

# Introduction: Real Time Monitoring for the Most Vulnerable – Investing in Common Guidance for Equity and Quality

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**Abstract** Growth in the use of real-time digital information for monitoring has been rapid in developing countries across all the social sectors, and in the health sector has been remarkable. Commonly these Real Time Monitoring (RTM) initiatives involve partnerships between the state, civil society, donors and the private sector. There are differences between partners in understanding objectives, and further divergence often occurs due to adoption of specific technology-driven approaches and because profit-making is a part of the equation for some partners. With the swarming, especially of pilot mHealth initiatives, in many countries there is risk of chaotic disconnects, of confrontation between rights and profits, and of overall failure to encourage appropriate alliances to build sustainable and effective national RTM systems. What is needed is a country-led process for strengthening the quality and equity sensitivity of real-time monitoring initiatives. This article proposes the development of an effective learning and action agenda centred on the adoption of *common guidance*.

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## 1 Background

Over the past year, the Institute of Development Studies (IDS), commissioned and guided by UNICEF's Division of Policy and Strategy, has carried out a multi-country assessment of initiatives that collect high frequency and/or time-sensitive data on risk, vulnerability and access to services among vulnerable children and populations and on the stability and security of livelihoods affected by shocks. The study, entitled Real Time Monitoring for the Most Vulnerable (RTMMV), began with a Desk Review of existing Real Time Monitoring (RTM) initiatives and was followed up with seven country studies (Bangladesh, Brazil, Romania, Senegal, Uganda, Vietnam and Yemen) that further explored and assessed promising initiatives through field-based review and interactive stakeholder workshops.<sup>1</sup> This *IDS Bulletin* brings together key findings from this research.<sup>2</sup>

Section 2 of this introduction discusses the global context for RTM and Section 3 then outlines the

structure of this *IDS Bulletin*, which has two overview articles building on the Desk Review (Lucas *et al.* 2011) undertaken prior to country fieldwork and then separate sections on RTM of the Global Crises, the Social Sectors and in Emergencies and Disasters. Section 4 then proposes a way forward, which includes a descriptive comparison of the use of common guidance in the field of microfinance, as well as exploring how common guidance could be applied to strengthen RTM initiatives in terms of their focus on equity and quality of information generated. Section 5 concludes.

## 2 The global context

### 2.1 The ICT revolution

Much of the recent interest in RTM has been driven by Information and Communication Technology (ICT) innovations even though, as illustrated by three of the country studies (Bangladesh, Romania and Vietnam), much can be achieved by adapting traditional qualitative and quantitative data collection methods.

Developing countries have seen rapid growth in the use of these technologies. By the beginning of 2011, over 3.5 billion of the 5.3 billion mobile phone users were in low- and middle-income countries. The digital divide remains, but is closing, and information technology is now a major feature of emergent development practice. It thrives on the excitement of the potential development gains from the generation and use of real-time information. A fast-growing area of applications relates to strengthening service delivery through the use of ICTs, especially mobile phones. This is true for agricultural and financial services, both central to livelihoods, as well as for social services, where recent growth in the use of real-time digital information for monitoring in the health sector has been remarkable. A typical example is the widespread use of mobile phone messaging services that provide community health workers with the ability to feed back information on the health status of infants and young children and receive immediate advice on how to proceed from qualified medical personnel. The real-time nature of the exchange holds the promise of immediate welfare gains from improved service delivery.

Use of digital information is set to grow in the social sectors. Many pilot initiatives have resulted from the appetite of donors and their development partners to exploit innovative opportunities, acquire better information and deliver better results. The private sector (telecoms and digital service providers) are also partners and wish to generate revenues through airtime sales and use of digital services. In a purely private sector world these pilots would survive or exit on commercial grounds; in national and international development practice the exit and survival rules are different, and may not be either results-based or consistent.

For some, successful maturation of RTM in the social sectors will be measured in terms of scale and sustainability. However, for the most vulnerable children this may not be enough. Explicit effort is needed to ensure the digital divide is not simply transformed from an international to a national phenomenon. The experience of RTM from rich countries may not be relevant or at least not imminently, so there is a clear learning need if developing countries are to maximise their potential. The volume, variety and velocity of information flows now becoming

feasible means that these innovations hold enormous promise; the welfare gains from good design of RTM could be significant.

## 2.2 *The global economic crises*

The recent twin crisis of the fuel/food price increases and the global recession raised concerns over their potential impact on the vulnerable. The UN Secretary-General's call to harness innovations to protect the vulnerable during global crises provided further impetus to explore ways to identify in a timely manner the different impacts of the global economic crisis on children and poor households and inform policy and programmatic responses to respond to their urgent needs. This call is timely and will remain relevant as the world is increasingly confronted with the systematic threats stemming from climate changes, changing demographics, and the ever increasingly integrated global economy which accentuates volatility.

A key initiative in this area is the Global Pulse, which functions as an innovation laboratory within which to explore how the latest advances in data science and technology can complement our existing systems for crisis monitoring. It is predicated on the understanding that today 'new data' (data exhaust, online information, citizen reporting, and physical sensors) is being generated as a by-product of people's activities at a rapid speed, and that this deluge of passively produced data may hold insights about how, for better or worse, people's lives are impacted by shocks like volatility in food and fuel prices (UN Global Pulse 2012).

At the same time, developing real-time information streams is also very much about new ways of collecting traditional data, and of facilitating the sharing of existing data and knowledge across sectors and institutions. In many countries, promising RTM initiatives have been undertaken in recent years to better monitor crisis impact on the vulnerable populations (e.g. the Vietnam, Romania and Yemen studies included in this *IDS Bulletin*).

