Measuring and attributing change in complex systems.

Not everything that counts can be counted, and not everything that can be counted counts. Albert Einstein

Social participation processes are by their nature complex. Evaluating what works in social participation in health can equally be complex. These processes are dynamic, do not easily fit into an experimental design or achieve quick changes. They have feedback loops and are affected by a myriad of factors. This makes it difficult to make direct causal attributions between processes and outcomes and can make the timing and nature of outcomes less predictable. Evaluation methods that follow a ‘backward looking’ linear inputs-outcome-outputs-impacts logic are thus less useful when assessing such complex relationships (Nieminen and Hyytinen 2015). One response to this has been to develop even more complicated measurement systems (Batliwala 2006). However, requiring measurable outcomes in non-linear, unpredictable systems may restrict the focus to what can be measured, when this may not be what is important and may even distract us from what should be assessed (Segar 2014; Tachhi and Lennie 2014, Gamble 2008).

The theory of change approach, introduced in Brief 1, can help to locate these relationships within a change process without imposing linear cause-effect links between them. Equally the methods used to understand and assess change in the various forms of power described in Brief 1 go beyond discreet measurement of specific indicators to ways of showing the relations and interaction between different elements. For example, the ‘Power Cube’, developed by IDS Sussex, shown in Figure 2.1 visually maps the levels, spaces and forms of power, and how they interact with each other, to enable shared review, explore entry points for change and to assess change (van Es et al. 2015).

Figure 2.1: The power cube

![Power Cube Diagram](image_url)

Sources: van Es et al., 2015, p31 Under creative commons license

Participatory action research approaches explicitly recognize the subjective nature of power and these relations, using methods that collectively validate and analyse the lived experience and perspectives of those involved (Loewenson et al., 2014). Evaluators and facilitators bring their own power into this mix. Methods exist to assess these effects on the evaluation process, such as the “white privilege” checklist that reveals advantages due to race and culture, and the resources to address power imbalances in evaluation processes in the Community Tool Box.

Given these issues, in this Brief 2 we discuss options for framing and measuring social participation and power in ways that acknowledge this subjective, relational and complex nature of social change processes and of health systems. In Brief 3 we present further information on the methods, largely participatory, for evaluating change in social participation and power and their association with health outcomes.

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Measures of participation and power

As indicated in the introduction to this brief, measuring changing levels of participation and power and their impacts on health can be challenging. What indicators are used and what evidence is gathered derives from the questions asked in the evaluation, noting that these may vary depending on the purpose, type and timing of the evaluation, as discussed in Brief 1. The indicators and evidence also depends on the theory of change used to plan interventions.

In assessing particular interventions that seek to strengthen social power and participation in health, the questions may, for example, include:

• Are the right people involved and ‘at the table’?
• Who initiated the participation? Was it top-down and external or organic and self-determined? Was it invited or claimed? What were the different interests and motivations of and risks and benefits for those involved?
• Does the process allow for all voices to be heard and equally valued?
• How is participation organised? How are community members involved in conceptualising, establishing the goals of, planning, implementing and reviewing the intervention?
• What are the levels of participation - from manipulation, informing, through to consultation, to partnership and delegated power through to co-determination and citizen control?
• How has power changed in form or distribution in the process?
• How sustained and durable (or temporary and one-off) are the processes, spaces and mechanisms?
• What spaces are being used- are they formal or informal; open or closed?
• What learning or co-learning has occurred for whom?
• What changes have taken place in people’s confidence in their ability to analyse and bring about positive change and in their belief that decision-making can be influenced? (Wallerstein 2006; NIH 2011; Loewenson 2016).

