Lenses and levels: the why, what and how of measuring health system drivers of women’s, children’s and adolescents’ health with a governance focus

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ABSTRACT
Health systems are critical for health outcomes as they underpin intervention coverage and quality, promote users’ rights and intervene on the social determinants of health. Governance is essential for health system endeavours as it mobilises and coordinates a multiplicity of actors and interests to realise common goals. The inherently social, political and contextualised nature of governance, and health systems more broadly, has implications for measurement, including how the health of women, children and adolescents health is viewed and assessed, and for whom. Three common lenses, each with their own views of power dynamics in policy and programme implementation, include a service delivery lens aimed at scaling effective interventions, a societal lens oriented to empowering people with rights to effect change and a systems lens concerned with creating enabling environments for adaptive learning. We illustrate the implications of each lens for the why, what and how of measuring health system drivers across micro, meso and macro health systems levels, through three examples (digital health, maternal and perinatal death surveillance and review, and multisectoral action for adolescent health). Appreciating these underpinnings of measuring health systems and governance drivers of the health of women, children and adolescents is essential for a holistic learning and action agenda that engages a wider range of stakeholders, which includes, but also goes beyond, indicator-based measurement. Without a broadening of approaches to measurement and the types of research partnerships involved, continued investments in the health of women, children and adolescents will fall short.

INTRODUCTION
Health systems play a critical role in improving and sustaining the health of women, children and adolescents by supporting intervention coverage and quality, promoting the rights of end users and intervening on the social determinants of health. Health systems consist of all the organisations, institutions, resources and people whose primary purpose is to promote and improve health.1

Key health systems inputs include human resources, financing, commodities, infrastructure and information systems to ensure high-quality health services. In addition to coordinating these inputs, health policy implementation and programme scale-up hinges
on mobilising a multiplicity of actors for collective action to realise common goals within health programmes and across other sectors. This requires attention to people and how their relationships govern health systems across diverse contexts over time. These governance features, while less easily observable and often referred to as the underlying or ‘software’ of health systems, are key to understanding health systems performance and variation within and across jurisdictions.\(^2\)\(^-\)\(^4\) Governance is therefore not an additional building block of ancillary input in health systems, but the overarching frame within which the people, organisations, institutions and resources that make up health systems work.\(^5\) It is the force which binds or repels actors, relationships and resources across all levels of the health system to collectively realise health goals.

Governance involves the formal and informal rules and mechanisms that influence decision-making between citizens, providers, and the state in the public interest or not (figure 1). At its core, governance entails the mediation of power between diverse actors to influence the design and implementation of policies and services, although multiple definitions and frameworks for governance exist and continue to evolve, signalling its multidisciplinary origins.\(^5\)\(^-\)\(^8\)

A governance perspective encourages taking a step back to understand how the health of women, children and adolescents is viewed before focusing on the micro-details of specific measurement metrics for health systems drivers. Three common framings or lenses include a service delivery lens aimed at scaling effective interventions, a societal lens oriented to empowering people with rights to effect change and a systems lens concerned with creating enabling environments for adaptive learning.

To illustrate this multidimensional view of health systems drivers, we apply these lenses to three examples. We use digital health to illustrate health systems dynamics relevant to governance at micro (individual level), maternal and perinatal death surveillance and response (MPDSR) to highlight facility-level meso (organisational level) dynamics, and multisectoral action for adolescent health for macro (structural level) dynamics.\(^9\)

We conclude with reflections on the implications of these lenses and levels for measuring health systems drivers of the health of women, children and adolescents. The purpose of this methodology paper is not to propose universal measurements or indicators, but to develop understanding on how measuring health system drivers of the health of women, children and adolescents with a governance focus requires a broad approach to measurement, opening up our understanding of what we should be measuring, how, why and for whom. By doing so, we contribute to a more effective fulfilment of commitments to monitor progress in the health of women, children and adolescents in priority countries.

**Figure 1** Elements of governance.
measure health systems drivers of women’s, children’s and adolescents’ health with a governance focus, but also what and how we measure these drivers (table 1).