Taking a longer perspective, different methods of RTM have been tried in diverse settings, and progress has been made in improving routine data collection systems in many countries over the years (see Lucas *et al.* 2011). However, the existing literature on the learning on RTM is

sketchy, and considerable knowledge gaps exist as to what works and in what settings. There remains a need for a systematic assessment of the past and current RTM initiatives as a first step on a steep learning curve.

### 2.3 Monitoring Results for Equity System (MoRES)

A focus on the most vulnerable is at the heart of an equity agenda. Despite economic growth spells in most countries during much of the past two decades, inequalities have risen *within* countries, including those having recently gained middle-income status. Several reviews of the MDGs show that in the poorest countries also there are often substantial inequalities in MDG progress between population groups.

UNICEF have made an important contribution to the evidence base<sup>3</sup> on inequality through the Multiple Indicator Cluster Surveys (MICS) – now in a fourth global round, through country offices providing national data annually and through collating other data sources.<sup>4</sup> A UNICEF analysis of data from Demographic and Health Surveys (DHS)/MICS surveys for 37 countries showed that in 22 of these countries more than 50 per cent of under-five deaths occurred in the two poorest quintiles; and in 12 countries the proportion of under-five deaths was at least 30 per cent higher in the poorest two quintiles compared with the richest two quintiles (UNICEF 2010).

UNICEF has made further contributions to the inequality debate through a seminal study that analysed the costs of focusing on the most disadvantaged. It is often argued that such targeting, even if desirable on moral grounds, would be excessively expensive and not cost-effective, but the UNICEF study indicates that this is not the case. The *Narrowing the Gaps* study (UNICEF 2010: 5) concludes that ‘First, an equity-focused approach will accelerate progress towards the health MDGs faster than the current path. And second, it will be considerably more cost-effective and sustainable than the current path in all country typologies.’

UNICEF analysis resonates strongly with growing concerns in the international community about the consequences of inequality for security and development. These concerns may or may not result in decisive shifts in development practice more broadly but UNICEF have taken a lead,

refocused their corporate strategy on equity and developed a detailed analytic framework for their Monitoring Results for Equity System (MoRES). Critically, UNICEF observe that existing data systems are rarely designed to trigger corrective actions, and a core MoRES concern in strengthening data collection and flow is to link monitoring to corrective actions. The aim of MoRES is to *monitor in real time* how the equity refocus translates into results for disadvantaged children and triggers corrective action where and when progress is insufficient. It is therefore opportune to assess how technology-driven developments in RTM can best serve this aim. Developments in RTM on social service delivery are a resource for UNICEF and its partners to help shape priorities and to strengthen the national-level focus on vulnerable children. However, as discussed more below, it is a contested space where equity concerns compete with other agendas and UNICEF leadership will be important if the potential is to be realised.

## 3 Structure of this IDS Bulletin

### 3.1 Desk Review

The next two articles are based on the Desk Review (hereinafter Lucas *et al.* 2011). The first discusses the types of monitoring instruments that are most widely used – community-based monitoring, sentinel site surveillance, routine data collection and surveys. The second then looks at their strengths and weaknesses along with the use of ICTs. These articles also draw on a number of interesting recent applications where real-time information is being collected and about which there is sufficient information to allow learning.

These cases reflect the enthusiasm for and imagination in using ICTs for multiple types of social monitoring; the potential gains from RTM innovation are generating large numbers of pilot projects. Globally, technology is also advancing and becoming cheaper, as discussed in Lucas *et al.* (2011), and the private sector is energetically developing ways of collecting and using information that exploit this enhanced potential. Inevitably these commercially driven innovations will influence developing country applications in the social sectors and RTM growth is set to accelerate.

Lucas *et al.* (2011) suggest that the large number of different RTM initiatives in relation to

**Table 1 Country studies: themes and objectives**

	Service provision	Programme effectiveness	Policy influence	Advocacy	System integration
Child protection	Senegal	Senegal			Senegal
Education	Bangladesh	Bangladesh	Bangladesh	Bangladesh	Bangladesh
Health	Brazil, Uganda (mTrac)	Brazil, Uganda (mTrac)	Brazil, Uganda (mTrac)		Brazil, Uganda (mTrac)
Youth			Uganda (U-report)	Uganda (U-report)	
Vulnerable minorities	Brazil	Brazil	Brazil, Romania, Vietnam	Brazil, Romania, Vietnam	Brazil
Response to macro shocks		Yemen	Romania, Vietnam, Yemen	Romania, Vietnam, Yemen	

UNICEF focal areas are a huge potential resource but there is evident scope to strengthen their utility for equity-focused programming and to build national RTM systems that explicitly address the needs of the most vulnerable. While issues of access and inclusion were identified as important barriers to equity in RTM, it is also recognised that ICTs can serve as a potential solution to address many of the traditional approaches to monitoring. This highlights the importance of design when introducing ICT with a focus on how these new technologies can be strategically harnessed to strengthen monitoring systems.

### 3.2 Country studies

Field research was carried out during 2012 with two common objectives: (i) to assess the process and impact of the specific RTM tool or system, and (ii) to gauge the potential for RTM in contexts with different strengths of routine data collection efforts. The initiatives selected for field research represent a range of RTM methods, objectives, and settings in core UNICEF interest areas with a broad regional coverage (Table 1). These studies are not independent evaluations but assessments on initiatives that are recently completed or currently under way. While clearly we are yet low on the learning curve, the field research affords some important insights on key challenges facing RTM initiatives and emerging good solutions.

