Building and Sustaining High Integrity Health Systems

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New care models designed to discern and deliver what people value are needed.

Health care economies across the globe are in crisis. High-income countries – whether market-driven like the health care economy of the United States or tax funded like that of the United Kingdom – are struggling with relentless demand for more services that are increasingly costly to deliver. Low and middle income countries are grappling with the imperative to provide better and more equitable access to potentially life-saving interventions while at the same time wisely allocating scarce resources across all sectors which effect human and social development. In rich and poor countries alike, policy makers, citizens, and health professionals are drawn to the allure of high technology health care but not learning how to use it most effectively or from mistakes made when its limits go unrecognized or unheeded. (1) To effect change we need to challenge the pervasive assumptions that hinder the profound reforms health systems need to undergo if they are to provide services which deliver more health and wellbeing to their citizens.

In a editorial on delivering health with integrity three key prevailing assumptions about current health care provision were highlighted. (2) Firstly, that providing more services delivers more health. Secondly, that clinical evidence alone is sufficient to determine best treatment and its delivery. Thirdly, that health care can only be delivered effectively by health professionals. For each of these assumptions, evidence to the contrary has existed for decades but its implications not addressed. (3-13) Stakeholders need a better understanding of the sources of resistance – within themselves as well as others – to thinking and acting differently. Table 1 details the assumptions, countervailing evidence, sources of resistance to thinking differently, and new frameworks for developing services to improve health and wellbeing. The suggested focus is on innovation at the frontlines where health care workers engage with the people they serve and where individual needs, wants, and the resources to promote health and wellbeing can be understood and acted on to co-produce value. It's also where health systems have the most to learn about what matters to those who live with the consequences of services that are delivered or not.

[Box 1 about here]

Challenging assumptions to achieve a high integrity health system

Accountability and the absence of malfeasance and corruption are fundamental criteria of high integrity health systems. And they should strive to do no harm, and minimize waste by learning from variation in processes, costs, and outcomes, and to make care as safe, effective, and affordable as possible. (1-2,7-9) But the implications of Table 1 demand a more positive definition of integrity, one that begins with *purpose* and recognizes the limitations of modern medicine. (2)

[Table 1 about here]

More services don't guarantee more health

We know that what we do within the confines of health care in high income countries contributes relatively little to the health of populations or to the health and wellbeing of individuals across their life course. Educational opportunity, personal and social factors, and behaviors and life chances, play a far more consequential role. (3-6) A health system exists to sustain or improve the health and wellbeing of those it serves by equitably meeting their health care needs and wants – no less but no more. It does not exist to promote professional services or the use of new technologies, drugs, and devices – nor to fuel unrealistic expectations of what can be achieved. Such promotion leads to overuse of services and products while basic needs that confer greater value go unmet, and the integrity of the health system falters. (7-10) *Purpose* must also be leavened by *humility* among those who deliver health services.

Clinical evidence is not enough to determine best treatment

A high integrity health system pursues *purpose* not only with *humility*, but also with utmost *respect* for individuals and what matters most to them about their health and wellbeing. Such respect for patients' preferences and goals is increasingly enshrined in the health policies of governments, but it needs to be more manifest in day to day practice. Clinicians need to engage, inform, and support individual service recipients as they come to understand what is possible to achieve with available health care services, identify the outcome tradeoffs they are willing or unwilling to make, and the interventions they therefore prefer. (9-12) This level of engagement is not easy to achieve, but without it decisions will continue to be made in the face of avoidable ignorance, with interventions routinely given to people who would not choose them while the same interventions are withheld from those who would. (9) Successful engagement avoids such waste and harm, and enables the collection and analysis of data about the relative value of services - as defined by those who use them. Aggregation of this data, which is not currently available, is critical to align investments in service delivery in response to population needs for health and wellbeing. It addresses the failures of both the market and the state in achieving allocative efficiency in health care economies. (9-10,13)

The delivery of health and health care is not confined to health professionals

While health care *is* about science and technology mediated by highly trained professionals when it is delivered in the operating theatre or intensive care unit it is much more than that. Medicine is a knowledge-intensive service industry where the smallest replicable unit of service is the individual health professional or multidisciplinary team, the patient together with family and carers, and the bidirectional exchange of intelligence and support that is essential to co-produce value. (14,15)