### Table 1  Why, what and how we measure health systems drivers of women’s, children’s and adolescents’ health with a governance focus

<table>
<thead>
<tr>
<th>Framing</th>
<th>Why we measure</th>
<th>What we measure</th>
<th>How we measure</th>
<th>Research epistemologies, methodologies and methods</th>
<th>Research continuum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lens: Service delivery&lt;br&gt;Focus: Health conditions with effective interventions&lt;br&gt;View of power: Technocratic&lt;br&gt;Mode of governance: Hierarchical&lt;br&gt;Implementation focus: Blueprints for what works</td>
<td>► Policy mandate</td>
<td>► Technical content of policies</td>
<td>► Measuring adherence to recommended protocols (users and providers)</td>
<td>Epistemology: Positivist&lt;br&gt;Methods: ► Measuring adherence to recommended protocols (users and providers)</td>
<td>Disciplines: Epidemiology, demography&lt;br&gt;Approach: Replicable measurements that validate progress or highlight gaps&lt;br&gt;Evidence: Cross-national data sets</td>
</tr>
<tr>
<td>Lens: Societal&lt;br&gt;Focus: People with rights&lt;br&gt;View of power: 1. Unidirectional/power over/zero-sum&lt;br&gt;2. Co-produced/relation</td>
<td>► Coordination for continuity across levels and sectors</td>
<td>► Management mechanisms: committees, review meetings, etc</td>
<td>► Applying implementation checklists</td>
<td>► Analysing household, facility surveys or routine HMIS and system-generated data</td>
<td></td>
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<tr>
<td>Lens: Systems&lt;br&gt;Focus: Complexity&lt;br&gt;View of power: Creative: disruptive/productive&lt;br&gt;Mode of governance: Principles enabling emergence&lt;br&gt;Implementation focus: Interventions and people interact and evolve overtime</td>
<td>► Service delivery readiness</td>
<td>► Inputs/resources (human resources for health, supplies, finances)</td>
<td>► Analysing household, facility surveys or routine HMIS and system-generated data</td>
<td>► Ecological analysis of large datasets</td>
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<td></td>
<td>► User characteristics</td>
<td>► User profile (literacy, gender, class, ethnicity, age)</td>
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<tr>
<td></td>
<td>Macro: Political prioritisation&lt;br&gt;Meso: Accountability dynamics&lt;br&gt;Micro: Interpersonal dynamics supporting empowerment or marginalisation</td>
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<td></td>
<td>► Stakeholder positions and interests</td>
<td>► Transparency</td>
<td>► Social capital and networks</td>
<td>Epistemology: Legal&lt;br&gt;Pragmatic/constructivist&lt;br&gt;Methodologies: ► Legal analysis&lt;br&gt;► Health policy and systems research&lt;br&gt;Methods: ► Stakeholder analysis, political mapping&lt;br&gt;► Social network analysis&lt;br&gt;► Case study research</td>
<td>Disciplines: Multiple social science disciplines&lt;br&gt;Approach: Context embedded research&lt;br&gt;Reflective practice&lt;br&gt;Evidence: Tacit and experiential knowledge</td>
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<td></td>
<td>► Dis/equilibria&lt;br&gt;► Feedback loops</td>
<td>► Organisational cultures&lt;br&gt;► Transparency</td>
<td>► Social capital and networks</td>
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<td>► Eventuality of change</td>
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<td>► Dis/equilibria&lt;br&gt;► Feedback loops</td>
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<td>► Dis/equilibria&lt;br&gt;► Feedback loops</td>
<td>► Adaptivity or learning capacities</td>
<td>► Eventuality of change&lt;br&gt;► Emergence</td>
<td>► Path dependence</td>
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<td>► Eventuality of change</td>
<td>► Tipping points and motivation for emergence and change</td>
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<td>► Dis/equilibria&lt;br&gt;► Feedback loops</td>
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<td>► Tipping points and motivation for emergence and change</td>
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HMIS, health management and information systems.

Service delivery lens

The dominant framing of the health of women, children and adolescents is of health conditions that have effective

...
interventions. Implicit in this service delivery lens is a technocratic view of power that aims to separate science from politics and a mode of governance that is hierarchical assuming that authority flows from the top down. Implementation is therefore a matter of sequential inputs operationalised through predetermined blueprints or plans designed by experts from above into services to save lives.

