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Journal

MEDICAL ANTHROPOLOGY QUARTERLY, 27(2)

ISSN

0745-5194

Author

Adams, V

Publication Date

2013-06-01

DOI

10.1111/maq.12030

Peer reviewed

This article was downloaded by: [Vincanne Adams]
On: 20 March 2015, At: 17:04
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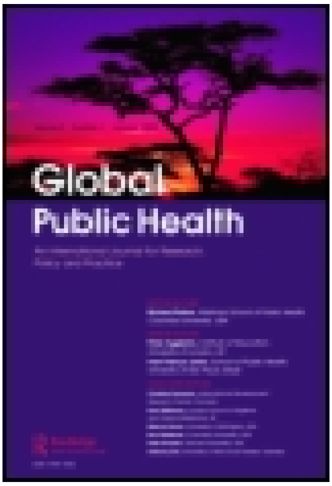

Global Public Health: An International Journal for Research, Policy and Practice

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/rgph20

Alternative accounting in maternal and infant global health

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Published online: 18 Mar 2015.

Click for updates

To cite this article: Vincanne Adams, Sienna R. Craig & Arlene Samen (2015): Alternative accounting in maternal and infant global health, Global Public Health: An International Journal for Research, Policy and Practice, DOI: 10.1080/17441692.2015.1021364

To link to this article: http://dx.doi.org/10.1080/17441692.2015.1021364

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Global Public Health, 2015
http://dx.doi.org/10.1080/17441692.2015.1021364

Alternative accounting in maternal and infant global health

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(*Received 30 June 2014; accepted 11 December 2014*)

Efforts to augment accountability through the use of metrics, and especially randomised controlled trial or other statistical methods place an increased burden on small nongovernmental organisations (NGOs) doing global health. In this paper, we explore how one small NGO works to generate forms of accountability and evidence that may not conform to new metrics trends but nevertheless deserve attention and scrutiny for being effective, practical and reliable in the area of maternal and infant health. Through an analysis of one NGO and, in particular, its organisational and ethical principles for creating a network of safety for maternal and child health, we argue that alternative forms of (ac)counting like these might provide useful evidence of another kind of successful global health work.

Keywords: maternal health; infant health; efficacy; NGOs; metrics

Introduction

The shift from *International Health* to *Global Health* has been at once discursive, pragmatic and ideological (Brown, Cueto, & Fee, 2006; McGoey, Reiss, & Wahlberg, 2011). It has signalled a reorientation of such work towards nongovernmental organisations (NGOs) and public–private partnerships, from the Bill and Melinda Gates Foundation and the Global Fund to small 'mom and pop' NGOs, displacing some of the historic dominance of large post-war bilateral and multilateral institutions and employing rubrics of 'humanitarianism' over those of 'development' (Adams, Novotny, & Leslie, 2008; Brown et al., 2006; Craddock, 2012; Fassin, 2011; Janes & Corbett, 2009; Redfield, 2013). This shift to Global Health has also entailed an increased commitment to using evidence-based metrics – from Disability-Adjusted Life Years (DALYs) to randomised controlled trials (RCTs) – for designing interventions and measuring outcomes (Duflo, 2010). The transition towards metrics, NGOs and humanitarian platforms places new demands on global health workers (Adams, 2013; Biruk, 2012; Crane, 2013; Erikson, 2012; Lorway & Khan, 2014), calling for new forms of accountability (Chang et al., 2010; Gates, 2013) and challenging coordination among nations which routinely receive global health aid, even while encouraging building capacity for effective small-scale health interventions.

Regardless of size, contemporary global health institutions are all being asked to do 'evidence-based' work through standardised metrics to measure programme 'success'. This has changed the scope and meaning of doing health development, altering how time

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is spent in small NGOs from the boardroom to the rural clinic (Becker et al., 2013; Biehl & Petryna, 2013; Erikson, 2012), and yet how evidence-based health care gets done through small NGOs in complex and uneven ways is not yet well documented.

In this paper, we explore how one small NGO works to generate forms of accountability and evidence that may not conform to new metrics trends but nevertheless deserve attention and scrutiny for being effective, practical and reliable. Through an analysis of one NGO and, in particular, its organisational and ethical principles for creating a *network of safety* for maternal and child health, we argue that alternative forms of (ac)counting might provide useful evidence of another kind of successful global health work.