Interactions at this level often occur at the most trying of times, when professionals are stressed by competing demands on their time and other resources available to them, and when patients are feeling vulnerable and afraid. Meaningful reform will entail adopting new models of service delivery by teams who are aware of the limitations as well as the benefits of medical interventions, and respect the expertise, capacity and ingenuity that patients and carers bring to both decision making and identification of best management – including self-management. Medical teams must also embed empathy for the circumstances of patients' lives, including the support that they may or may not have

from family, friends and the wider community in which they live. Teams that transform health care will have patients at the centre engaged in mutual sharing of knowledge and support to build capabilities and confer agency. (10-15)

Learning from Populations to Deliver Value to Individuals in High Integrity Health Systems

When the purpose of high integrity health systems and new models of care that comprise them are described as above, the message can be interpreted as critical of the current medical culture and a directive to deliver a better service experience to patients. Shared decision making, for example, may be interpreted as being a form of customer service, akin to being nice to patients. But this interpretation misses the critical importance of co-production in the service sector – designing the interaction between providers and service users to discern what will create value by learning the outcomes that matter for each patient and using the aggregate of those learnings to adapt system capacities and capabilities to deliver better value to individuals and populations. (15) Learning from the choices made by individuals who are sufficiently informed and enabled to exercise personal agency will be central to the integrity of health systems of the future. Established 'dimensions of health care quality' and 'aims for improvement' have fostered development and use of myriad measures that have been used for internal and external performance assessment with the latter often linked to financial incentives and penalties. (16-17) These dimensions and aims are compared and contrasted with design principles for high integrity health systems in Table 2.

[Table 2 about here]

Examples of new approaches to discerning and meeting health needs

New approaches are central to reform efforts in high income countries. NHS England's Five Year Forward View aims for a 'triple integration' of primary care with acute care, physical health with mental health, and health care with social care. (18) Engagement and empowerment of patients in primary and secondary prevention, shared decision making, and personal care planning are priorities. The 'house of care' model developed in the Year of Care programme takes engagement of patients in these processes as its starting point. (13) It also advances the hypothesis that systematic care planning with patients co-managing long term conditions can capture data about their needs, wants, and goals, to guide commissioning of services for local populations.

In the United States, the patient centered medical home (PCMH) is an effort to move primary care in this direction by providing reimbursement for coordination and continuity of care accessible in the primary care setting. Early evidence from PCMHs suggests modest improvement in patient and staff experiences but as yet, no demonstrable impact on clinical and economic outcomes. (19) More radical redesign of team-based frontline care models by Atlanticare and Iora Health, the Camden Coalition, and others, has achieved more promising results in the United States. In each case, the models rely heavily on the recruitment and training of clinical team members with the skills and competence necessary for the level of patient engagement that consistently and accurately ascertains patients' needs and wants for health or social care. (20-23)

The investments in these new coaching and support roles in team-based engagement and support of patients deliver a strong return by reducing demand for physician and nurse time and improving staff and patient experiences. (22,23) The "qualifications" for such health coaches or navigators emphasize empathy and listening skills more than prior health care experience. These coupled with appropriate training and decision support can assure high levels of competence in shared decision making, personal care planning, and motivational interviewing which have been shown to improve the quality of clinical decisions, health outcomes, and health behaviours, respectively. (23) Deep knowledge of the community resources beyond the health care system that leverage capabilities of patients and families or other carers is also essential for co-production. (14,15) Radical redesign of front line care services linked to community assets in high and middle income countries should borrow heavily from success in low resource settings where community health workers are elected or otherwise chosen for their commitment to building upon the social capital that exists in the community. (15,24))

[Box 2 about here]

Measuring what matters to guide implementation of new models

Those working in the beleaguered health systems of today may see this kind of radical innovation as an unnecessary distraction or beyond their reach. But the case for change is strong. Even in high income countries, looming fiscal crises and publicized performance failures are undercutting morale and a pervasive sense of scarcity and performance pressure is lowering the aspirations of service providers at a time when the expectations of users continues to rise. In this climate, system leaders need to identify new measures to guide the design and implementation of new models of service provision. These measures must be selected to promote learning and illuminate what services are most valued. They must also be simple enough to be embedded in practice and offer real-time feedback to service staff and users as tools to hold themselves accountable for learning with and from each other. (10,23,26,27)