An overview of the initiatives covered in the field research is described below to guide readers to the country studies of their interest.

#### *Bangladesh: BRAC Education Programme*

A promising and innovative example of RTM supported by UNICEF is found in Bangladesh in the pre-primary education programme operated by BRAC. In this programme, RTM is conducted to improve outcomes as well as programme implementation. The BRAC initiative is unique due to the usage of monitoring data by multiple users, which serves both longer-term, evaluative functions as well as immediate feedback to improve all levels and functions of the institute and to enhance learning. The monitoring system is effectively a random sampling exercise to track quality and outcomes, with the data collection process designed to ensure a local response. This initiative also stands out in design considerations aimed at ensuring the inclusion of the most vulnerable children as well as the rapid feedback needed to improve their learning outcomes.

#### *Brazil: Indigenous Health and Vulnerability Monitoring Systems*

Under Brazil's national health system, an Indigenous Health Care Subsystem was established and organised into 34 Special Indigenous Health Districts. The Xavante Special Indigenous Health District was selected as a field site for the RTM case study, which included local assessment of the Indigenous Health Care Information System as well as the Food and Nutrition Monitoring System for Indigenous Peoples. Frequent updating is a key element in the usefulness of data for RTM, and among indigenous peoples the high levels of mobility, as well as high birth and mortality

rates, make this all the more important. The Brazil case may be of particular relevance in settings where routine data collection systems may be strong but face challenges of integrating different monitoring systems to ensure universal access for the most disadvantaged groups.

#### **Romania: Rapid Assessment of the Social and Poverty Impacts of the Economic Crisis**

The rapid assessment (RA) was set in motion in 2009 after it became evident that the global economic crisis would have a significant impact on Romanian households. UNICEF and the World Bank jointly initiated the RA, which also aimed to overcome the shortcomings of existing data collection and monitoring systems to generate real-time economic and social information on the crisis. The innovative use of both quantitative and qualitative methods is noteworthy. The quantitative component comprised a nationally representative household survey to be repeated every six months, which is accompanied by a qualitative component based on sentinel-site monitoring. The potential role of RTM in a middle-income setting where routine data collection efforts are strong is also explored.

#### **Senegal: Database System for Case Management for Child Protection**

UNICEF Senegal initiated the Database System for Case Management for Child Protection to support children who are victims of abuse and exploitation, or who are living in high-risk situations. The higher-level objective is to reintegrate child victims with their families and communities, and to provide them with a protective environment in which to grow and develop. The database system aims to achieve this by improving partner coordination and increasing the efficiency and effectiveness of case management processes, including monitoring. Operationally, organisations and services working with vulnerable children use mobile phones and Personal Digital Assistant (PDA) handsets to upload information about a specific case into an online database. The platform is currently used by local partners who are in direct contact with victimised children, although the intention is to achieve integration and users at more central and aggregate levels over time. The online database was developed to support an existing case-management system and launched in three prefectures in the country with the expectation that it will be scaled-up nationally.

#### **Uganda: U-report and mTrac**

U-report and mTrac represent two promising examples of RTM that harness ICT innovations. U-report was conceived as a social monitoring system using RapidSMS. It offers young Ugandans a chance to voice their opinions on issues that they care about by giving them access to a free SMS service through which they can send in text messages, respond to polls, and receive factual information and results. U-report has the overall objective of empowering youth and does not specifically target the most vulnerable. Nevertheless, specific issues tackled by U-reporters often do address the needs of vulnerable children, and U-report also possesses the capability of soliciting information from specific areas as well as age groups that are vulnerable. UNICEF supports U-report by developing the software application and building a web platform for managing communications between the social monitors, called U-reporters, and the central managers.

