Appendix 1: Scoping of published frameworks and levers for change

| Author/s, Year | Publication definitional elements and identified levers for Change |
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| DiMaggio and Powell, 1991 (21) | Organisations become increasingly similar (isomorphic) over time because of two main pressures – competitive and institutional. DiMaggio and Powell focus on institutional isomorphism and identify three distinct types of processes that drive change (towards conformity).<br>1. **Coercive isomorphism**: similarity springs from pressures applied, either explicitly or implicitly (or both); from other organisations or from society. Specific levers include government mandates, contract law, reporting requirements.<br>2. **Mimetic isomorphism**: similarity springs from emulation, from seeking to copy from other organisations that appear to have greater legitimacy or success. Often apparent in the context of uncertainty about cause and effect. Specific levers include management consultancy, case studies, study tours.<br>3. **Normative isomorphism**: similarity springs from characteristics of the professionals who work in the organisation – established in shared education, licensing and reinforced through inter-organisational networks of specialists. Specific levers include registration and revalidation, medical colleges, special interest groups. |
| Plsek and Greenhalgh, 2001 (41) | In complex adaptive systems such as healthcare, unpredictability and paradox are omnipresent. Clinical practice, organisation, information management, research, education, and professional development are interdependent and change should use conceptual frameworks that incorporate dynamic, emergent, creative, and intuitive perspectives. Imperatives for managing change in complex adaptive systems include:<br>1. **Manage generative relationships**: establish goals and resourcing with a view towards the whole system, rather than artificially allocating them to parts of the system to support creative innovations among staff and stakeholders. Specific levers include organisational structures and clusters; staffing and funding mechanisms<br>2. **Define minimum specifications rather than prescriptive models of practice**: creative progress towards a difficult goal emerges from a few, flexible, simple rules or principles. Minimum specifications cover: direction pointing; boundaries; resources; permissions. Specific levers include: codification of clear objectives, resources<br>3. **Understand attraction for change**: Rather than battle resistance, focus on attraction – understand what motivates individual and organisational desire for change. Judicious sharing of information to and from natural 'attractors' or leaders can build an imperative so that others feel they must change. Specific levers include the use of beacon sites as inspiration<br>4. **Develop capability through transformational learning**: Individuals and systems change because they learn. The process of developing new behaviours in the context of real life experiences enables individuals to adapt to new situations. Specific levers include timely feedback, support for critical learning |
| Institute of Medicine, 2001 (39) | Acknowledging that healthcare is a complex adaptive system, this publication articulates an agenda for the redesign of the US healthcare systems. Informed by the research literature and a group of experts, recommended levers for change include:<br>1. **Commitment to a national statement of purpose,** leadership at many levels that can provide clear strategic and sustained direction and a coherent set of values and incentives to guide group and individual actions as well as the identification of priorities<br>2. **Adoption of principles to guide the redesign of care processes**: make effective use of information technologies; manage clinical knowledge and skills; develop effective teams; coordinate care across patient conditions, services, and settings over time; incorporate performance and outcome measurements for improvement and accountability.<br>3. **Create an environment that fosters and rewards improvement by**: creating an infrastructure to support evidence-based practice; facilitating the use of information technology; aligning payment incentives; preparing the workforce to better serve patients in a world of expanding knowledge and rapid change. |
| Leatherman, 2002 (40) | Highlights how public reporting of performance information plays a role in regulation and public accountability, purchasing and commissioning decisions, consumer selection and choice and provider behaviour change. A categorisation of interventions for change identifies:<br>1. **External oversight**: use of specific levers of review, inspection, accreditation and licensing, performance targets.<br>2. **Patient engagement / empowering consumers**: facilitating consumer choice, enacting patient charters / patients' rights.<br>3. **Regulation**: with specific levers of professional self-regulation and government regulation.<br>4. **Knowledge / skill enhancement of providers**: with specific levers of peer review and feedback, use of guidelines and protocols.<br>5. **Incentives**: with specific levers of financial (pay for performance) and non-financial rewards and sanctions. |