From this service delivery lens, tangible health systems drivers that come into focus for measurement include policy mandates to support implementation (the availability of policies and their technical content), coordination to ensure continuity of care across levels and sectors (management mechanisms), service delivery readiness (health system building block inputs and resources) and user characteristics (gender, class, ethnicity, age, geography, etc.). The later variable enables one to have a baseline to assess various equity dimensions of service delivery.

**Societal lens**

A different and equally compelling framing of women’s, children’s and adolescents’ health is of the people involved and their rights shaped by the societies in which they are embedded. Within this societal lens, a legal rights-based perspective can view power as a series of zero-sum bargains or binary pairings. It therefore seeks to clarify roles and responsibilities, as well as entitlements of rights claimants and obligations of rights holders. A health policy and systems perspective, informed by a view of power that is co-produced or relational, examines the negotiations and discretion of communities, healthcare users, health workers and/or managers to buy in to reforms or resist them. Both perspectives view implementation as a social process dependent on social context and the relationships brokered between diverse health system actors.

From a societal lens, there is not a universal checklist of tangible factors to measure, but rather a range of phenomena that can be measured depending on the issue, context and health system level. Three illustrative health systems drivers for women’s, children’s and adolescent’s health within this framing are those related to (1) political prioritisation at the macro-level of societies, (2) accountability dynamics within the meso-level of organisations and (3) how interpersonal dynamics between individuals at the micro-level of health systems support empowerment or marginalisation. Measurement, depending on the issues at hand, would focus on, for example, the following intangible variables: actor interests and social networks; organisational cultures and trust; social capital; framing and social norms. These variables help to understand whether the interests and capabilities of marginalised actors are considered and transformed or whether power structures continue to disenfranchise them. These are vital to understand how and why inequalities persist and how they can be transformed.

**Systems lens**

As understanding of the social relationships that underpin implementation has deepened, so has an appreciation for the complexity and fluidity with which interventions and people dynamically interact and evolve over time through systems in anticipated, but also unanticipated ways. Implicit in this systems lens is a view of power as creative, which can be directed in disruptive and productive ways. Governance approached through this lens recognises that power is dispersed in organisations, and that planned change interfaces with spontaneous forms of self-organisation referred to as emergence. Enabling positive forms of emergence is key to governance and in this regard, implementation is aided by understanding current system dynamics, and the role of equilibria and feedback loops. Varying degrees of cooperation or contestation, and the overall effects of positive and negative feedback loops establish path dependence or the emergence of new equilibria in systems. Key dimensions to measure for policy implementation are the diversity of the actors involved and their dynamic interdependence, their adaptive learning capacities, the permeability of context, and key triggers or tipping points that motivate and support emergence or change. This perspective enables us to understand key triggers and alignment of actors that support more equitable change, but also the backlash against such social change.

These framings and corresponding lenses are not mutually exclusive or competing paradigms, but rather ways of looking at different dimensions of women’s, children’s and adolescents’ health, which taken together provide a holistic understanding of health systems drivers. We explain them further with a focus on governance through examples in the next section.

**WHAT TO MEASURE ACROSS LENSES AND LEVELS: ILLUSTRATIVE EXAMPLES FROM WOMEN’S, CHILDREN’S AND ADOLESCENT’S HEALTH**

Given that governance and health systems relationships are pervasive contextual drivers of women’s, children’s and adolescents’ health, we use three examples to illustrate the possibilities of what to measure across lenses and levels (tables 2–4). These examples represent key interfaces between people in health systems and can be analysed at micro (individual), meso (organisational) and macro (structural) levels. Each of these examples, while initiated at different levels of the health system, can be seen as governance interventions potentially disrupting and recreating relations across health system levels.

**Digital health**

Digital health entails the use of digital, mobile and wireless technologies in support of health, with the potential to link users, providers and managers in new ways to improve uptake, quality and continuity of care. Despite its promise, few digital health solutions are successfully scaled in low-income and middle-income countries,
including those addressing health governance. The reasons underpinning this are technological and social, encompassing resource constraints but also governance challenges. We map what health systems drivers to measure in digital health through service delivery, society and systems lenses in Table 2. When we focus on user experiences at the micro-level interpersonal interface of health systems, a service delivery lens is essential to measure uptake of digital health interventions. Moving beyond this descriptive level, a societal and systems lens enables us to understand the social barriers to accessing digital health, as well as the social implications of such access. These additional lenses allow us to move beyond measuring whether or if digital health is being used, to understanding how and why end users engage with the innovation and how they adapt them in diverse contexts over time.