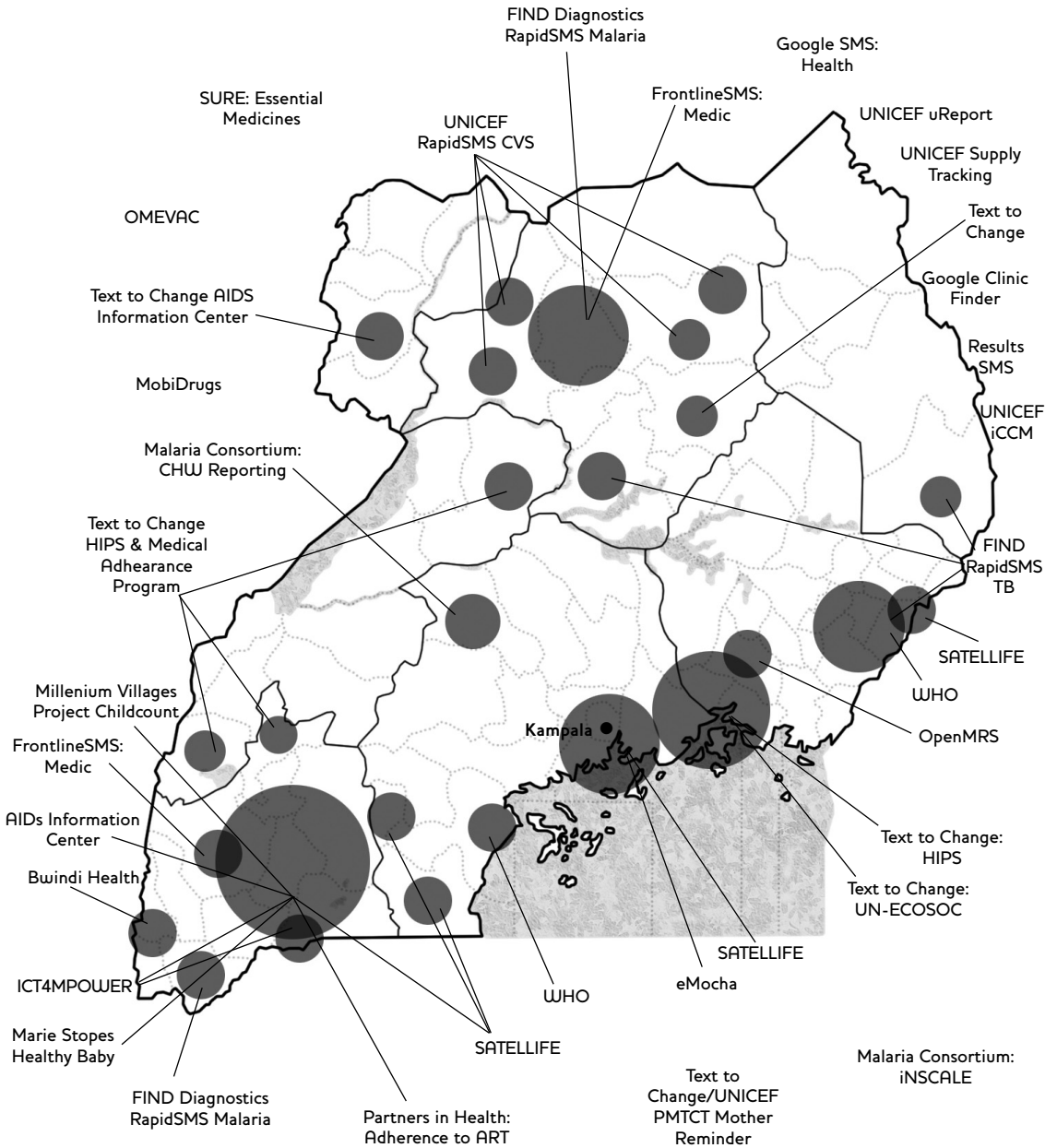
Uganda's mTrac uses RapidSMS to accelerate the submission of community and health facility data from local to district to national levels, including disease surveillance, malaria treatment and drug stock indicators. The mTrac electronic monitoring initiative has two main components:

- 1 strengthening the Health Management Information System by providing real-time disease surveillance, malaria drug stocks and logistics information; and
- 2 engaging the larger stakeholder community to report service delivery bottlenecks, to generate dialogue and calls for action where failures occur, and to strengthen accountability and governance around timely provision of malaria drugs.

#### **Vietnam: Rapid Impact Monitoring (RIM)**

The 2009 RIM initiative in Vietnam was one of a number of studies undertaken in East Asia and Pacific countries aimed at assessing the initial poverty and social impacts of the global economic crisis. The RIM designs were based on an initial identification of key mechanisms by which the impacts of the crisis might be transmitted. The objective of the RIM initiative was to explore this hypothesis, using qualitative methods to determine how these mechanisms operated and the extent to which specific

Figure 1 The risks of a free-for-all approach – mHealth pilot initiatives in Uganda



Source Lemaire (2011).

vulnerable groups might be affected. As the RIM gained interest, subsequent rounds were carried out with expanded objective to include also the effects of policy responses as well as the role of formal and informal social protection. The implications of the increasing demand on the RIM initiative as well as sampling issues in a 'purposive' design are explored.

#### **Yemen: Social Protection Monitoring Survey**

The Yemen case is notable for the promising RTM solution to the challenges of monitoring the impact of rapidly deteriorating socioeconomic and political situations in a data-scarce environment. Motivated by the impacts of the socioeconomic deterioration on vulnerable families, UNICEF Yemen and its partners initiated a RTM pilot survey to collect timely information on some of the poorest segments of the population. The sense among UNICEF staff was that the rapid increase in food, fuel and water prices, coupled with the breakdown of social services and a lack of resilience among vulnerable Yemeni households, would produce a large-scale 'silent' emergency. The Social Protection Monitoring Survey pilot, which was carried out biweekly initially and then monthly, aims to trigger timely responses by humanitarian actors and national counterparts before the materialisation of a full-blown emergency. This RTM exercise is currently being scaled-up nationally with enhanced designs.

## **4 The way forward: common RTM guidance for equity and quality**

### **4.1 Overview**

As will be seen in the articles in this *IDS Bulletin*, the RTMMV project has yielded rich learning on key aspects of RTM and how to make it effective and sustainable. A key impression however is the wide range of experience in the practices of RTM as well as the diverse, complex settings that underline the quality, inclusivity and relevance of the RTM practices. In particular, there is currently a swarming effect as more and more service providers invest in ICTs to strengthen internal information flows and improve programme performance. Figure 1 illustrates the swarming of pilot RTM health initiatives that are using modern ICTs in Uganda (Lemaire 2011).

In business theory, this swarming is a part of the innovation cycle and profitability will determine

winners (survivors) and those that exit. However, in the multi-agency, multi-fund development world of these health initiatives, there is no such market mechanism.

The search for new and better ways of monitoring and delivering programmes through RTM is exciting and worthwhile. The development of new partnerships, especially those that break down the traditional hostility often associated with public-private agreements, also has enormous promise. However, survival may be idiosyncratic and poorly linked to comparative performance. With the swarming, especially of mHealth initiatives, in many countries there is risk of chaotic disconnects, of confrontation between rights and profits, and of an overall failure to encourage appropriate public/private alliances that build sustainable and effective national RTM systems.

