Abstract

Background

Despite the existence of physical activity policies across many countries, insufficient physical activity remains a major global public health problem. Physical inactivity is an emergent feature of complex systems; it results from a wide range of factors at multiple levels that interact to influence behaviour. Traditional approaches to public policy often fail within complex systems, largely due to unpredictability in how the system will respond. Adaptive policies, which are designed to allow for uncertainty about future system behaviour and to change over time, may offer a promising solution. In this paper we introduce the concept of adaptive policies and illustrate how this innovative approach to policy making may be beneficial for reducing physical inactivity.

Design:

Drawing on existing literature and guiding principles for policy making, we provide three examples to illustrate how the concept of adaptive policies can be applied to address physical inactivity.

Discussion

The examples illustrate how changes to the way policies and interventions are developed, implemented, and evaluated could help to overcome some of the limitations in existing practices. A key challenge will be engaging policymakers to take a broader perspective of the physical activity system, develop policies that are designed to be adaptable across a range of different future scenarios, and embrace uncertainty and long-term adaptability.

Conclusion

Adaptive policies may support decision makers globally to achieve the widespread and sustained changes necessary to increase population levels of physical activity.

Introduction

Regular physical activity is associated with a wide range of health benefits including reduced risk of coronary heart disease, type 2 diabetes, and several cancers (World Health Organization, 2020). To achieve these benefits, the World Health Organization (WHO) recommends that adults undertake at least 150 – 300 minutes of moderate intensity or 75 – 150 minutes of vigorous intensity physical activity per week (or some combination of the two), in addition to muscle strengthening activities on at least two days per week (World Health Organization, 2020). The term physical inactivity is commonly used to describe an activity level that is insufficient to meet current recommendations (World Health Organization, 2020). Despite the existence of physical activity policies across many countries (World Health Organization, 2022), surveillance data indicate that more than a quarter of the world's adult population (1.4 billion adults) are insufficiently active (Guthold et al., 2018). Consequently, physical inactivity is responsible for around 9% of premature mortality globally (Lee et al., 2012).

Physical inactivity, both at the individual and collective levels, is an emergent feature of complex systems; it results from a wide range of factors at multiple levels (demographic, psychological, social, economic, and environmental), that interact to influence behaviour. Systems thinking is the process of understanding the linkages, relationships, interactions, and behaviours among different elements that characterise the system, to inform comprehensive and integrated policies and practices (Peters, 2014; Rutter et al., 2019). A systems approach encourages a broader perspective of the causes of a problem and the consequences of any action, beyond a narrow and specific pre-defined set of expected outcomes (World Health Organization 2018, Rutter et al., 2019; Koorts and Rutter, 2021). While there is increased recognition of the need to adopt a 'systems approach' to physical

activity promotion in general, the majority of policies and interventions aimed at reducing physical inactivity are typically static in nature and therefore not well suited to addressing the complexity of the problem. In this paper, we introduce the concept of adaptive policies and illustrate, through three hypothetical examples, how this innovative approach to policymaking may be beneficial for reducing physical inactivity.

Interventions within complex adaptive systems

Public policy is defined as a broad orientation, a specific commitment, or a statement of values, issued by governments and other forms of administration (Birkland, 2014; Colebatch, 2002), whereas the term intervention is used to describe individual measures or actions. Therefore, policies are not individual actions to promote physical activity but the framework in which interventions are developed, financed, or implemented (Gelius et al., 2020). However, policies often include overarching intentions and goals as well as the proposed strategies/courses of action to achieve them (Gelius et al., 2020), causing the distinction between policies and interventions to become blurred.

Interventions have traditionally been conceptualised as consisting of a discrete set of parts or activities, and it is the relations between these parts and associated behaviour changes that underpin the assumed causal mechanisms of interventions. Systems thinking recognises that the effect of an intervention may not primarily be due to these intervention components per se, but rather to the interplay between these parts and the contexts in which they are introduced and with which they interact (Shiell et al., 2008). As such, researchers have referred to interventions as ‘events’ or ‘disruptions’ within a system (Hawe et al., 2009).