The NGO challenge and advantage

Small-scale health NGOs face distinct challenges. The NGO world can be extremely decentralised. Beyond the broadest sense of shared commitments to addressing global health problems (like childhood malnutrition or infectious disease), smaller NGOs (and some large NGOs) often operate independent of large global health bodies such as the World Health Organization (WHO) and follow agendas that sometimes do not intersect with governmental health care priorities, policies or infrastructure (Minn, 2011). A pervasive and problematic example of this comes in the form of mobile, seasonal or otherwise ephemeral medical care provided by health camps (Citrin, 2010) or the larger human rights work of Médecins Sans Frontières (Redfield, 2013). For small NGOs endeavouring to always engage with global health policy and 'best practices' while also working closely with regional governments, this decentralisation can pose challenges.

More significantly, funding in small-scale NGOs also poses challenges that have direct implications for accounting practices. The funding structure on which many NGOs rely shapes what work these organisations can do, and how they do it. For some small-scale NGOs, individual donors and independent philanthropists allow small organisations a certain degree of independence and an ability to set and maintain their own agendas – a form of autonomy often absent within bigger NGOs funded by governmental and multilateral institutions. The flexibility that comes with autonomy can contribute to organisational success. At the same time, philanthropy funding can also be precarious requiring a personal approach with donors that can be draining at best and muddy the waters of programmatic focus at worst. Philanthropists and their foundations can operate according to a range of principles or assumptions about what makes for effective programmes; they sometimes read available evidence in idiosyncratic ways; and this, in turn, can shape what they are willing to pay for.

In a global health world that increasingly relies on local and international NGO efforts to generate quantitative and, to a lesser extent, qualitative evidence of local successes from global agendas, questions about how evidence of success is generated – how indicators are determined and how outcomes are measured – become all the more crucial. Exactly how organisations calculate their impact and become accountable to funders, in-country staff, government partners and the women and families they aim to serve, are all important questions in a world where evidence-based metrics and particularly the use of RCTs are being pushed as the gold standard of measurement.

Measuring outcomes and the push for RCTs

The call for RCT designed interventions in global health is widespread (Gates, 2013; GHME Conference Organizing Committee, 2011). The WHO echoes this call, moving dramatically from its early idealistic 1978 mandate to achieve 'Health For All' through investment in public health infrastructure and basic clinical services (or later iterations designed with help from the World Bank). Today, we are told that interventions are best if they are also simultaneously designed as research projects, capable of showing specific kinds of evidence of impact (Horton, 2010, 2013). The preferable method of such measurement is the RCT or some method that closely approximates the RCT. WHO specifically recommends, in order of decreasing strength of recommendation:

(1) At least one RCT with clinical or biological endpoints, or several relevant high-quality studies;
(2) At least one RCT with surrogate markers, at least one high-quality study or several adequate studies (optional);
(3) Observational cohort data, or at least one case-controlled or analytic study adequately conducted;
(4) Expert opinion based on evaluation of other evidence (Chang et al., 2010).

Although countervailing efforts in some organisations push for the use qualitative approaches in design and measurement of health in organisations like the WHO (Colvin, 2014), the RCT has become ubiquitous and, like a shaman's talisman, is increasingly relied upon as an instrument for not just measuring but also *doing* good work in health care. This often means that without the use of high-tech (and also often costly) tools such as randomisation, control groups and statistical calculations (that depend not only on statistical expertise but also on enrolling relatively large numbers of people in trials), the results of efforts to improve health care delivery and/or account for specific concerns *in other ways* are not taken very seriously (Kaptchuk, 2001).

The RCT clearly has advantages, including the ability to stabilise the complex variables at work in health delivery in ways that create a sense of robust accountability in relation to outcomes. We also note that RCTs are useful for large institutions working across many different regions because they provide a rubric for systematic comparison. However, we note that statistical neutrality and standardisation for comparison can create a kind of blindness about what is actually possible in diverse regions, what sorts of health care delivery compromises might be involved in getting good numbers, and the downsides to doing all health care as 'research' (Adams, 2013; Crane, 2013; Erikson, 2012).