What is needed is a country-led process that can strengthen the quality and equity sensitivity of such RTM initiatives. There is a potential learning and action agenda centred on the adoption of country-specific RTM *common guidance*. Establishing common guidance for equity and quality indicators and applying it through core performance indicators will help lend strategic direction to the evolution of RTM.

Common guidance has been developed and used in other sectors, such as microfinance, where there are multiple stakeholders and definition of systemic objectives has become contested. In the social sectors of central UNICEF concern, RTM involves partnerships with the state, civil society, other donors and the private sector. There are differences between partners in the understanding of systemic objectives and further divergences may occur due to the adoption of specific technology-driven approaches and because profit-making is a part of the equation for some partners. UNICEF and other rights-based development actors will need creative strategies in working with these partners to promote quality and, especially, equity. The use of common RTM guidance could be a central part of such strategies.

### **4.2 The microfinance experience on common guidance**

In the early days of microfinance there was a clear focus in leading Microfinance Institutions (MFIs) on targeting the poor, particularly

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**Box 1 Common guidance: the case of microfinance**

The Social Performance Standards Report was created by MIX to collect information on the 11 core indicators selected by the Social Performance Task Force. The indicators follow a specific framework that looks at the entire process by which social impact is created. The framework includes analysis of the intent of the institutions, the effectiveness of their internal systems and activities in meeting these objectives and success in effecting positive changes in the lives of clients.

Source [www.sptf.info/resources/mix-sp-indicators](http://www.sptf.info/resources/mix-sp-indicators).

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women. As the industry matured and there was evidence MFIs could also deliver sustainability and profitability there was growing appetite from commercial investors to invest in the sector. Financing in the sector increasingly shifted from public to private funds and this shifted incentives from satisfying donors on outreach to satisfying investors on financial sustainability and growth. Driven by financing, the agenda shifted; poverty impact became social performance and poverty targeting was replaced by financial inclusion. There was a clash of cultures and values, and trepidation that commercialisation would fundamentally undermine prospects for poverty reduction impact in future MFI growth.

In response to this situation, in 2005 the Ford Foundation, with the engagement also of the Consultative Group to Assist the Poorest (CGAP) and other industry stakeholders, created the microfinance Social Performance Task Force (SPTF).<sup>5</sup> Their ambitious objective was to agree a set of common social performance standards. They funded the work of a number of sub-task forces and supported a series of international meetings that were designed to address the perspectives of different stakeholders on the social mission of MFIs. These meetings were well attended and indeed have grown in significance. The ‘task force’ now has over 1,000 members. In this process a number of tools were developed and tested to assess their utility for social performance assessment. The most useful of these then went through a further process of ‘consumer testing’ by MFIs and a user-satisfaction report was issued. Through this validation process the industry agreed on a common set of requirements, with matching – country-specific – performance indicators, and the means to measure them. A common reporting format (see Box 1) was also agreed. By August 2008 these standards had been adopted

by the Microfinance Information Exchange (MIX)<sup>6</sup> which links MFIs to potential investors. This was important since completing the SPTF report is voluntary but each MFI profiled on the Exchange has a vested interest in demonstrating its social performance as a means of attracting investment.

The great achievement of the SPTF was its ability to deliver results despite the cultural differences across a range of stakeholders, but especially between stakeholders from the finance sector and stakeholders from development. It worked on a basis of respect for all stakeholders and a commitment to ensure their views were represented. The microfinance world is far from a shining beacon of development success but it has made considerable contributions to poverty reduction. The SPTF in effect rescued the MFI poverty and social performance agenda from the sidelines, where it was increasingly, and helped MFIs in:

- Serving increasing numbers of poorer and more excluded people sustainably;
- Improving the quality and appropriateness of financial services available to target clients through systematic assessment of their specific needs;
- Creating benefits for clients of microfinance, their families and communities in terms of: increasing social capital, assets, income, and access to services; reducing vulnerability; and fulfilling basic needs;
- Improving the social responsibility of the MFI towards its clients, its employees and the community it serves.

#### **4.3 Lessons for RTM in the social sectors**

This is an important example for RTM in the social sectors because many of the same stakeholder differences in culture and values are



present in the current wave of RTM innovations. The leadership of respected stakeholders – the Ford Foundation and CGAP – was critical in getting the process going and ensuring it moved with purpose. They have been successful in setting industry guidance that has wide buy-in and that focused the industry on its social mission from which it was increasingly drifting. This is the potential role for UNICEF using its technical, advocacy and convening power to ensure that the development of common RTM guidance addresses equity. As the microfinance example suggests, this will require support from all partners. But it will also mean being able to influence the Business for Development models that their private sector partners utilise, as well as guiding their more regular partners in non-governmental organisations (NGOs) and Ministries of Health, Education and Women’s and Children’s Affairs.

Many commercial stakeholders might declare themselves comfortable with an equity agenda and a commitment to data quality, but getting agreement to report against equity and quality guidance is likely to reveal reservations and shallowness of commitment when these aims do not fit into their Business for Development plan. Reviewing some existing industry initiatives to promote public–private partnerships in mHealth, the centrality of technology hype and attention to profits as core drivers of sector growth is very apparent.<sup>7</sup> The Business for Development model has enormous attraction for the technical skills, know-how and ways of operating that it brings to public–private partnership and will be central to the evolution of RTM in the social sectors; but it will also be a challenge to ensure that sector development is effectively sensitised to the opportunities that RTM offers for addressing equity.