They should include questions about patients' and clinicians experiences of the engagement process. Did patients feel they were helped to understand their health issues, and what was possible to address them? Was empathy shown? Were they treated with respect manifest in being listened to by clinical team members in order to understand their health issues and goals for wellbeing in the context of their lives? (28) Did patients actively participate in designing a care plan that reflected what mattered most to them? Was their care well-coordinated across professional and interdisciplinary domains by a team that exhibited shared goals, shared knowledge and mutual respect? (29,30) Were patients and their family members or other carers recognized by clinicians as essential members of the team? (,26,28) Patients, are increasingly networked and engaged in supporting each other, defining quality of care, and the information and services they need from health professionals to enable them to co create health. (31) Working with them to draw up new metrics for mutual accountability in co-production is important.

Innovation leaders should collaborate to define and track these measures as leading indicators of success or failure and be prepared to iteratively redesign the care model microsystem and training programs as the learning evolves. There should also be measures of decision quality to assure no avoidable ignorance about care plan options, tradeoffs and preferences. (32,33) When decisions and

agreed care plans are well informed, choices should reflect preferences and guide capacity planning and investments as envisioned in the UK 'house of care' model. (13)

The high integrity health system with the habits of a learning organization would also continue to learn from established clinical, operational, and economic measures, ideally as a leading member of a learning collaborative or community of practice co-led by patients and service users. (34-37) But system leaders and policy makers must recognize the burden of these measures and the relatively limited impact they have had on quality and efficiency over past decades. Those who understand the implications of the countervailing evidence to the prevailing assumptions set out in Table 1, and the new direction set in Table 2, will want to learn from using the new measures to test hypotheses and drive learning from implementation of innovative delivery models that foster deeper, more informed partnerships with patients, communities, and the professional service providers in other sectors including education, employment, and social care who contribute to health and wellbeing.

Learning from populations to deliver value to individuals is the central strategic intent of a high integrity health system. Elements of this learning loop, drawn from the design principles in Table 2, are illustrated in Figure 1.

[Figure 1 about here]

Testing the Hypotheses in Priority Populations

In the editorial that launched the high integrity health system initiative, we identified three populations across the life course which are particularly vulnerable, and often marginalized: children and adolescents, especially those with mental and behavioural health problems; people of working age, especially those requiring support to get into or continue working; and people who need compassion and care because of frailty or because death seems near. The prevalence of both health care and social care needs can be high in each of these populations; as a consequence, the incidence of substituting the former – at higher cost and risk of harm – for the latter is likely to be high as well. Three examples are illustrative.

Consider the child in preschool diagnosed with an attention or behavioral problem and treated with medication when the underlying 'pathology' is food insecurity – going off to school hungry most mornings having not had breakfast. (38,39) Or the 21-year old woman with schizophrenia whose psychiatrist believes is well managed because she no longer has auditory hallucinations, but who herself recognizes that her weight gain, chain smoking, and day-to-day lack of ambition are the side effects of toxic medication and summons the courage to tell her psychiatrist that she would be happier living with the voices in return for feeling well enough to hold a job of her own. (39,40) Or the iconic story from Archie Cochrane about the dying prisoner of war who screamed in pain when there was no morphine available but stopped when Cochrane instinctively took the man in his arms and held him until he died peacefully. (41,42) None of these patients needed a red pill or a blue pill. They wanted something that was both less and more.

Stopping misdiagnoses of patients' preferences, which occur in all cultures and contexts across the globe, is a pivotal task for new care models and high integrity health systems.

A Way Forward for the BMJ Initiative for High Integrity Health Systems

To spur debate on how to foster high integrity health care, the BMJ is seeking to publish a series which will draw attention to new collaborative approaches to improving health and wellbeing of populations in different contexts and cultures at a sustainable cost to nations' economies. It will start with three papers which review evidence for new co-produced services with and for the three populations identified above. We invite readers across the globe who have examples or case studies of innovative services aimed at improving health across the whole life course to submit papers or discuss outline ideas for papers with us. These should describe the initiatives and wherever possible set out new measures and methods needed to test hypotheses about their effectiveness. They should also discuss how to overcome political, professional, and managerial obstacles to their implementation. Our aim is to foster a global cross-sectoral community committed to advancing health through exploring and learning from new ways of working.