Doing RCT style interventions and data collection for statistical analysis is difficult. Getting 'good numbers' – by which we mean numbers of a certain scale – can be nearly impossible and require significant resource commitments. Thus, critics of the RCT model (Deaton, 2010; Lambert, 2006; Timmermans & Berg, 2003; Weisz, 2005) shed light on how, as the demand for RCT forms of evidence proliferates, problems of not only manpower but also reliability also emerge (Biruk, 2012; Craig, 2012; Erikson, 2012; Wendland, in press). Still, many NGOs are now faced with the prospect of being seen as lacking an evidence base for what they do even while they are doing what most would consider *exceptional* and *effective* global health work under difficult circumstances. The effort to push for statistical and RCT evidence has created a predicament that raises questions about what kinds of data and what sorts of outcomes *should* be considered valuable in NGO health work.

Small-scale NGOs know how difficult it can be to obtain what are considered to be *reliable* numbers that can be used in statistical accounting, or data that are collected using controls and randomisation techniques. The focused geographic efforts of small NGOs often make it impossible to get numbers that are large enough to do power calculations. They also usually know a good deal about the compromises that can be required for getting such data, not just in terms of allocating resources but also in terms of data-cleaning processes that drop empirical ‘abnormalities’. The frequent publication of review articles in major global health journals (including *The Lancet*) that dismiss previously published data-sets and reports on grounds that they did not use statistics or RCTs is a frightening trend for those in organisations that cannot do this sort of work. One Heart World-Wide (OHW), a small-scale NGO, experienced first-hand the frustrations of being told that they would lose funding because they could not obtain enough statistical power with the number of women they enrolled in their programmes (Adams, 2005). Still, it was and remains clear that the work they are doing (and that of others) is valuable; health is impacted positively and lives are being saved by these organisations. Since much of the work of global health is being done through small-scale NGOs these days, it is worth asking what sorts of accounting practices these groups should be engaged in. Hence our effort to map out one such effort in alternative accounting here.

Alternative approaches: a network of safety in maternal and infant health

The focus of this analysis is the work of OHW, a US-based NGO whose mission is to decrease maternal and neonatal mortality and morbidity in areas of the world where people are often considered beyond the reach of readily available, good quality biomedical services. Although OHW is unique, we also find that its operations, challenges and methods are similar to other small-scale NGOs working in the global health arena. We also believe that the lessons learned from small-scale efforts are instructive even to larger global health institutions.

It is worth noting the specific relationships that the authors have to this organisation and to discuss, briefly, the basis upon which we are making the claims and insights herein. The authors are associated with OHW in different ways including, to varying degrees, being involved in the founding activities and on-the-ground efforts of shaping the programme over more than two decades. Two of the authors have additionally worked in the international health field beyond the work of OHW, both as anthropologists helping to run other NGOs and observing the work of small and large NGOs in the countries in which OHW works (including reading/writing reports and attending conferences). Our ability to claim saturation in relation to the insights presented here is based on observation and documentation of practices that the authors have participated in and observed, and also on comparative insights distilled from other programmes, specifically in relation to larger trends in the emerging global health community. Having said that, our work is conceptual as much as evidentiary and, consistent with our argument, our goal here is to map ways of rethinking what evidence is, how it is produced, and how it forms our sense of outcome success or failure.

This organisation began its work to reduce maternal mortality in the Tibet Autonomous Region of China in 1998. It was a nascent organisation from 1998 to 2002 and became fully incorporated as an NGO in 2004, initially with an annual operating budget of less than $150,000. In 2013, the organisation crossed the $1 million mark in support for programmes. Both at the organisation’s beginning and now, funding has come primarily from private philanthropy. After working in Tibetan regions of China for more than a decade, in 2009 OHW shifted its programmes from China to Nepal and to the Copper Canyon region of Chihuahua, Mexico. Currently, OHW’s team also consults on programmes in Ecuador and Liberia.[1]