**Maternal and perinatal death surveillance and response**

Moving from micro-level interpersonal interfaces aided by digital health to meso-level dynamics at facility level, a key quality improvement initiative is MPDSR as it supports review, learning and corrective action among diverse stakeholders responsible for providing services. MPDSR is the process of capturing information on the number and causes of deaths and then undertaking systematic, critical analysis of the quality of care received, in a no-blame, interdisciplinary setting, to develop and implement responses to prevent future deaths.

<table>
<thead>
<tr>
<th>Service delivery lens</th>
<th>Health system levels</th>
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<tbody>
<tr>
<td>Macro</td>
<td>Meso</td>
</tr>
<tr>
<td>Policy mandate</td>
<td>Policies on privacy of personal data, interoperability, procurement, etc.</td>
</tr>
<tr>
<td>Coordination mechanisms</td>
<td>Network coverage: cell phone towers</td>
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<tr>
<td>Service delivery readiness</td>
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<td>User capacity</td>
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<tr>
<th>Society lens</th>
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<tbody>
<tr>
<td>Trust in government or private companies maintaining information responsibly</td>
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<tr>
<td>Incentives and positionality of implementing partners (Ministry of Health, technology partners, mobile network operators, academic/research partners)</td>
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<tr>
<td>Women with culture of concealing pregnancy, not being aware that they would be receiving SMS, can distrust or be jeopardised by text messages from unknown numbers</td>
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<tr>
<th>Systems lens</th>
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<tr>
<td>Tanzania: trained enumerators using smartphone apps in people’s homes was a trigger for conversations and relationship building... community validation meetings where people discussed results offline and local health workers present who saw it as an opportunity to channel demands upwards to district authorities for resource allocation decisions</td>
</tr>
<tr>
<td>South Africa: health workers adapting registration processes from individual to batch registration; increases numbers of people registered, decreases waiting time for services, but uncertain consent procedures</td>
</tr>
<tr>
<td>DRC: more men than women accessing digital app on family planning originally targeted for women; is male power reinforced vs transformed?</td>
</tr>
</tbody>
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DRC, Democratic Republic of Congo; NGO, non-governmental organisation.

Table 2  Lenses and levels for examining drivers of digital health
Favourable policies for MPDSR are in place, yet few countries have robust operational MPDSR systems, and the likelihood for improvement only occurs if the audit cycle is fully implemented.

We examine the health systems drivers of MPDSR through service delivery, societal and systems lenses and across health system levels (Table 3), but focus on the meso-level here. At the meso-level or organisational level of health systems, a service delivery lens prioritises measurements of tangible markers of MPDSR implementation, such as number of meetings, dissemination of proceedings, number of trainings, use of guidelines, workload of MPDSR committee members and so on. In addition, a societal lens would examine issues of trust, credibility and hierarchies between MPDSR stakeholders. A systems lens would look at how MPDSR triggers responses across health system levels, unleashing further scrutiny or resources, that would either empower or further demoralise health workers depending on how feedback loops are managed.

### Multisectoral action for adolescent health

At a macro-level, the health sector works with sectors outside of those directed by ministries of health, depending on their alignment to address key social determinants. Calls for multisectoral action for adolescent health are frequently made, given that many of the determinants of the social and health inequalities faced by adolescents lie beyond the remit and resources of the health sector. Yet beyond scattered projects, few examples of sustained and robust multisectoral action for adolescent health exist. Only a few service delivery school-based examples exist where health supports work led by the education sector. Despite consensus on
the rationale for multisectoral action for health dating back to Alma Ata, challenges realising it are not purely technical or programmatic, but rather relate to governance. While all health systems drivers by lenses and levels are detailed in table 4, here we focus on macro-level drivers of multisectoral action for adolescent health. At a macro-level, a service delivery lens would count the existence of multisectoral policies and alignment of policies across different sectors. For example, school policies that expel adolescent girls from school for being pregnant do not align with health policies that aim to provide services to them. Marketing to adolescents by transnational corporations of alcohol, smoking and fast foods may align with health policies that aim to provide services to adolescents. Marketing to adolescents by transnational corporations of alcohol, smoking and fast foods may align with health policies that aim to provide services to adolescents. Marketing to adolescents by transnational corporations of alcohol, smoking and fast foods may align with health policies that aim to provide services to adolescents. Marketing to adolescents by transnational corporations of alcohol, smoking and fast foods may align with health policies that aim to provide services to adolescents.