#### 4.4 Equity

Adopting RTM common guidance on quality and equity is not about developing new programme and national indicators – it is about developing the capacity of monitoring systems to report reliably upon agreed indicators. Such RTM initiatives would be assessed using common guidance for core performance indicators including:

- Visibility/disaggregation of data on socially excluded groups – focusing on inclusivity and addressing horizontal equity;

- Specific evidence on the poorest and most economically vulnerable – focusing on inclusivity and addressing vertical equity.

Broadly, two types of monitoring will be most commonly appropriate for promoting equity-focused RTM:

- 1 Interventions with a specific focus on improving information systems that involve tracking short-term change to generate data with the potential to initiate rapid response mechanisms. Such responses may range from a hospital referral for an individual patient to a high-level decision on a major reallocation of resources.
- 2 Monitoring and evaluation of other interventions, predominantly in the areas of nutrition, maternal and child health, education, child protection and social protection. Real-time data would typically be used to track progress, often by compiling data generated as a by-product of intervention activity, and provide the evidence required to support modification of the implementation process.

As the Bangladesh example (see Akhter and Chaudhuri, this *IDS Bulletin*) illustrates, the indicators will always be country and programme-specific. Table 1 is illustrative of the potential scope of an RTM equity strategy at country level, with row headings of six UNICEF programme areas (objectives) reviewed in the country studies and column headings of five programme types (themes) from those same studies. Each of the cells is an area where, according to local priorities and current programming, indicators might be developed to monitor performance.

The country studies in Senegal and Uganda also highlighted the need for common guidance on confidentiality, data protection and rights of individual participants. Evidence on child protection in Senegal and youth reporting – social monitoring using RapidSMS – in Uganda, both raised questions about the anonymity of records and the fear of adverse consequences from failures on confidentiality or anonymity. This was a central concern in Senegal where different partners had constraints on sharing information which resulted in duplicated caseloads. Common RTM guidance has to address the need for secure confidentiality balanced with equitable access (e.g. in relation to health and child protection).

#### 4.5 Quality

Other aspects of RTM must be addressed if evidence on equity is going to be of value. Effective response, as discussed, is a core attribute of RTM. This and four other aspects of quality are highlighted in this section which starts with an overview discussion of data quality.

Traditional definitions of the quality of quantitative data focus on concepts such as ‘validity’, ‘accuracy’, ‘precision’, and ‘reliability’. However, it is evident that such terms can have no absolute meaning but must be defined in relation to a specific intended use. Thus, the traditional height–arm circumference technique might be described as valid, accurate (i.e. unbiased), reliable (i.e. repeatable) and (sufficiently) precise *for use* in screening for malnutrition. Such judgements will typically also be context-specific. No reasonably well-equipped hospital would consider such a technique appropriate for monitoring the progress of an individual patient.

Thus, where quantitative rapid monitoring data has such a specific use, in a given context, it should be relatively straightforward to define (if not always to assess) the traditional dimensions of data quality. However, the use of a common guidance approach to quality that is intended to address both quantitative and qualitative real-time monitoring data raises a number of interesting issues. To some extent, the traditional quality criteria can again be applied if the data are to serve a specific purpose. We can require qualitative data to be ‘accurate’ in the sense that they can be used to generate unbiased (in both the technical and everyday uses of this term) indicators. For example, qualitative exercises with migrant workers in an industrial park as part of the Vietnam Rapid Impact Monitoring study (see Lucas and Chaudhuri, this *IDS Bulletin*) indicated that they saw return to agricultural work as ‘*a last resort*’ (Anh and Thi 2010: 14). It would be reasonable to consider if this statement was an accurate/unbiased reflection of the general attitudes of these workers by considering factors such as the characteristics of the interviewer (were they individuals who were likely to have distorted the opinions expressed?), the interview techniques and instruments adopted, and details of the sampling procedures undertaken.

Similarly, an assessment of reliability might consider if the same finding would have been

observed by another interviewer on another day, and an assessment of precision would ask questions as to the range of possible interpretations attaching to qualitative findings. The ‘validity’ criteria relating to qualitative data has been the subject of considerable debate between researchers working within different traditions. However, from a pragmatic standpoint, few would argue that some qualitative approaches to the assessment of concepts such as ‘vulnerability’, ‘wellbeing’ or ‘equity’ could be seen as having greater validity than others. This would seem to suggest that assessment as to whether qualitative monitoring data had attained a common standard of validity would be a reasonable possibility. It has indeed been argued that it is possible to construct ‘*shared standards for assessing measurement validity*’ for qualitative and quantitative data (Adcock and Collier 2001).

Issues that are more problematic arise when, as in many of the examples considered in the desk and country case studies, the monitoring data collected were not intended for narrowly defined specific uses. Individual data items (quantitative or qualitative) stored in the child protection database in Senegal, for example, may in some circumstances be sufficient to indicate the need for an urgent response where the wellbeing of a given child is threatened. In many cases however, multiple indicators might be collectively assessed to support a judgement call that action is necessary. Any single indicator might not be considered sufficiently valid, accurate, precise or reliable to initiate a response – it would be the fact that multiple indicators were pointing to the same conclusion that met the required threshold for action. An even more obvious example would relate to the qualitative rapid assessment exercises in Romania and Vietnam that were intended to assess broadly the effects of economic shocks on vulnerable populations.