Linking such questions to various dimensions of health and wellbeing implies assessing both the often shorter-term intermediary effects on health, on social processes and on systems, whether intended or unintended, and the longer term contributions to participatory decision making and improved health. For example, while the specific health outcomes may vary, depending on the issues addressed, Abelson and Gauvin (2006) identify generic aspects of the process and outcome impacts of participation in health systems, shown in Table 2.1 below:

Table 2.1: Measures of process and outcomes in participation in health systems

<table>
<thead>
<tr>
<th>Impacts on process</th>
<th>Impacts on outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Representativeness, inclusivity, participation rate</td>
<td>Influence on policies/decisions</td>
</tr>
<tr>
<td>Early, continuous involvement in planning</td>
<td>Agency responsiveness to participant inputs/demands</td>
</tr>
<tr>
<td>Process fairness, flexibility, transparency</td>
<td>Public views incorporated into decisions</td>
</tr>
<tr>
<td>Structured decision making</td>
<td>Impact on knowledge, awareness, capacities of communities and health workers</td>
</tr>
<tr>
<td>Resource accessibility</td>
<td>Public trust in services; public perception of consultation level</td>
</tr>
<tr>
<td>Task definition</td>
<td>Impacts on cost, performance</td>
</tr>
<tr>
<td>Independence, Interaction</td>
<td></td>
</tr>
<tr>
<td>Comfort, convenience,</td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td></td>
</tr>
<tr>
<td>Competence</td>
<td></td>
</tr>
<tr>
<td>Integration of values, ethics</td>
<td></td>
</tr>
</tbody>
</table>

Source: Abelson and Gauvin 2006
A CHOICE framework, shown overleaf, organises indicators of different dimensions of social power within a pathway from intrinsic measures of power (within people) amongst those involved to measures of external, organisational outcomes, and finally to measures of power within wider socio-political conditions. This shift in forms of power from that within communities to wider institutional change leads to changing areas for measurement, as shown in Table 2.2 (Wallerstein 2006).

Table 2.2 CHOICE framework

<table>
<thead>
<tr>
<th>Empowerment Outcomes:</th>
<th>Psychological</th>
<th>Organizational</th>
<th>Community/Political</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Intrapersonal change</td>
<td>• Well-functioning services</td>
<td>• Enhanced civil society</td>
<td></td>
</tr>
<tr>
<td>• political efficacy</td>
<td>• Publicly accountable</td>
<td>• structures for participation</td>
<td></td>
</tr>
<tr>
<td>• collective efficacy</td>
<td>• equitably distributed</td>
<td>• increased social capital</td>
<td></td>
</tr>
<tr>
<td>• belief in group action</td>
<td>• efficient</td>
<td>• Good governance</td>
<td></td>
</tr>
<tr>
<td>• motivation to act</td>
<td>• integrated</td>
<td>• decreased corruption</td>
<td></td>
</tr>
<tr>
<td>• perceived control</td>
<td>• culturally appropriate</td>
<td>• increased transparency</td>
<td></td>
</tr>
<tr>
<td>• Sense of community</td>
<td>• maintained overtime</td>
<td>• accountability</td>
<td></td>
</tr>
<tr>
<td>• community identity</td>
<td>• Organisational effectiveness and capacity</td>
<td>• Human rights</td>
<td></td>
</tr>
<tr>
<td>• bonding social capital</td>
<td>• sustainability</td>
<td>• Increased civil liberties</td>
<td></td>
</tr>
<tr>
<td>• trust</td>
<td>• constituency building</td>
<td>• Anti-discrimination policies</td>
<td></td>
</tr>
<tr>
<td>• reciprocity</td>
<td>• produce outcomes</td>
<td>• Pro-poor development</td>
<td></td>
</tr>
<tr>
<td>• Participation</td>
<td>• effective leadership</td>
<td>• increased micro-enterprises</td>
<td></td>
</tr>
<tr>
<td>• Critical consciousness of society</td>
<td>• empowering to members</td>
<td>• increased material assets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• bridging social capital</td>
<td>• enabling economic policies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Effective inter-organizational networks/partnerships</td>
<td>• Transformed socio-economic, environmental conditions and policies</td>
<td></td>
</tr>
</tbody>
</table>

Example: Women’s empowerment

| Autonomy: freedom of movement | Effective women’s organizations | Women’s political rights & economic opportunities |
| Authority: household decision-making | Sense of community/participation with women | Collective efficacy |

Source: Wallerstein 2006, p22 used with permission and see reference list

One framework, shown in Figure 2.2 overleaf elaborates the features within identified areas of positive outcomes of participation (Tachhi and Lennie 2014). It is intended for use in appreciative inquiries and evaluations that seek to encourage those involved on strengthening social participation as the processes for this evolve. The indicators in the framework are assessed in relation to the process (what happened), the practice or performance (how well) and roles (who). They are used to assess the effectiveness of processes, infrastructure and steps taken to achieve goals (how/how well); the changes in wellbeing outcomes for local people (what’s changed); and change in policies, systems and funding that local efforts may have contributed to (now being done differently). Further, as noted in the evaluation questions on the previous page, the changes in these indicators can be used to assess changes in people’s belief about what is possible and their willingness to act (can do/do next) (Inspiring communities CLD 2015).