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**LENSES AND LEVELS FOR UNDERSTANDING HEALTH SYSTEMS DRIVERS WITH A GOVERNANCE FOCUS: IMPLICATIONS FOR HOW WE MEASURE AND FOR WHOM**

Numerous efforts to measure governance and health have evolved reflecting different disciplinary origins, research groups and policy audiences. Ecological analysis has linked good governance indicators with better health outcomes usually by improving the effectiveness of public health spending. Initiatives have also developed frameworks or indicators to measure health system governance. While these metrics enable cross-national comparisons that are useful for donors and international
organisations, they may be less useful for national-level policy-makers who are looking for more applied analysis of why, where and how to improve governance in health systems so that they deliver for those most likely to be left behind.

Understanding and responding to broader policy needs entails moving towards a broader range of disciplinary approaches in research on governance in health systems. Embedded research partnerships that can grasp historical and sociological contexts, and that facilitate co-production of emergent understandings of governance grounded in the programmatic realities of responding to women’s, children’s and adolescents’ health and rights are critical. This entails building capacities of local research organisations, as well as the research affinities of those running health programmes.

Cross-national comparisons in measuring progress for women’s, children’s and adolescents’ health relies on replicable measurements standardised across large numbers of jurisdictions (nation states, subnational districts). These are appropriate and effective for measuring the directly observable health systems drivers seen from a service delivery lens. However, many of the health systems drivers seen from a society lens are less easily observable aspects of human relationships that require research methods that enable a more in-depth understanding of the social and system dynamics involved. These more intangible health systems drivers are subjective in nature and need joint interpretation by researchers and research participants. The corresponding context-specific embeddedness quality of such research necessitates research partnerships that are fostered over time beyond any data point or research study.

Understanding and reflecting on the different framings of women’s, children’s and adolescents’ health and their corresponding service delivery, societal and systems lenses across health system levels enables an appreciation of the broad range of epistemologies and the continuum of research approaches that should be embraced to respond to women’s, children’s and adolescents’ health and rights are critical. This entails building capacities of local research organisations, as well as the research affinities of those running health programmes.

From a society lens, the research approach tends to be pragmatic or constructivist. It includes health policy and systems research that examines health systems as context specific, constituted by people and their relationships imbued with symbolic meaning that is not always visible or observable. Illustrative examples include studies that examine macro-level political influences such as the prioritisation of maternal and newborn health or donor practices in global health. At the meso-level, evaluations have unpacked accountability dynamics in maternal and child health services or social network influences over provider behaviour. Recent attention to the disrespect and abuse of women seeking obstetric services and the perspectives of providers involved in such care has highlighted issues of trust, social norms and organisational culture as central to the patient–provider dynamics at micro and meso levels.

Many of these studies include mixed methods or case study research approaches.

From a systems lens, the underlying epistemology tends to be constructivist, although the methodologies and methods of this approach range from ethnography and participatory action research to causal loop analysis, systems dynamic modelling and network analysis. Applications of this perspective include the sustainability of iCCM in Rwanda or urban health programmes for maternal and child health in Bangladesh, the drivers of coverage and governance of immunisation programmes in India, and unforeseen resistance to global policy on male circumcision in Malawi or to global HIV funding mechanisms in India. These analyses are highly context dependent and often reflect embedded research approaches, where implementers collaborate with researchers iteratively reflecting on practice and building on tacit and experiential knowledge.

**CONCLUSION**

Health systems drivers are key to understanding the enabling factors, social dynamics and rights that underpin coverage and equity of women’s, children’s and adolescents’ health. These drivers are better understood when seen through service delivery, society and systems lenses. These lenses reveal complementary but distinct health
system drivers that together explain health system performance. While progress has been made in developing tools for describing these drivers from a service delivery lens, further understanding of the less observable elements that shape human behaviour in health systems identified by society and systems lenses is needed. This entails other research methodologies and methods, and also a reconsideration of what kinds of research teams are constituted and how embedded they are with decision-makers who govern health systems at different levels for women’s, children’s and adolescents’ health.

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