Like other maternal health organisations, OHW has witnessed dramatic changes in policy about maternal health over its years of operation. When it began its work, the WHO had been advocating for the use of traditional birth attendants (TBAs) and, where possible, trained midwives, as an avenue to improving maternal and neonatal outcomes without necessarily shifting the locus of birth from home to hospital (Davis-Floyd, Cosminsky, & Pigg, 2001; Pigg, 1995). However, after 2000, the pendulum, swung the other way, towards a push for facility-based deliveries, including schemes for financial incentives for more medicalised births (Allen, 2002; Pinto, 2008). This shift also prioritised equipping clinical settings and training health care workers to perform emergency caesarean sections. Globally, the results of such programmes were not always positive; some showing an increase in maternal deaths and other iatrogenic outcomes (Berry, 2010; Gutschow, 2010; Miller, in press; Towghi, 2004), and it was not long before the pendulum swung back. Thus, calls to incorporate midwifery, and to train village-level TBAs as more qualified skilled birth attendants (SBAs) were inserted back into the safe childbirth equation (Cosminsky, 2012). Today there is a general consensus that supporting community-based interventions and SBAs remains important. Even as there are many ‘birth models that work’, they depart from a normative or strictly hospital-based biomedicalised approach (Davis-Floyd, Barclay, Tritten, & Daviss, 2009).

As a small-sized NGO with limited manpower and the ability to focus more on the communities they worked in than on the policy changes being delivered from the international health policy world, One Heart has variously used or respectfully disregarded trends advanced as international or global policy based on what best aligned with on-the-ground realities. Like other small-scale NGOs, this organisation also found early on that it would have to create, modify and refine a model that could be used initially in one place and then modified to work in other intervention sites. The model used is one in which family- and community-based interventions should be matched by referral possibilities, where hospitals and clinics are equipped not only in material terms, but also with support and training for providers at all levels.

The model used by OHW draws together community members, health care professionals, new mothers and their families into what they call a *network of safety*. The network of safety offers four types of interventions: community outreach programmes, provider trainings, health facility improvement programmes and partnerships with other organisations. Figure 1 illustrates the components of each type of intervention. The idea behind the network of safety is to create a *continuum of care* that begins with the mother and extends outward from her family to the community, local and regional health care networks, and even governmental agencies responsible for overseeing and implementing national health policies. Each component of this continuum is a potential target and partner in the intervention circuit. However, this network varies from place to place.

With roughly 60,000 births that the organisation has been involved with since it began, OHW found that it had to use a variety of ‘accounting’ practices, always relying on on-the-ground health workers for data collection. One of these practices includes gathering numerical information about caseloads and outcomes from those working within the network. These data get presented to prefectural Health Bureaus and used in organisational reports. Specifically, keeping track of maternal and infant mortality in each site is a priority, but so are other core indicators: number of prenatal check-ups, location of delivery and who attended, number of births and types of deliveries. Indicators of success are sometimes tailored to specific locations. Finally, health workers and programme administrators also collect narrative accounts from mothers, families and

Community Outreach Programs

Is a community-based safe motherhood model, providing:

- Prenatal/ newborn care
- Delivery with a skilled provider
- Prenatal supplements/nutrition
- Recognition of danger signs
- Clean birth kits
- Emergency evacuation

Provider Trainings

Providers across all levels are trained in various skills:

Community health workers – safe pregnancy/delivery, recognition of danger signs, clinic referral

Skilled birth attendants – prenatal services, delivery skills and newborn care, stabilize and refer emergency cases

Clinic and hospital staff – emergency obstetric care

Health Facilities Improvement Program

Exisiting health facilities are upgraded to be government certified birthing centers:

Medical equipment/ supplies

Construction/building upgrades

Training for facility staff

Partnerships with other organisations

Partnerships are essential to the programs' success, therefore we partner with local government and non-governmental organisations to fulfill our mission, including:

- Program buy-in by local stake holders
- Collaboration between existing NGOs , government agencies and officials

Figure 1. Four types of OHW interventions.

health workers, keeping track of qualitative details about what is working or not working in the programme.[2] Thus, the specific forms of accounting used by this NGO are similar to that which we have seen in other small NGOs, and we note that these generally do not meet the needs for statistical validation or RCT standards that are frequently expected in global health work today.

The network of safety approach might be seen as operationalising five specific tactics that inform both the work the organisation does and its ways of calculating its success. In other words, we argue that such tactics constitute a basis for rethinking not only what kinds of alternative evidence might count (before, or even instead of, RCTs) but also what we might generally think of in global health when we talk about success.