| Naylor, Iron and Handa, 2002 (44) | Acknowledges that information can catalyse change but notes that in the absence of specific steps to make change both necessary and possible, professional and organisational inertia can stall change. Levers for change can be:<br>1. **Economic or non-economic incentives**: payment systems; consistent performance feedback; point of decision information tools for patients or providers; training and supporting opinion leaders; repeated education interventions; strong evidence for burning issues.<br>2. **Mechanisms for bringing performance information to bear**: regulatory; administrative / professional; market-based.<br>3. **Actors whose behaviour can change**: consumers (through choice); purchasers/funders (through commission and contract); professionals/managers (through allocation of resources). |

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| Berwick, James and Coye, 2003 (10) | Clear purpose, focused goals, and valid and reliable performance metrics set the stage for the use of measurement to pursue change through two pathways:<br>1. **Measurement for selection** can be used for reward, recognition, punishment, payment, and other forms of decision with more continuous properties. Regulators can affect quality by using selection directly (such as suspending a license) or indirectly, using the threat of action to motivate changes among providers of care who wish to avoid that threat.<br>2. **Organisational processes** that support change and improvement of care are: reliable flow of useful information; education and training in the techniques of process improvement; investment in the time and change management required to alter core work processes; alignment of organisational incentives with care improvement objectives; and leadership to inspire and model care improvement. |
| Leatherman and Sutherland, 2008 (45) | Three broad models of accountability underpin different levers for change:<br>1. **Professional** model: healthcare is a transaction between patients and professionals controls on those who can gain admittance into healthcare fields (e.g., through licensure) and continued education and training should be exercised alongside ongoing education and clinical governance, patient engagement<br>2. **Market** model: healthcare is a commodity and market forces affect change including competition for customers (with consumers selecting the best available healthcare services and providers), commissioning, public reporting to inform choice<br>3. **Governmental** (or **political**) model: healthcare is an essential service or public good and centralised bureaucracies use tools such as legislation, regulation, standard setting, targets, public reporting for accountability<br>This framework proposes that the three categories of levers for change should be used in conjunction with each other. |
| Boland and Fowler, 2000 (4) | Presents performance indicators and associated improvement initiatives, as typically applied in public sector organisations. Notes that change is usually implemented as a causal loop established between perceived performance and resulting actions,. A two-dimensional matrix model is founded on two independent dimensions: 1) S**ource of control**: Internal and External; 2) **Nature of expected actions**: Formative/ Supportive and Punitive/ Summative<br>The levers for change are:<br>1. **Continuous quality improvement**: when internal source of control and formative/ supportive context (performance assessment as a tool for hospital managers for the evaluation and improvement of hospital systems).<br>2. **Accreditation**: when external source of control and formative/ supportive context (development of hospital quality standards and accreditation processes).<br>3. **Internal evaluation**: when internal source of control and punitive/ summative context (performance reporting for internal hospital evaluation).<br>4. **External accountability**: when external source of control and punitive/ summative context (improvements in hospital accountability and performance management through public performance reporting and quality-based purchasing). |
| Bevan, 2015 (46) | Identifies four models of health governance with different levers to secure change<br>1. **Trust and altruism** – assume that actors are able to accurately assess patient needs and are motivated to meet those needs in the best possible way<br>2. **Choice and competition** – create external incentives through market mechanisms, using patient choice to affect market share<br>3. **Naming and shaming** – public rankings, published and widely disseminated<br>4. **Targets and terror** – actors and organisations are held to account against a limited set of targets that clearly signal priorities and with strong threats of sanctions for failure and rewards for success |
| NHS Quality Board, 2017/Health Foundation 2016 (15, 43) | Seven steps to improve quality are articulated<br>1. **Setting direction and policy** – establishing clear, collective and consistent priorities for quality<br>2. Bringing clarity to quality – establish **standards** and **guidelines**; establish safe levels of staffing resources<br>3. **Measuring and publishing** quality – align measurement and monitoring activities to measure what matters<br>4. **Recognising and rewarding** quality – incentives aligned around shared view of quality<br>5. **Safeguarding quality** – through **surveillance**, **regulatory** interventions 'special measures', risk summits to share best practice<br>6. **Building capacity** – develop improvement and leadership capacity, deliver **education** and **training** , |