for health will not occur by default, progressing from one stage of the Bradley Curve to the next does not happen automatically. Instead, professionals must intentionally cultivate the conditions that enable opportunity which are the situational and contextual factors that make action possible. This requires beginning from a baseline of competency to invest in learning, development, and shared evidence to establish the foundations for effective intervention.

These interventions, such as creating planning for health protocols to establish working arrangements that clarify expectations and or embedding health considerations in planning workflows, can help shift behaviours and gradually strengthen the system. Over time, these efforts activate deeper leverage within the organisation: moving the workforce from reactive responses to independent professional judgement, and ultimately to interdependent, collaborative action where health is embedded across planning practice. In this way, the improvement model can expand the number and quality of opportunity available, increase capacity to utilise leverage points, and improve the use of interventions as they are deployed. This reflects findings from research on optimising actions to integrate health and wellbeing into local planning policies and decisions (Ige-Elegbede et al., 2020).

Table 5. Summary of the Bradley Curve characteristics and healthy planning

Improvement and maturity (e.g. Sutherland)	Highlights for healthy planning
Reactive	• Acknowledge capability improvement as part of a journey when working in complex systems. • Instil sense of collective responsibility for achieving desired health objectives and outcomes. • Enable resilience when confronting challenges and turning them into opportunities.
Dependent	
Independent	
Interdependent	

Policy windows

The factor of time is becoming a consistent and central theme to completing our understanding in the context of healthy planning. Actions cannot be detached from time but possessing the skill to identify timeliness and timing may often be not within the immediate sphere of control and influence of individuals, particularly those with lower levels of responsibility and outside of the decision-making circle (Ariely & Zakay, 2001).

Public health involvement in planning is often a matter of timing and acknowledging when best to influence policies and decisions. Kingdon's Multiple Streams Framework (MSF) or policy windows in the political sciences discipline is the final model in this paper. MSF reflects Kingdon's experience and hypothesis that there are limitations to what can inform policy development and there are independent processes that take place, which can lead to allowing for multiple solutions. The premise is that the policy making process and policy makers are, by nature, not rational. By identifying points where these limitations and processes converge, there is justification of why certain policy solutions are selected over others (Hoefer, 2022).

The MSF framework argues that a policy window for policy change can open only when three separate streams come together: firstly, the problem must be well understood by government and experts, and the broader community; secondly, the solution needs to be available and feasible; and thirdly, the political will has to be forthcoming at the right time (Kingdon, 2010). The policy window can test if the time is right. MSF poses an interesting but challenging dilemma for those seeking to apply evidence-informed policy and practice.

One example is the failure in making any significant planning policy improvements at the national level to address the food environment in England over the last decade despite strength of evidence on obesity trends (problem stream) and consistent recommendations from public health leaders and researchers. Efforts, at the local level, have intensified with local authorities asserting greater authority through introducing hot food takeaway management zones in local plans (policy stream), which the University of Cambridge have suggested could result in millions of healthcare savings (Rogers et al., 2024).

The political makeup of the UK Government since 2010 had been a significant factor limiting national-level action, with research showing that Labour-majority councils were more likely than Conservative-majority councils to adopt hot food takeaway policies (Keeble et al., 2019). This political context shaped the opportunity available or not for progressing healthier food environment interventions.

In the lead-up to the UK General Election, reporting by *The Times* in December 2023 on the fast food industry's attempts to undermine local health policies, helped shift the politics stream, prompting the Labour Party to commit to action as part of its Child Health Action Plan in January 2024. This opening enabled rapid adoption of a national planning policy intervention, the December 2024 update to the NPPF, which formalised new restrictions on fast-food outlets near schools (Bannerman et al., 2025). In this case, the convergence of the three streams - problem, policy, and politics - created a time-sensitive opportunity that allowed a previously stalled

intervention to progress swiftly, demonstrating how windows of opportunity can accelerate change when leverage is effectively applied to the political system.

This example clearly demonstrates Kingdon’s MSF in action. In public health decision-making, practitioners often focus on defining the desired intervention and assembling evidence, yet this alone rarely shifts policy. Since public health responsibilities moved into local government, practitioners have increasingly recognised that opportunities emerge from wider contextual influences, not just formal evidence processes. These factors can operate as forms of leverage within the politics stream, creating conditions for policy windows to open outside the evidence-led pathways typically associated with the public health way of doing things (Kneale et al., 2019).

Table 6. Summary of policy windows characteristics and healthy planning

Policy window (e.g. Kingdon)	Highlights for healthy planning
Problem stream	• Recognise that policy change occurs when the timing is right with problem, policy, and politics streams align. • Understand why evidence alone is insufficient—political will and context matter. • Enable public health professionals to act strategically during windows of opportunity.
Policy stream	
Politics stream	

Conclusions and implications for policy and practice

This paper examined five conceptual approaches—regulatory compliance, leverage points, participation and engagement, capability improvement, and policy windows—each offering a different lens for identifying and activating windows of opportunity to embed health within the planning system (Table 7). Together, these approaches

show how opportunities arise, how they can be recognised, and how they can be acted upon at different levels of the system.