Harnessing local knowledge

A well-honed and commonly shared perception among anthropologists is that paying attention to cultural factors is crucial to effective global health work even though cultural factors are often the *least* likely to be recognised as crucial to designing interventions. Idiosyncratic cultural practices are often thought to impede efforts to ‘scale up’ programmes, even though cultural specificities and local knowledge form a basis for what health workers on the ground know to be of primary concern to their constituents. Efforts to include qualitative ethnographic information often end up doing systematic reviews that standardise and reduce information for comparative purposes.[3] Our argument is that cultural specificity is irreducible and not standardisable, but rather a basis for creating plural and complex models for intervention.

How, then, might we make use of cultural specificity as a starting point for designing interventions, rather than as a reproducible and reducible set of variables that would look structurally the same in any target community? Before doing any formal intervention, the network of safety approach evaluates the presence/absence of health care infrastructures and personnel, the physical geography and transportation circumstances. These are always different. Using ethnographic methods to establish relationships with religious figures and traditional healers as well as to speak with women and families about the spiritual, cultural and structural norms shaping childbirth are the basis upon which to build a programme, not variables that should be held constant. Thus, the network of safety starts with understanding what makes for a ‘safe birth’ in unique and diverse contexts (Adams, Miller, Chertow, Craig, & Samen, 2005).

Knowing about existing health care infrastructures creates an opportunity to reach out to agents involved in decision-making, including any organisations that function in the village or at regional levels (e.g. *Mother’s Groups* in Nepal or state-sponsored *Women’s Federation* chapters in Tibet). This approach is not an exercise in enumerating ‘beliefs and behaviours’ as targets for change, but rather a recognition that cultural norms can be powerful tools to harness for outreach and project implementation. This approach notes that members of the national and international team are *as* shaped by cultural norms as members of target communities. Reflective praxis is essential to creating a robust network of trust.

With an emphasis on ‘front-end’ research before any intervention begins, the network of safety approach then builds curricula for community-based programmes and birth attendant and physician training that are in dialogue with existing social, cultural and physical considerations. The end products may or may not mesh with international standards advanced by large multilaterals or international NGOs. Training materials are developed with the goal of integrating diverse bodies of expertise, helping to ensure that the programme will meet the needs of a specific place, and that educational messages will make sense. This means crafting care in specific ways that are attentive to different kinds of expertise and different notions of ‘safety’. Curricula *should* look different from site to site. This work requires a balance between viewing ‘replicability’ as a goal and recognising that what works in one location may not be translatable to another.

For example, OHW has developed two different curricular approaches for the communities it works with in the same district of Nepal because its catchment communities are primarily Hindu (and Nepali speaking) in the southern part of the district and primarily Buddhist (and Tibetan speaking) in the north. Concepts of spiritual pollution surround childbirth in both communities, but in different ways: Hindu women must often abide by extended rules of seclusion associated with pollution based on caste identity and pregnancy status and fear of contamination by bodily fluids. Buddhist beliefs about pollution are not tied to caste, but rather associated with the blood of childbirth. *Who* helps a woman in the Hindu communities matters a great deal, but for Buddhist women what matters most is being careful about the blood of childbirth, no matter who is helping them deliver.

The network of safety training curricula use vernacular ideas about 'containing' pollution. In Hindu communities, the emphasis was placed on arguing for more guided or assisted seclusion, and using birth kits to limit physical contact with polluting substances. Refurbished birth centres offered seclusion yet safety, where women could deliver without the presence of male relatives but with skilled help. In the culturally Tibetan communities, the OHW team encouraged religious figures and traditional medical doctors to participate in training, a tactic that also enabled them to be at the ready for purification rituals. The goal has been to validate the community authority of local experts, rather than undermine them. In most cases, this effort has also created opportunities to talk about cleanliness of instruments and supplies with people clients are most likely to trust.

As will be familiar to most anthropologists, this effort to provide cultural support does not mean romanticising 'traditional' culture and ignoring the potential for deleterious health behaviours, but it also does not mean denigrating or ignoring cultural attributes by assuming they are ancillary to the provision of care. Efforts to use local idioms and knowledge of safe deliveries mean that the network of safety leverages local knowledge as an asset (Pigg, 1995), including increasing awareness of men's knowledge – of having lost women and children during childbirth, for example – to work towards new models of community preparedness and mobilisation in cases of emergency in places where transportation and rugged mountain conditions are often the biggest obstacles to survival (Miller, 2009).