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HIHS Box 1

Key Messages

- The strategic intent of a high integrity health system (HIHS) is to learn from variation at the population level – in processes and outcomes and in practices and preferences – to deliver quality services and value to individual patients and populations;
- Individual health service users need support to understand the determinants of their health, and what can be done by health professionals and others – and by themselves – to sustain or improve their wellbeing;
- Patients' preferences matter; care management decisions need to be made in a process of discernment – with no avoidable ignorance about the services that are available or the outcomes that matter most;
- There is a priority need for measures to guide implementation of integrated health and social care models by allowing clinicians, patients and system leaders to hold themselves accountable for their role in co-production of value; and
- Learning what engaged and informed service users value most is essential in the HIHS to avoid the delivery of high-cost acute health care to a patient when lower-cost health or social care services are preferred.

HIHS Box 2

***Hot spotters* and *asset mappers*: Both are needed to co-produce value in high integrity health systems**

In 2011, Atul Gawande highlighted two new care models in New Jersey. (20) Both were designed to work with vulnerable patients to better understand and meet their needs and wants. Jeff Brenner began with an idea borrowed from policing – mapping crime across a community to assure resources could be focused on the 'hotspots'. Brenner began by mapping assault patterns in Camden – one of the poorest cities in America. But he moved quickly to mapping patterns in the way people flowed in and out of Camden's three hospitals. He took the time to sit by the hospital beds of people who were the highest utilisers of acute health care services to understand health and wellbeing in the context of their lives. The care model that evolved from Brenner's Camden Coalition of Healthcare Providers (CCHP) focused on the most vulnerable patients with health and social care services including connecting them to sources of social capital within the community.

An hour's drive southeast of Camden, Rushika Fernandopulle was similarly listening to and learning from the challenges of the sickest employees of the casinos and hospitals in Atlantic City. Fernandopulle began with an idea borrowed from low and middle income countries (LMICs) in Latin America and Africa – community health workers (CHWs). Recruited (or elected in some LMICs) for their common lived experience, empathy, and knowledge of and contribution to the community's social capital, CHWs serve at the frontlines of care in settings where social circumstances are among the most visible determinants of health and wellbeing. The new care model embodied by Fernandopulle's Atlanticare Special Care Center relied heavily on *health coaches* whose role on the clinical team was to engage the most vulnerable patients and support them in defining and achieving their health and wellbeing goals.

Building upon the capabilities of patients themselves, and the social capital that resides within their personal networks and communities, is the essence of *co-production* in evolving models of integrated health and social care. In Scotland, CMO Catherine Calderwood is pursuing an ambitious integrated care agenda she calls *Realistic Medicine.* (25) Case studies there include Access to Local Information to Support Self-Management (ALISS) and an initiative implemented by the Strathclyde Police in NW Kilmarnock. Both programmes began with a process they call *asset mapping* – working to share local knowledge and map existing assets within communities – empowering people to draw upon them as needed for personal support and to build upon them to expand social capital. Hot spotters identify people and places challenged by great needs. Asset mappers look first to the same people and places to find the capabilities and resources to meet those needs. High Integrity health systems need both.

Table 1 Prevailing Assumptions, Countervailing Evidence, Sources of Resistance to Thinking Differently, and New Models to Do Differently

Prevailing Assumptions	Evidence to the Contrary	Resistance to Thinking Differently	New Models to Do Differently
Higher levels of health care produce higher levels of health and wellbeing for people and populations	Health care contributes less to health than social circumstances, including education, and behavior	Bias toward biomedical vs social science; specialism vs general knowledge; rescue vs prevention	Integrate services around patients' needs and wants addressing more broadly the determinants of health
Clinical evidence tells us what is the right thing to do for people in need of health care	Evidence is insufficient; patients' preferences matter in decisions to deliver services that produce value	Bias toward the objective and generalizable; neglect of context at the level of the individual patient	Engage, inform, and support patients in identifying and acting upon their needs and wants
Health care is delivery of services by professionals to people unable to understand or do for themselves	Much of health care is exchange of information about achieving what is possible and most valued	Bias toward expertise, capabilities, and agency of professionals with neglect of that of patients / people	Leverage joint assets of people and professionals to co-produce better health and wellbeing at lower cost