Table 7. Summary of conceptual approaches highlighted and their characteristics

Regulatory compliance	Focus on adherence to laws, policies, and standards; ensures consistency and certainty; uses regulation as a lever to meet objectives; involves monitoring, auditing, and enforcement.
Leverage points	Identify points within a system where small, well-targeted changes yield large impacts; ranked from least to most effective (e.g., parameters to paradigms); promotes systems thinking and empowerment.
Participation and engagement	Describe levels of public empowerment from manipulation to citizen control; emphasises power redistribution, inclusivity, and embedding meaningful engagement in decision-making.
Improvement and maturity	Focus on organisational and behavioural development over time; supports resilience, learning, and collective responsibility across systems.
Policy windows	Highlight opportunities arise when problem, policy, and politics streams align; underscores the importance of timing; explains how political will and context shape policy change.

Regulatory compliance operationalises *opportunity* by specifying the conditions (statutory duties, national policy and guidance) under which health-promoting actions become possible, and translates these into an *intervention* (local plans⁰ that ensure consistent application in practice. Leverage points make *leverage* explicit by identifying where in the system small, well-targeted changes (from parameters and rules to goals and paradigms) can yield disproportionately large effects. Participation and engagement recast *opportunity* as the social and institutional conditions for action, while also distributing *leverage* through shifts in power across Arnstein's ladder so that co-produced *interventions* embed health perspectives meaningfully in decision-making. Capability improvement frames *opportunity* as organisational and professional capability and culture evolve along the Bradley Curve from reactive to interdependent, and characterise *intervention* as a sequenced programme of learning, capacity-building, and behavioural change that progressively increases

leverage by strengthening readiness. Finally, policy windows make the temporal dimension of *opportunity* explicit, asserting that actionable moments arise when problem, policy, and politics streams align, *interventions* can be advanced with maximum *leverage*, because timing couples feasible solutions to political will and a recognised problem.

Evidence and experience from healthy planning demonstrate the value of each of these approaches, individually and in combination. Their applicability varies with system context, organisational capability, available resources and the stakeholders involved. Collectively, they show that opportunities to integrate health into planning appear in multiple forms and at multiple moments, shaped by legal requirements, system structures, political conditions, professional capability and community dynamics. They emphasise the importance of moving beyond linear or single-discipline models and instead recognising planning as a dynamic, interdependent system. Across the paper, six cross-cutting themes emerge that reinforce this systems perspective:

Beyond the status quo

From the discussion of leverage points to framing of interventions, the paper underscores that healthy planning operates within interconnected structures, shifting power dynamics, and interdependencies. Therefore, achieving meaningful change requires adapting and combining existing models, rather than relying on single-discipline, static or procedural approaches.

Be situational aware

Healthy planning depends on reading context, timing, capability, and purpose in real time. The discussion of the Bradley Curve and participation and engagement ladders illustrates that opportunities in planning are shaped by capability, political appetite, resource constraints, and relational dynamics. Kingdon's Multiple Streams Framework highlights how timing and alignment influence what is possible. Situational awareness is essential for practitioners to recognise what type or level of intervention is feasible in a given moment, and which actors and processes are primed for influence.

Public policy is heterogeneous

This theme emphasises that effective action in complex systems must account for the heterogeneity of planners, public health practitioners, developers, politicians, and community actors. Their varying leverage, constraints, and priorities will require multiple, differentiated entry points, echoing Meadows' insight that different leverage points have varying levels of influence and accessibility. Seeing the system as a community of practice, not a set of isolated individuals, aligns with discussions throughout the paper.

Opportunity is not static

Each of the five approaches discussed reveals different kinds of opportunities - legal, relational, cultural, procedural, and political. Recognising opportunity as dynamic mirrors the complex systems literature cited in the paper and reinforces that healthy planning requires responsive and agility in leveraging varied approaches.

Progress not perfection

This theme directly reflects Kingdon's argument that policy change emerges when streams align, not through idealised conditions. It also builds on the notion of acting on lower-order leverage points where feasible and using statutory requirements or guidance even when deeper regulatory change is not yet possible. The paper emphasises that iterative, practical action, rather than waiting for transformative moments, can drive real progress in embedding health into planning.

Good things take time

Effective use of leverage points requires accumulated knowledge and experience. Healthy planning is a developmental journey where time, iteration, and learning determine the scale and sophistication of influence that can be achieved.

Returning to the core research question—what approaches help identify where in the system action should be taken to achieve desired health outcomes—the main conclusion is that a hybrid approach is essential. Effective healthy planning requires combining the stability of regulatory frameworks, the strategic insight of leverage-point thinking, the relational power of participation, the journey of capability improvement, and the timeliness offered by policy windows. This aligns with calls for broader, more adaptive ways of doing, relating, organising and knowing within complex public health systems (Gadsby & Wilding, 2024).

Integrating health into planning policy and practice has long been a public policy objective, reflected in initiatives such as the WHO Healthy Cities and the UK Healthy New Towns programmes. This may reflect an underappreciation of decision-making complexity and missed opportunities across the wider system. A growing emphasis

on systems thinking suggests that achieving population-level health benefits requires moving beyond singular or narrowly framed interventions toward a more multi-layered approach capable of addressing complexity that reflect the realities facing policymakers, planners and public health practitioners.

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