One possible approach (adapted from Byrne *et al.* 2008) to a more general definition of common quality guidance for rapid monitoring data that could address this issue, would be to consider if they can be described as ‘fit for purpose’ – which might be taken as implying that the data should not mislead users in any planned application. They should support, not distort, evidence-based decision-making processes in all those areas for which they were intended to be used. This definition can be used to assess both quantitative

and qualitative monitoring data sets and though it clearly does not lead to quantifiable indicators that can determine if ‘common guidance’ has been attained, it does seem to be a useful pragmatic guide that has the potential for rigorous application.

Finally, it may be interesting to consider how to address RTM systems that adopt ‘combined methods’, seeking to construct an overview based on the use of a range of quantitative and qualitative methods. Perhaps the most promising approach to these issues is provided by the ‘meta-narrative’ framework proposed by Greenhalgh *et al.* (2004). This argues that the findings from research exercises should be judged strictly according to the standards of rigour defined by their corresponding disciplinary area. In the present context this might imply, for example, that the health and nutrition surveillance systems discussed in the Brazilian case study should be assessed in line with established guidelines that would normally be applied to routine patient record systems. Similarly, individual components of the qualitative studies in Romania and Vietnam could be reviewed using the quality criteria demanded by professional anthropologists, sociologists or specialists in participatory research methodologies.

#### 4.5.1 Data use and effective response mechanisms

The definition of RTM adopted in this study prioritises the use of monitoring data to address the needs of poor and vulnerable populations. The aim is that monitoring data should have the capacity to generate a timely, effective and appropriate response. The nature of that response will vary depending on the purpose of the monitoring exercise. In some cases it may involve the provision of services to an individual in need, in others the more effective implementation of programme activities, and in yet others providing evidence that has the potential to influence government policy or change public perceptions. The effectiveness of monitoring response will be a function of programme design requiring integration of feedback loops from monitoring to programme implementation. What constitutes a feedback loop generating a real-time response will therefore depend on the nature of the programme: real time in the realm of disaster response is not the same as in the realm of public policy. Following this central principle, our

common quality guidance for quality must include an assessment as to whether the monitoring activity at least includes mechanisms that appear to have a reasonable possibility of achieving the intended responses. We might compare this requirement with the definition of real-time monitoring proposed by Global Pulse:

Data that... is *made available* within a timeframe that *allows action to be taken* that may affect the conditions reflected in the data [our italics].

We would suggest that this definition is far too passive for our purposes. It implies that there are actors who are ready and waiting to take up the available data and use it to initiate action. We would see the aim as being to understand how decision-making processes are made and to identify and adopt mechanisms that can insert monitoring data in the most appropriate format into that process at the location and time when it is most likely to generate the intended response. As argued above, to realise the development promise of RTM this is an intrinsic quality requirement.

#### 4.5.2 Other aspects of quality

##### *Accountability*

Real-time monitoring exercises are intended to generate a response, to result in actions that will have consequences for individuals, often children or members of vulnerable groups. An obvious example would relate to the Senegal child protection database, where the entry of incorrect information could have very serious implications for the wellbeing of individual children. This immediately raises questions as to who will take responsibility for the operation of the monitoring activities and how they will be held to account, particularly when those activities have unfavourable consequences. We would therefore propose, as a recent World Bank paper (Croke *et al.* 2013) also underlines, that any common guidance approach includes an assessment as to whether appropriate and effective accountability mechanisms – addressing the potential needs of all stakeholders but with a particular emphasis on the vulnerable – have been incorporated into the monitoring procedures.

##### *Stakeholder engagement*

Experience suggests that the quality of any monitoring exercise will be greatly enhanced if it

enjoys the confidence and support of its key stakeholders, both those about whom information is sought and those expected to make use of that information. This situation can be greatly enhanced if those designing and implementing the intervention are open to genuine engagement with those stakeholders. For example, in the Brazilian country study, the intended beneficiaries of the real-time monitoring system are indigenous communities who, given past experiences, tend to have considerable doubts as to the underlying motivations of those responsible for the system and are also willing to act on those doubts by withdrawing cooperation. Unless there are genuine efforts to work with these communities and a willingness to adapt the design and implementation procedures in line with community preferences, intended outcomes may be seriously jeopardised.

An additional common standard relating to stakeholder engagement would therefore seem appropriate. This should focus on the extent to which key stakeholders have been identified and mechanisms developed to both encourage their involvement in the monitoring activity and allow their wishes to influence its design and implementation.

#### *Interoperability*

In recent years, the proliferation of real-time monitoring exercises, mainly driven by mobile technologies, has given considerable cause for concern. Many of these exercises are relatively small-scale and time-limited. They are usually set up in isolation, with little reference either to similar initiatives in neighbouring areas or to existing national data systems. As indicated above, this process has become known as ‘swarming’. For example, Figure 1 identifies almost 40, mainly mutually incompatible, mHealth interventions in Uganda, a situation which resulted in the government calling a moratorium on any new projects.<sup>8</sup> With this in mind, we would argue for a need to adopt the principle of ‘technical interoperability’, a concept borrowed from the communications sector. This would require that any proposed RTM activity should have identified existing data collection activities that can be seen as addressing similar areas of activity and taken measures to ensure relatively straightforward data exchanges between the two activities.

#### *Capacity building*

The final dimension flagged in this section relates to the likelihood that the real-time monitoring intervention has inbuilt mechanisms to promote sustainability. Clearly, sustainability is linked to financial support but here the concern is primarily with the extent to which the intervention has well-designed plans to build local capacity, such that dependence on external assistance can be steadily reduced over time. The swarming of pilots described above sets particular challenges on this dimension as does the willingness of private sector partners in them to prioritise public sector capacity building. A key element of capacity building concerns the political and institutional architecture of interventions – the capacity and commitment for example to work with common RTM guidance.