In addition, many of the communities in which OHW has worked are often the most disenfranchised from state services, at risk of cultural as well as political-economic marginalisation. Accordingly, such communities can be resistant to, or suspicious of, efforts to change their behaviour not so much because they are stubborn or uneducated but because they often read health care services through the lens of racism, stigma and disenfranchisement that have frequently come with programmes of development with origins from outside the community. Working through local idioms of health security means sometimes calibrating interventions to these local goals.

This said, the translation of best medical practices across cultural terrain can be very challenging. When indigenous knowledge contravenes biomedical knowledge, there are cases where one has to emphasise the need for changed behaviour to improve health outcomes. When local idioms of safety include pushing on the outside of a woman's belly to speed up delivery – a controversial practice that, when performed improperly, can rupture uterus and placenta[4] – OHW pushed against this practice using educational materials that demonstrated this outcome. Similarly, in places where many women want to give birth at home alone or with a relative or community member who may be biomedically unskilled but locally trusted (Miller, in press), OHW encouraged intensive outreach by a skilled attendant, the training of unskilled helpers and the use of facilities.

Working in ways that are embedded in the local context enables health teams to navigate challenges between local, national and global knowledge, practices and preferences, but each place and each community presents a different set of challenges and a different set of responses. Local adaptability and incorporating cultural priorities are signs of success, generating kinds of evidence that emerge in a lexicon of stories – as cultural-ethico-religious priorities that can be described, but not easily rendered legible in ways that can be counted statistically.

Scale* across *rather than up

A second tactic used in the network of safety is the idea of *scaling across*, rather than *scaling up*. If one takes context seriously, then one has to rethink what one means by 'scaling up' one's programme – that is, exporting it from one place to another despite vast cultural differences between sites. How can success in one place be best spread to other places?

Instead of streamlining interventions into transportable formulas, a network of safety approach works to 'scale across': implementing programmes along a gradient from households to villages to districts or comparable administrative units with specific, modifiable tactics along the way. Scaling across means scaling temporally, even seasonally, in particular regions. This approach places specific communities and even individuals at the centre of a network that connects the rural underserved with national and international resources, policies and programmes. The locus of movement in scaling across is concentric or outward, moving from intimate sites of effectiveness towards wider domains that become increasingly diversified rather than increasingly uniform.

Scaling across puts an emphasis on a constantly moving set of targets and circumstances that requires sustained adaptability. The success here is in adaptability and flexibility for expansion, rather than fidelity to a normative structure (whether it is with global policies or RCT designs). Sometimes safe motherhood programmes are already in place (and working or not working) and other times there is no focus on safe motherhood at all and needs to be built from the ground up. By scaling across, places with highly skilled staff, access to clean water, supportive transportation and places with none of these amenities are both able to be incorporated into this network instead of duplicating efforts.

In addition, scaling across strengthens local-, national- and state-level systems, no matter how different they are from place to place. Finally, scaling across means creating opportunities, when appropriate or requested, to help train larger institutional bodies involved in health care delivery and policy. The training emphasises being comfortable with variation in practice and context (including different kinds of political engagements and expertise), while striving towards uniformly beneficial health outcomes.

This approach to programme expansion can help to minimise problems that arise from the cycles of priority change deployed from global institutions and interpreted by state actors (Justice, 2000). A good example of this problem is the push for *birthing* or *waiting* centres as alternatives to hospital or clinic delivery sites. In the places where OHW works, the success of these centres has been mixed. In Nepal, birth centres were initially established in hopes that women from far distances would come and stay there until they delivered. However, OHW found that women did not use these centres because they had minimal cash, no way of supporting themselves or paying for food while they waited to labour, and they were needed at home. Thus, they stayed home until very near delivery, or if they came to the towns, they would opt for hospitals or stay with family members rather than go to birth centres. Similarly, in Mexico, women avoided using local maternity waiting homes because women found that once labour started, they would be sent by local health officials on an eight-hour truck ride to the nearest hospital. Rather than improving birth outcomes, these centres produced a higher number of births that happened in trucks on the way to the hospital. Once these women arrived at hospitals, they often faced discrimination and other financial and logistical challenges, including returning home.