Systems evolve dynamically as they respond adaptively to interventions. Therefore, interventions with proven efficacy through randomised controlled trials may not always be effective when introduced within complex systems. The interrelated elements within a system interact with one another, such that a change in any part may cause reactions in other parts of the system. These reactions may include changing relationships, displacing existing activities, and redistributing resources. These adaptive responses may result in moves towards a desired new system configuration and regime or unintentionally in moves in the opposite direction. It is possible that the system responds in both positive and negative ways in tandem. It is also possible that interventions lead to systemic responses to resist the attempted changes to the system and sustain the status quo, a phenomenon known as intervention or policy resistance (Sterman, 2006).

An example of system adaptation that achieves the opposite effect to that which is intended is demonstrated by Jevons' paradox. Improvements to the design of the steam engine in the late 18th century greatly improved efficiency, reducing the amount of coal required for a given use. Jevons observed that while technological improvements increased the efficiency of coal use, this led to increased consumption of coal (Jevons, 1865). Reducing the amount of coal needed for a given purpose lowered the relative cost of using the resource, which led to increased demand. Furthermore, improved efficiency led to increases in economic growth, further increasing the demand for coal. Rather than efficiency gains leading to lower resource consumption, the opposite effect was observed (Jevons, 1865).

Systems archetypes and causal loop diagrams

Systems archetypes describe patterns of behaviour of a system (Kim, 2000). They can help in diagnosing problems that may be limiting the performance of the system and

identifying potential intervention strategies to enable more effective action (Kim, 2000). Many of the systemic patterns of behaviour, as characterised by the systems archetypes, are generated by common loop structures (Kim, 2000). Causal loop diagrams can be used to map the structure and the feedbacks of a system to understand its operation (Kim and Anderson, 1998). The feedback loops on such diagrams are either reinforcing or balancing (Kim and Anderson, 1998). Balancing loops serve to provide stability in the system and counteract change, while reinforcing loops compound change in one direction by generating greater change in that same direction (Kim and Anderson, 1998). Figure 1 shows the anatomy of a basic causal loop diagram.

INSERT FIGURE 1

Figure 1. Example of a causal loop diagram. Arrows indicate cause-and-effect relationships. Beside the arrowheads, an S means that variables change in the *same* direction (increase → increase; decrease → decrease), and an O means that variables change in *opposite* directions (increase → decrease; decrease → increase). The R inside the clockwise loop indicates a reinforcing feedback loop. The B inside the counterclockwise loop indicates a balancing feedback loop.

Static versus adaptive policies

Policymaking (i.e. a decision to set and direct a specific course of action) typically involves 'one-time' decisions, with a view that the selected course of action will provide a long-term solution to the problem it seeks to address. These types of one-time decisions may include single or multiple actions, but due to the assumed likelihood of success, no formal mechanisms are established for monitoring implementation and outcomes, and for

making future adjustments. While this 'static' approach to policymaking may be suitable in certain situations, particularly when the range of available policy options is clear and the outcomes of each are highly predictable, the complexity of many of the problems that policymakers are faced with means that such policies often lead to unintended consequences or failure (Mueller, 2020). As an example, the free swimming programme in England was a £140 million investment designed to increase participation in swimming in England by providing free swimming for children aged 16 or under and adults aged 60 or over. However, the evaluation showed that the majority of those accessing free swimming (73% of those aged 16 and under, and 83% of those aged 60 and over) were swimming already and would have paid to swim in the absence of the scheme. Thus, rather than reducing inequalities in participation, the scheme served to widen inequalities due to failure to engage those who didn't swim and supporting regular swimmers to swim more (Pidd, 2010).

Mueller (2020) identified five 'pathologies' to explain why traditional approaches to public policy fail within complex systems, all of which stem from the unpredictability of such systems. The outcomes of policies that are introduced within complex systems are non-linear and emergent; they cannot be fully anticipated at the outset and can only be realised once the policy has been introduced. In contrast, the outcomes of non-complex systems are highly predictable. An example of a non-complex action or behaviour would be tossing a coin. The outcome is not influenced by wider contextual factors and will always be one of two outcomes – heads or tails. However, in complex systems, the context in which policies are introduced and the ways in which people respond to policies, are constantly evolving. This makes it difficult for policymakers to predict the outcomes of actions that are introduced within complex systems.