Table 2: Quality Dimensions, Aims for Improvement, and Design Principles for High Integrity Health Systems

Maxwell's Quality Dimensions (1984)	IOM's Aims for Improvement (2001)	Design Principles for High Integrity Health Systems (2016)
Effectiveness for Individuals: Is the treatment given the best available in a technical sense, according to those best equipped to judge? What is their evidence? What is the overall result of the treatment?	**Safe:** Are patients free from accidental injury due to error in the form of failure to complete a planned action as intended or the use of a wrong plan to achieve and aim? **Effective:** Are services based on scientific knowledge provided to all who could benefit and not provided to those not likely to benefit? Is the best research evidence integrated with clinical expertise and patient values? Are results of care continuously monitored to improve care for all patients?	**Continuous Learning from and with Populations Served:** Are variations in process and outcome systematically monitored and reviewed? Is there systematic learning from variation in patients' goals and outcome preferences to improve decision quality? Is there a means of rewarding transparency and respect for local contexts? Is the expertise of patients, family and carers reflected in learning collaboratives? In determining effectiveness are patient user priorities key? Is there a means to identity what is not working and to stop ineffective practice?
Efficiency and Economy: Is the output maximised for a given input or (conversely) is the input minimised for a given level of output? How does the unit cost compare with the unit cost elsewhere for the same treatment/service?	**Efficient:** Are resources used to get the best value for the money spent, by avoiding quality waste incurred by overuse and avoidable errors, and reducing administrative and production costs?	**Co-Production by Teams of What is Valued by Individuals:** Are clinicians encouraged to work at the highest and best use of their knowledge and capabilities to co-produce valued outcomes with the people they serve? Are they incentivized to ensure patients understand the benefits, harms and uncertainties of available interventions, and to find out what matters most to patients? Is overuse of costly health care avoided while basic health and social care needs are met? Are individuals' needs and wants measured and aggregated to inform system investments and disinvestments?
Access to Services: Can people get this treatment/service when they need it? Are there any identifiable barriers to service - for example, distance, inability to pay, waiting lists, and waiting times - or straightforward breakdowns in supply?	**Timely:** Are waits and sometimes harmful delays reduced for both those who receive and those who give care?	**Access to Information, Support and Integrated Services:** Are service users given ready access to consistent information and support to assess their need for services and their role in managing them? Are those services integrated around patient needs and coordinated by the clinical delivery teams?
Equity: Is this patient or group of patients being fairly treated relative to others? Are there any identifiable failings in equity - for example, are some people being dealt with less favourably or less appropriately in their own eyes than others?	**Equitable:** Does care provided not vary in quality at the level of the population or individual because of characteristics such as gender, ethnicity, geographic location, and socioeconomic status?	**Supporting the Personal Agency of All People Served:** Do care models support enhancement of motivation, confidence, and capabilities of all the people they serve – no exceptions – as well as those who serve? Do clinical teams include roles for people recruited for common lived experiences with, and empathy for, patients most at need? Are needs for basic care recognized and met?
Social Acceptability: How humanely and considerately is this treatment/service delivered? What does the patient think of it? What would/does an observant third party think of it? What is the setting like? Are privacy and confidentiality safeguarded? **Relevance to Need:** Is the overall pattern and balance of services the best that could be achieved, taking account of the needs and wants of the population as a whole?	**Patient-centered:** Is the care provided respectful of and responsive to the needs, values, and expressed preferences of the individual patient? Are services coordinated? Is information communicated, physical comfort attended to, and emotional support provided to patients, families and friends?	**Mutual Accountability among All Stakeholders:** Do care models address the interdependencies among people with health concerns, the professionals and staff who serve them, and the policy makers and leaders responsible for governance and stewardship of resources in the health care economy? Are appropriate metrics available for team members to hold themselves accountable in a compact based on shared goals and mutual respect?

High Integrity Health System