As shown in the example in Box 2.1 overleaf, while the specific indicators used to address these broad questions are context dependent, there is a relatively consistent attention to key dimensions of process, practice, effectiveness, areas of social and system change and capacities for self-determination.
Figure 2.2: Framework of participation outcomes

Source: Tachhi and Lennie 2014 p8, Used with permission from Wiley

Box 2.1 Evaluating empowerment in Estonia

Upon the request of the Rapla County community, (a small inland region of Estonia), an evaluation was designed to assess changes in social power amongst programme participants collaborating with health promotion practitioners in the form of a self-evaluation. Between 2003 and 2005, stakeholders within three health promotion initiatives addressing safe community, harmful drug use and AIDS prevention developed a context-specific community empowerment tool to assess four domains of community empowerment, viz: activation of the community, competence of the community in solving its own problems, program management skills, and creating a supportive environment. Workgroup members expressed their understanding of each domain and developed 9 indicators for each domain, and a likert rating scale for their assessment. Community members were involved in each step and made decisions based on consensus. They carried out the evaluation with a local health promoter as an equal partner facilitating and mediating the process as needed. The paper provides further details. Source: Kasme and Andersen (2011)

Whatever questions and indicators are chosen, it’s important that they are: grounded in the collective vision/definition of what success looks like for those involved; are as simple, meaningful and useful as possible; and enable communities and stakeholders to unpack and interpret the evidence to inform future plans. They should be:

- Relevant and specific, related to areas the intervention is expected to make some difference in.
- Credible with a reasonable basis for their relationship to the changes intended.
- Unambiguous and clearly defined
- Consistent so that the same indicators are tracked over time, unless no longer relevant.
- Sensitive to change and easy to collect (van Es et al., 2015).
Measuring changes in participation and power

The discussion above on indicators and measures for assessing social participation and power raises the importance of understanding relationships in evaluations of what changed and why. This includes relationships between and across groups, interests, power and other forces. Various approaches are used to map and understand these relationships, outlined below with URL links to sources for further information.

Many evaluations map the stakeholders involved. Some go further to use stakeholder power analysis and influence mapping to map and discuss the power of different stakeholders and how this changes over time. Stakeholders are listed and a two-dimensional grid power/interest matrix used to identify power imbalances, mapping stakeholders by level of interest on the vertical axis and power on the horizontal, as shown adjacent (Mathur et al. 2007 p13). As a further development, a community tradeoffs assessment provides a further process through which those involved can define their interests and priorities and see how these relate to those of external stakeholders, to inform dialogue and interventions (Vermeulen 2005).

Social network analysis takes this analysis beyond the level of individual stakeholders to add the dimension of how stakeholders network, to explore the social relationships and strength of connections between people, institutions, and organizations. This method may assess the relationships between the different social groups involved in health initiatives, or of the groups and agencies that support or block these initiatives, or to assess the strength, sustainability and impact of community partnerships. The strength of the connections may be assessed on the basis of their similarity, frequency of interaction, or some other metric of interest. The connections are usually displayed as a visual graphic of interacting entities depicting both the interactions and their strength.

Box 2.2 Using power analysis for strategic action on the right to health

Hindhede and Aagaard-Hansen (2017) describe the use of social network analysis to assess and strengthen participation in health promotion programs in vulnerable areas of Denmark. Drawing on the concept of a community as one that reflects interactions between people, a community development project in a disadvantaged area of Denmark used social network analysis as a tool to display participation and non-participation in the community development and health promotion activities, to identify assets and capacities, mobilize resources and, finally, to evaluate the achievements. They found that close interpersonal ties among people as well as more tenuous relationships in networks can both be leveraged to foster greater cohesion and cooperation for health within an area.