In contrast to the traditional static approach to policymaking, 'adaptive policies' are designed to allow for uncertainty about future system behaviours, and how the system will respond to interventions or 'events'. Adaptive policies include, by design, mechanisms to adapt or change over time based on future developments and learning (Walker et al., 2001). Adaptive policies are not intended to be optimal for a single 'expected future', but rather, to be flexible and able to change in response to emerging situations, and thus remain robust across a range of possible futures (Walker et al., 2001; O'Donnell, 2016). Through adaptive management – a structured iterative process of decision making that embraces learning and adaptation – policies can continue to perform optimally to achieve their objectives, despite the changing context in which they operate (O'Donnell, 2016). The concepts of adaptive policies and adaptive management are similar to the Plan, Do, Check, Act cycle or PDCA (Deming, 1950), in that implementation and outcomes are monitored and the learning is used to revise the initial plan.

As an example, an adaptive policy could include, as part of its implementation plan, the resources required for seeking new and additional information at various stages of the policy process (Walker et al., 2001). Additional information could include proximal and distal outcomes of the policy, unintended outcomes, or evidence for reducing/widening inequities among certain groups. The adaptive policy implementation plan could also incorporate feedback and monitoring of actions, and reactions, from different actors in the system, to inform necessary adaptations. In the case of the coal consumption example above, an adaptive approach to policymaking could ensure that the cost of coal is adjusted based on usage, such that the overall cost of use remains the same or higher, reducing the risk of increased resource utilization (Wackernagel and Rees, 1997). In regard to the free swimming programme, information pertaining to inequalities could have been used to adapt the

approach, for example by restricting the offer to the most deprived communities, given the link between both family location and affluence on swimming ability (Swim England, 2017).

The relevance of adaptive policies to physical inactivity

There are several reasons why actions to reduce physical inactivity may benefit from adaptive policies. First, achieving sustained, higher levels of physical activity requires a reconfiguration of the underlying systems (i.e. changes to the way systems are structured and operate), but these kinds of reconfigurations can trigger systemic resistance and other unpredictable and/or unintended responses and consequences. For example, the introduction of road user charging, with the goal of reducing motor vehicle volume, improving traffic flow, and creating a safer and more appealing environment for walking and cycling, could lead to wide-spread resistance from drivers and businesses. Whilst this policy might indeed be effective at reducing motor vehicle volumes, reducing congestion is likely to facilitate higher vehicle speeds, potentially reducing road safety, leading to higher numbers of collisions and casualties, and discouraging active travel.

Second, the world is changing at a rapid pace. The COVID-19 pandemic caused major disruption to daily life, including physical activity patterns – with lockdowns, closures of sports facilities, and changes to working practices (Strain et al., 2022). Many policies developed prior to the pandemic quickly became unfit for the context that individuals found themselves in. For example, workplace policies to encourage a reduction in car use (such as reduced parking spaces, increased parking prices, and the introduction of ‘park and ride’ bus services) became redundant when populations were encouraged to work from home. The world is expected to experience further extreme events, emphasising the importance of designing policies that are capable of adapting to an uncertain future (Marani et al., 2021).

Third, policy objectives change over time, as do the most appropriate approaches to tackling problems (including physical inactivity) in a given context. As an example, many countries have imposed fuel taxes to discourage use of fossil fuels, reducing carbon emissions while also reducing vehicle use and incentivising active travel. However, a transition towards electric vehicles reduces the influence of such taxes on travel behaviour, meaning alternative policies – such as road user charging – will need to be introduced to achieve similar aims (Partington, 2020).

Adaptive policy development

Swanson and colleagues (2009; 2010) outline four key interrelated features of adaptive policies: (i) they are designed to perform well in a range of anticipated conditions; (ii) can accommodate unanticipated changes in context; (iii) have built-in processes for monitoring and identification of changes in context that can impact the policy's performance; and (iv) have built-in mechanisms to trigger adjustments when the policy actions no longer meet the objectives. Decision makers at all levels, within government, non-government, and private sector organisations, have a key role to play in formulating and implementing public policies that promote physical activity (Bull et al., 2004). To assist decision makers, Swanson et al. (2010) propose seven guiding principles to support the development and implementation of adaptive policies: (1) using integrated and forward-looking analysis; (2) monitoring key performance indicators to trigger built-in policy adjustments; (3) undertaking formal policy review and continuous learning; (4) using multi-stakeholder deliberation; (5) enabling self-organization and social networking; (6) decentralizing decision-making to the lowest and most effective jurisdictional level; and (7)