In response to these different predicaments, and recognising that these birth centres were at once national policy priorities and local underused phenomenon, OHW did not suggest the 'birth centre' approach should be abandoned. Rather, they scaled across: they created a subsidy programme for women to stay at the birth centres; they worked with local health administrators and health workers to respond to local exigencies and make these facilities more accessible. The OHW team also lobbied at national and state levels for more selective and reduced pushes towards hospital-based deliveries, and invested in making these regional birthing centres more comfortable, warm, and 'homey' places to give birth.

How health NGOs manage to diversify and remain attentive to so many different kinds of interventions depends, of course, on a specific kind of manpower and a specific vision of what the limits to that manpower are. Keeping their focus small (as opposed to going 'global') with each programme can be part of the reason for their success. Once again, the adaptability required for scaling across could be seen as a measure of success, not just in numbers of women who are seen or numbers of babies who are born healthy. These kinds of evidence suggest fidelity to a tactic that serves communities' specific needs, but accounting for the efficacy of such tactics is challenging because questions of quality here are not easily mapped in statistical power or randomised controlled samples.

Outcomes count one life at a time

Another tactic used in the network of safety is based on the idea of counting *one life at a time* – a tactic that once again points to different set of accountabilities than are seen in statistical and RCT work. While there is a good deal of excitement in the global health community over the idea that using evidence-based methods will enable a cutting of the wheat from the chaff of knowledge and data on effectiveness, and that such methods will provide more accurate empirical knowledge than accounts of single lives saved here and there, the idea of using RCT designs in all global health monitoring and evaluation is, as we have mentioned, often unrealistic. In fact, determining effectiveness in global health programmes, particularly in maternal and infant survival, is not as obvious as it might seem.

First, counting infant or maternal deaths is often logistically difficult in many of the places where global health NGOs work. Health statistics provided by regional or national offices are collected infrequently or simply estimated based on national and international extrapolations. These numbers often do not reflect reality on the ground (Wendland, in press). More importantly, RCT approaches to doing health work can marginalise the goals of health care, displacing caregiving for a kind of labour that is more focused on data collection (Biruk, 2012; Crane, 2013; Lorway & Khan, 2014).

Elsewhere, social scientists have been writing about the notion of the 'n of 1' in research projects that are unable to find large numbers of participants but still must derive large amounts of data (Fisher, 2012). This approach has much in common with clinical case studies in some fields of academic medicine. Critical case studies are common in global health, but they are seldom used as a basis for counting outcomes or as a basis for making claims about evidence of successes that can be scaled up. Instead, and significantly, they are more often used as funding mechanisms: stories that help to encourage financial or moral engagement as ‘suffering strangers’ (Adams, in press; Butt, 2002; Moodie, 2013).

Beyond fundraising or pulling on heartstrings, we argue that the ‘n of 1’ case study perspective offers analytical possibilities for the small NGO that wants to make a case for accounting practices in which *every* life counts. In the network of safety, the question of outcome and effectiveness is asked pragmatically. Simply put, simple counting exercises count accurately and provide some measure of reliability that is missed with large-scale RCT style efforts.[5] Every mother and baby count as a tangible indicator of impact, ignoring questions posed by scientific epistemologies as to whether or not these might be due to statistical ‘chance’. Similarly, every practitioner or staffed health clinic who is educated by the team, and every Health Ministry allocation for providers and birth facilities is also counted as success – a measure that is not tied directly to maternal and birth outcomes, but which, nevertheless, count as important. How these indicators count however is not just in terms of ‘adding up’ numbers. The goal is to monitor observations of structural transformations in health care provision, perceptions of and behaviours that have changed, a mother’s witnessing of a daughter’s survival and her encouragement of other women to do what she did. These outcomes can be tracked, but they cannot be counted in reductive ways without doing a good deal of compromise in relation to the very specificities that give them potency; that is, they need to be accounted for as non-reducible ethnographic facts that carry a certain health benefit in their own right.

Consider the following example, which links efforts to scale across – in this case from national-level training to local health care delivery – with the idea of measuring impact one life at a time. The local SBA in a village in the high-mountain region of upper Dolpa district was a nurse who had been trained in Kathmandu. She had returned to her community after becoming a SBA with sponsorship from a local community-based organisation. Although she had lived outside the village for several years, she spoke the local dialect of Tibetan and was culturally comfortable in this setting. However, nobody sought out her services at first because they thought she was too young to be helpful. They did not trust her skills. Then, one day a woman who had been struggling with her delivery was brought to her at the birthing centre. She immediately recognised that the baby was breech and that the woman was at risk of post-partum haemorrhage. She attended the breech delivery, administered misoprostol correctly to avert haemorrhage and resuscitated the baby. The success of this single delivery cascaded into a much greater tangible dynamic of improved health care in this particular locale.