Beyond the links and interests of different actors, evaluations of social power in health seek to understand changes in power and their role in health and social outcomes. Power analysis is used to map and navigate the different dimensions of power and its role in strategies for change. It maps in a matrix the actors, their interests and fears and how they promote their interests and take or block actions in ways that influence outcomes. It examines who has ‘gate keeper’ functions in relation to goals, ie. who controls access, or has easy access to influential people. Hunjan and Pettit (2011) describe this method further in an online practical guide for doing power analysis to support social change. Diverse methods may be used for power analysis. Stories about experiences of power, powerlessness or empowerment can be used, for example, to analyse the sources, positions, expressions and forms of power in the stories and how they are expressed. How these methods are used in evaluation is further discussed in Brief 3.
Actionaid and HRBA (2012) give examples of other ways of assessing and evaluating power. For example:

- **In power mapping**, a map is used to show the power relations among key stakeholders using a visual tool (see Figure 2.3). The mapping is dynamic – it reflects a particular moment in a changing situation, and can be used to point toward action.

- The **Onion tool** is used for deeper analysis of some of actors that influence change. The outer layer contains the positions people take publicly. Underlying these are interests – what people want to achieve from a particular situation. Finally, at the core are the most important needs which must be fulfilled.

- **Risk analysis grids** are grids drawn on a piece of paper or a board and used as a framework for discussing the likelihood of occurrence and degree of risks in engaging power. In identifying measures of risk it can be used, for example, to choose actions to address them, or to assess how risks may change, or have changed as a result of chosen actions (see Figure 2.4).

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**Figure 2.3 Power mapping**

Source: Actionaid and HRBA 2012 p42 Under creative commons license

**Figure 2.4 Checking for degrees of risk**

Source: Actionaid and HRBA 2012 p42 Under creative commons license

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A **forcefield analysis** is another type of risk analysis tool. It is used to identify the different forces that may influence work. Forces can be people or organisations or events. They may support or block the changes or goals intended. A forcefield analysis helps to identify the strength of the forces. To use it you draw a horizontal time line with your starting point at one end and your objective or goal at the other end, as shown overleaf in Figure 2.5.
Evaluating efforts that build social power and participation in health systems

On the top of the time-line are all the forces (people, organisations or events) that may stop you from achieving your objective. Each force has an arrows shown in red pushing you backwards. The thicker the arrow, the stronger that force. The closer the arrow to the time-line the closer it is to you. Underneath the time-line are the forces that help you achieve your goal, with arrows pushing you forwards. As before, the thickness of the arrow and closeness to the line reflect how strong and close the force is. This visual allows you to consider which forces can be influenced and what strategies to use. Repeating it at various stages shows how these forces have changed over time, and can be used to point to how interventions on social participation in health have changed the forces at work. A resource by Actionaid provides further information.

It is evident that many of these measures of social participation and power are presented as visual, qualitative evidence. While quantitative information is useful, as evidence for all to examine, question and interpret, combining this with qualitative and visual forms of evidence can bring these numbers alive. This combination of forms of evidence also allows for diverse contributions to interpretation of the evidence, with visual evidence “keeping the interpretation of numbers open, allowing for new ideas and directions to evolve” (Saegert 2004 p 9).

This brief has outlined the challenges in and some options for defining and setting indicators of social participation and power, used in evaluations of interventions. While evaluations often search for quantitative evidence and such data can be used in evaluations of outputs and outcomes on social power, the brief highlights a range of qualitative forms of evidence to obtain a deeper understanding of processes, relationships, outcomes and factors relating to participation and power, in accessible ways for community engagement. The brief points to questions and measures for assessing the processes, practices, capacities, relationships and power relations involved in strengthening social participation and power in health. Brief 3 discusses the methods, largely participatory, for evaluating change in these dimensions of social participation and power and their association with health outcomes.

References


Useful websites:

1. Institute of Development Studies Participatory Methods: www.participatorymethods.org/method/power and http://www.powercube.net/