217 promoting variation in policy responses. A brief description of each of these principles is
218 provided in Table 1.
219
220 INSERT TABLE 1
221
222 **The application of adaptive policies to counter systems archetypes**
223 Some of the issues observed in physical activity promotion strategies can be mapped
224 onto systems archetypes. Adaptive policies are particularly appropriate when it is necessary
225 to avoid or counter unwanted patterns of behaviour of a dynamic system, as characterised
226 by the archetypes. Below we provide examples of three systems archetypes that can be
227 applied to physical activity promotion and illustrate how adaptive policymaking could be
228 utilised to avoid or counter them. These archetypes are perhaps the most commonly
229 observed in physical activity promotion. The examples are hypothetical and were developed
230 through consideration of Swanson et al's seven guiding principles described above. For each
231 example we provide a causal loop diagram to illustrate the structure and feedbacks of the
232 system (in black), and how the adaptive policy approach could modify the system state (in
233 blue).
234
235 *System archetype 1: Growth and underinvestment*
236 An erosion of the system's performance can happen when a period of growth or
237 progress is observed, and a decision is made to reduce investment. The initial period of
238 growth leads to a reduction in the gap between the desired (goal) and perceived system
239 state, leading decision makers to believe that less investment is now required to close the
240 remaining gap. As a result of reduced investment, fewer corrective actions are taken and

241 the system's performance is lowered, leading to a gradual erosion of the initial observed
242 success. In practice, initial growth is often easy, but becomes progressively harder over
243 time, meaning that increased investment – rather than a reduction in investment – is
244 necessary to sustain and grow the initial observed success.

245 For instance, a company could make a policy decision to increase active travel
246 among its employees. To achieve this policy objective, the company decides to implement a
247 cycle-to-work initiative, with a goal to increase the number of employees cycling to work by
248 15 percentage points in three years. At the beginning, the company invests heavily in
249 actions that create conditions to close the gap between desired and current levels of cycling
250 to work, e.g., improved cycling infrastructure in the surrounding area, increased bicycle
251 storage, the installation of changing facilities in its buildings, and financial support for
252 employees seeking to purchase a bicycle. After the first 18 months, levels of cycling to work
253 increase by 10 percentage points. However, as the gap between the desired and current
254 levels of cycling is now only five percentage points, the company stalls investments, as it
255 considers that less is needed to close the remaining gap. Less action leads to fewer people
256 adopting the behaviour, and even some returning to old travel habits. At the end of the
257 three-year period, levels of cycling to work have only increased by eight percentage points
258 from baseline. The company decides to keep the initiative for another three-years but sets a
259 goal of an eight-percentage-point increase because it seems more realistic ("we did all we
260 could the first time, and this is the best we can achieve"), which sets the conditions for
261 further erosion of investment and performance (Figure 2).

262

263 INSERT FIGURE 2

264

Figure 2. Example of the "growth and underinvestment" archetype applied to physical activity promotion (in black), and possible actions triggered by an adaptive policy to counteract it (in blue). S = variables change in the *same* direction (increase → increase; decrease → decrease). O = variables change in *opposite* directions (increase → decrease; decrease → increase). || = delay.

One way to avoid a "growth and underinvestment" scenario is to build-in mechanisms for monitoring and increasing demand. For example, by monitoring the number of people contemplating the transition to cycling (or reverting to old travel habits) and the barriers and facilitators for these transitions, in addition to levels of cycling to work, reductions in demand could trigger built-in adjustments that make demand increase again. This could be achieved via campaigns and events that increase the social desirability of cycling, or that address the main barriers for employees to start cycling to work. This increase in demand could in turn encourage investment to sustain and expand the initiative.

System archetype 2: Limits to success

A system's performance can deteriorate even with increases in resources and efforts. In a "limits to success" scenario, an increase in resources and efforts initially leads to improved performance, which stimulates more resources and efforts to be employed. However, as the system reaches its limits, its performance stabilizes or deteriorates, even if resources and efforts continue to rise.