#### **4.6 Emergencies**

The arguments for common guidance on equity and quality in RTM apply across all applications but the special circumstances of humanitarian interventions may require a more nuanced approach. Equity is already a central driver of humanitarian interventions and humanitarian agencies strive to ensure that assistance is provided in accordance with the principles of humanity, neutrality and impartiality. Humanitarian practice has a number of specific requirements and guidelines to help ensure that it delivers on equity and other principles.

There are often occasions when equity concerns are difficult to address in specific phases of humanitarian operations, especially early recovery operations when the equity focus is a particular challenge, but the commitment to equity is a central plank of humanitarian assistance. The RTM opportunity for humanitarian response is therefore not so much one of reinforcing an equity focus but of strengthening accuracy and rapidity in information provision and response. Humanitarian agencies have been challenged by the difficulties of organising accurate needs assessments in emergencies and compiling them in ways that trigger the best responses. They have a partnership to address these concerns, the Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP). With UNICEF support, the network has produced guidelines on Real Time Evaluations<sup>9</sup> which are designed to allow immediate feedback

from the research team to the field staff. This is described as a contract between research and field staff to provide feedback in order to bring about positive change in performance. Eliciting response to real-time information is fundamental to the approach. And what is termed coverage – inclusivity – is a main evaluation criterion.

Surprisingly, the guide does not refer to the use of modern ICTs, even though their recommended methods and tools are developed in some detail. This may be an omission but it is a reminder that modern ICTs are neither a requirement for real-time monitoring nor a guarantee that genuine real-time benefits will be realised. There are other initiatives, many discussed in Lucas *et al.* (2011), that do use modern ICTs to strengthen disaster response for information gathering or as part of a response. Many of these initiatives, using a variety of ICT tools,<sup>10</sup> focus on needs assessment where there are inherent problems of timeliness and usually problems of information coordination and sharing. One of a number of important lessons learned was that, despite improved timeliness, information sharing was not adequate for guiding resource allocation decisions for most partners. This underlined the importance of a focus on the link between monitoring and response. The potential of RTM to strengthen both needs assessment and response is substantial in emergencies; the

timeliness of accurate needs diagnosis is usually very urgent and use of ICTs could transform needs assessment practices. But a binding constraint on maximising the potential lies in the very real coordination problems imposed by the institutional architecture of humanitarian assistance.

## 5 Concluding remarks

Developing common RTM guidance for quality and equity requires a country-led approach. Developing a community of practice, at country level then regionally and internationally, would support the evolution of guidance that has buy-in from stakeholders and that works in practice. The intent is to be able to grade initiatives and promote a progressive realisation of goals based on common guidance. Initial work would develop monitoring tools or guidelines for in-country use; after testing they might lead to a process of market research when users try different tools for addressing equity in monitoring systems including child protection, health and nutrition, water and sanitation, education, gender equity, youth engagement and advocacy. The final stage is then a ‘consumer’ satisfaction report for validation of proposed methods. The ultimate goal is to strengthen the effectiveness of response to the needs of the most vulnerable and this can be massively assisted by actively requiring RTM that measures the right things.

## Notes

- 1 An exception is the Yemen study, which was prepared *off-site* by UNICEF staff.
- 2 The study team acknowledges with thanks the contributions from outside experts at a workshop held at IDS in June 2012 to share and review these findings.
- 3 See Murray and Newby (2012) for an overview and examples of UNICEF’s wider role in the collection, compilation, analysis and dissemination of data for promoting children’s wellbeing.
- 4 The data and analysis is made available in the Childinfo website, covering child survival and health ([www.childinfo.org/survival\\_health.html](http://www.childinfo.org/survival_health.html)), child nutrition ([www.childinfo.org/nutrition.html](http://www.childinfo.org/nutrition.html)), maternal health ([www.childinfo.org/health.html](http://www.childinfo.org/health.html)), newborn care ([www.childinfo.org/newborncare.html](http://www.childinfo.org/newborncare.html)), water and sanitation ([www.childinfo.org/wes.html](http://www.childinfo.org/wes.html)), education ([www.childinfo.org/education.html](http://www.childinfo.org/education.html)), child

- protection ([www.childinfo.org/protection.html](http://www.childinfo.org/protection.html)) and HIV/AIDS ([www.unicef.org/statistics/index\\_24296.html](http://www.unicef.org/statistics/index_24296.html)) (accessed 18 January 2013).
- 5 <http://sptf.info/> (accessed 18 January 2013).
- 6 [www.mixmarket.org/](http://www.mixmarket.org/) (accessed 18 January 2013).
- 7 [www.healthunbound.org/frontpage](http://www.healthunbound.org/frontpage) and [www.unfoundation.org/assets/pdf/mobilizing-development-report.pdf](http://www.unfoundation.org/assets/pdf/mobilizing-development-report.pdf) are good examples (accessed 18 January 2013).
- 8 [www.ictworks.org/news/2012/02/22/ugandan-mhealth-moratorium-good-thing](http://www.ictworks.org/news/2012/02/22/ugandan-mhealth-moratorium-good-thing) (accessed 18 January 2013).
- 9 Cosgrave *et al.* (2009). Their reason for using ‘evaluation’ rather than ‘monitoring’ is reportedly to bring in a focus on policies and plans not just operations. It is probably not fruitful to debate the semantics of terminology here.
- 10 The ‘Mobilising Development’ report (Turner 2011) from the Technology Partnership of the UN Foundation and the Vodafone Foundation documents some of the frontier ICT applications in humanitarian response.

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