For example, a city may commit to increasing active travel and invest in a range of actions. The city might be encouraged to increase their investment as they observe a cumulative modal shift happening. However, the marginal increases in active transport levels start to stall after some time, even though investments are at a record high. With no

289 observed increases – and facing political pressure from those arguing for investment in
290 vehicular transport – the city decides to divert investment from active to motorised travel,
291 which is followed by a reduction in active transport levels (Figure 3).
292
293 INSERT FIGURE 3
294
295 **Figure 3.** Example of the "limits to success" archetype applied to physical activity promotion (in
296 black), and possible actions triggered by an adaptive policy to counteract it (in blue). S = variables
297 change in the *same* direction (increase → increase; decrease → decrease). O = variables change in
298 *opposite* directions (increase → decrease; decrease → increase). || = delay.
299
300 In terms of the application of adaptive policies, it is key in this scenario to monitor
301 patterns in active travel behaviour over time. Undertaking formal policy review may help in
302 identifying unanticipated circumstances or emerging issues. In the "limits to success"
303 archetype, there is usually something within the system that is limiting further progress.
304 Until the success limiting factor is identified and eliminated, further investment along
305 existing lines will continue to yield disappointing results. For example, if cycle lanes and
306 cycle storage have reached capacity, any additional uptake would lead to worse system
307 performance, thereby discouraging usage. By understanding the success limiting factor, the
308 investment can be reoriented towards eliminating the problem, for example widening cycle
309 lanes or installing additional bicycle storage, which should lead to continued positive trends
310 in active travel behaviour. Multi-stakeholder deliberations, including with those who travel
311 actively and those who do not, can provide insights to strengthen the design and
312 implementation of a range of actions.

313

314 *System archetype 3: Fixes that fail*

315 Some policy solutions may aggravate the very problem they are trying to address.
316 While they may seem effective to solve the problem in the short term, they divert attention
317 away from more fundamental solutions and generate long-term unintended consequences
318 that can make the original problem return, sometimes worse. This cycle is exacerbated
319 because the implemented solution alleviates observed symptoms but does not address the
320 underlying causes of the problem.

321 Strategies to reduce inequalities in physical activity practice can result in a “fixes that
322 fail” situation. For instance, a local authority might commit to reducing inequalities by
323 promoting physical activity in the most deprived communities. As one part of the
324 implementation plan, the local authority decides to invest in the renovation of a public park
325 in a disadvantaged community, which could attain short-term success in promoting physical
326 activity among the local population. However, in the longer term this action could increase
327 inequalities as people from more affluent areas start to use the park as well, leading the
328 local people to feel that ‘they do not belong there’, exacerbating their experience of
329 gentrification, disenfranchisement, and lack of access to places and opportunities for
330 physical activity. This could lead to even lower usage of the park among disadvantaged
331 communities than that observed prior to the renovation, thus the ‘fix’ could actually worsen
332 the original problem (Figure 4).

333

334 INSERT FIGURE 4

335

Figure 4. Example of the "fixes that fail" archetype applied to physical activity promotion (in black), and possible actions triggered by an adaptive policy to counteract it (in blue). S = variables change in the *same* direction (increase → increase; decrease → decrease). O = variables change in *opposite* directions (increase → decrease; decrease → increase). || = delay.

There are a range of ways in which the principles of adaptive policies could be applied to this example. In terms of monitoring key performance indicators, there is a need not only to monitor park usage but to include measurement of the socio-demographic mix of users to understand whether the renovation is achieving the desired goal of increasing physical activity levels among the local population, both in the short and longer-term. If, over time, it is observed that park usage among the locals is decreasing, as more people travel to the park from affluent areas, further action could be taken to counteract this unintended consequence. Enabling self-organisation and social networking among local community members would facilitate the development of innovative solutions. Implementing a variety of small-scale approaches to tackle the same problem will increase the likelihood of the policy objective being achieved. For example, introducing car parking fees may act as a deterrent to people travelling by car from more affluent areas, but if not, providing additional services at the park (e.g., ice cream van, coffee shop) could capitalise on the 'park tourism' and generate job opportunities and additional revenue for the local community, contributing to economic development. Research has shown a strong association between deprivation and physical inactivity (NHS Digital, 2019), thus growing the local economy may indirectly support the original policy objective of increasing physical activity levels among the local community.

Discussion

Increasing population physical activity levels is complex, due to the wide range of factors that influence the behaviour. As such, many of the actions taken to promote physical activity have the potential to lead to unintended consequences, and even reductions in the behaviour in the longer-term. For example, a common policy objective is to increase physical activity levels among school aged children. One approach to achieving this objective in recent years is the establishment of walking school buses, designed to encourage children to walk part of the way to school. While such initiatives may lead to increases in active travel to school, which is the key outcome against which they are typically evaluated, these schemes have the potential to lead to wider unintended consequences. For example, walking school buses may cause children to perceive that walking is a dangerous activity unless accompanied by a leader wearing high visibility clothing, reducing the likelihood of children walking outside of this structured type of programme. A more effective long-term solution would be to increase road safety and improve pedestrian infrastructure, creating an environment where children feel encouraged and safe to walk. A further example is daily running programmes to increase children's physical activity during the school day. Whilst such programmes could lead to short-term increases in physical activity among school children, requiring children to run every day could create negative experiences of physical activity. This negative experience might be felt most intensely by the least active or overweight children, leading to further disengagement from physical activity in the future. Thus, the policy objective of helping the least active school-aged children to become more active may not be realised through these sorts of programmes. The value of a systems approach is that it encourages a broader view of the system, and the wider consequences of

these sorts of programmes, to recognise instances when the policy objective is not being achieved, such that modifications to the course of action can be made.

It is important to support policymakers to move away from short-term 'fixes' (including programmes such as walking school buses), to considering the steps needed to reconfigure the physical activity system to support populations to be more active. Foundational steps to achieve system-wide change may not yield short-term 'successes', which can be politically uncomfortable given the pressures on policymakers to demonstrate impact. However, without a longer-term vision for system-wide change, policies are unlikely to achieve a sustained increase in population levels of physical activity.

There is also a need to shift the approach to policymaking away from solely 'static' policies, to considering adaptive approaches that are more able to deal with uncertainty and changing conditions. In many cases it is unlikely that a policy is fully 'static' or fully 'adaptive', rather policies are situated along a static-adaptive continuum. Therefore, it is not a case of adopting static *or* adaptative policies; rather we argue that there are situations in which adaptive policymaking would be more effective at achieving the fundamental, widespread and sustained changes that are required globally to change population levels of physical activity.

A key challenge will be engaging policymakers to take a broader perspective of the physical activity system, develop policies that are designed to be adaptable across a range of different future scenarios, and embrace uncertainty and long-term adaptability. Success in this aim will require collaboration between policymakers, citizens, academic experts, and other stakeholders to co-create policy responses that take account of the complexities of the systems in which we are intervening.

406 With a move towards more adaptive policies, there is a need to consider the
407 approach taken to evaluate policies and programmes. To date, evidence has typically been
408 generated using methods that are more appropriate for testing the effectiveness of clinical
409 interventions. Such approaches are grounded in linear models of cause and effect, which
410 limits understanding of the broader impacts of an intervention on the system (Egan et al.,
411 2019; Rutter at al., 2017). In addition, adaptive management should be embraced,
412 facilitating ongoing learning about the implementation and outcomes of policies and
413 programmes, such that modifications can be made to maximise the gains and avoid negative
414 unintended consequences.
415
416 **Conclusion**
417 This is the first paper to introduce how the concept of adaptive policies could be
418 applied to physical activity. We have provided a range of examples to illustrate how
419 adaptive policies could be used to overcome systems archetypes in physical activity
420 promotion. Whilst the examples are hypothetical, they highlight how changes to the way
421 policies and interventions are developed, implemented, and evaluated could help to
422 overcome some of the limitations in existing practices.
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426

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546

547

548

549 Table 1. Guiding principles for adaptive policies

Principle	**Description**
(1) Using integrated and forward-looking analysis	Identify, to the extent possible, the key factors that might influence the performance of the policy and develop indicators that could be used to trigger a policy review and/or adjustment
(2) Monitoring key performance indicators to trigger built-in policy adjustments	Monitor key indicators to understand how well the policy is performing and to trigger (ideally built-in) policy adjustments
(3) Undertaking formal policy review and continuous learning	Ongoing review, using pre-set processes, should be undertaken, even when a policy is perceived to be performing well, and may help in identifying unanticipated circumstances and emerging issues
(4) Using multi-stakeholder deliberation	Seeking input from a range of stakeholders in the development of a policy can help to ensure a range of perspectives and insights are considered, which can strengthen policy design
(5) Enabling self-organization and social networking	Those involved in the operation of the system are usually best placed to spot problems and develop innovative solutions, thus the creation of forums and social networking should be encouraged

(6) Decentralizing decision-making to the lowest and most effective jurisdictional level	Assigning decision making power to people close to those affected by a policy can help in gaining feedback about problems and effects, and facilitate well-informed decisions
(7) Promoting variation in policy responses	Implementing a range of strategies to address the same issue increases the likelihood of the policy objective being achieved and can enhance the chances of policy success when faced with unanticipated conditions

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