It would be hard to know how to ‘count’ that success, partly because it was only one woman and child, and it represented a single trajectory of knowledge and experience. But the network of safety model enables us to see this as evidence of success because what could be ‘counted’ here was all of the messy ethnographic detail: a single delivery, its halo effect on improvement in health-seeking behaviours, and the very small-scale impact on many other lives. This messy set of events and outcomes are familiar to anyone working in the global health field, but just how to make these details visible in RCT models becomes quickly impracticable. The potential loss of knowledge about how these details matter, how circumstantial they are, is something we would push against.

This does not mean that numbers and statistics do not matter. In fact, in most places where the network of safety is in place, data on maternal and infant deaths and survival are collected with more oversight and training than what is available in regional or national government offices. Still, the kinds of numbers that can be collected in these sites are incorporated in ways that prioritise care practices over data collection practices. Here, figuring out which indicators are the most important to track and in which ways relies on a combination of epidemiological expertise, practical wisdom and the deep social work of building rapport.

We might think of numbers here as the after-effect of all the other kinds of success that must precede their collection. Birth attendants are instructed in data collection but certainly not in the methods of RCTs. Core impact measures they learn to collect include: how many women have four or more antenatal visits; one post-partum visit, where they delivered and with whom; survival outcome of mother and baby; and referral incidence. These caregivers' experiences and outcomes are regularly documented by the organisations' ethnographers and researchers, who are part of the larger network of safety. The fact that community health volunteers, birth attendants, midwives and physicians at referral hospitals keep ledgers of their activities and insights helps with this documentation.

Each network of safety generates its own kinds of numbers. This is because each site has its own limitations when it comes to implementation and data collection based on cultural and social exigencies. In one community, attendance at a birth centre may be the most important indicator and therefore may generate the greatest and most reliable information about impact; in another community the crucial variable may be prenatal visits. In other words, the approach is to always consider what outcomes matter most in that place, and to understand that this will also change with time. To many in the global health arena, this approach will feel entirely chaotic and unreliable. It suggests an 'anything goes' approach to evidence-based interventions. It is precisely this level of discomfort that, we suggest, should guide the work of evidence-production, not a false sense of security in statistical forms of data.

One of the advantages of building an evidence base from the ground up is that providers can use a few key tracking practices that create an environment of accountability linked not only to organisational reputation but, more importantly, to the survival of every delivering mother and her infant. Indeed, the observable effort to collect data in these ways can create a greater sense of commitment to reporting but also to keeping every woman and infant alive, rather than to ensuring the experiment is held constant (that is, sacrificing some data for the sake of statistical robustness). In the indices of evidence that matter, then no person is excluded from this accountability.

In sum, when the effort is to simply record the numbers of women or infants who are impacted by a project in any number of ways, then the accountability index by necessity remains tied closely to fidelity of caregiving rather than fidelity to the intervention protocol. We believe this imperative diverges considerably from the priorities that are mobilised to undertake sophisticated metrics-based analyses like RCTs and, in diverging from this model, they may also avoid some of the troubling ways in which a fear of 'messing up the numbers' leads to hiding cases (Erikson, 2012; Parker & Allen, 2014). Because OHW stresses the importance of the 'n of 1', it has the ability to explain why and how poor outcomes arise, and uses this to retool interventions and to tell the story of what is needed in great detail.

High touch precedes *high tech*

The increasing focus on RCTs in global health work is tied to a related trend: the call for more technoscientific solutions to our most intractable health problems. This emphasis has stirred some debate (Birn, 2005), and we call attention to the ways that high touch might count outcomes differently than the high-tech focus of RCTs. Being or becoming 'high tech' in one's approach to global health work is often tied to funding — and in the language of Request for Applications from both governmental/multilateral and philanthropic funders, the use of *new technologies* has often become synonymous with being *innovative* in global health work. Not infrequently, it seems sometimes that if an intervention does not use a new technology, it is not worth funding. Somehow this emphasis on new technologies has made the effort to get funding in order to *continue* to do what has been working is made to seem unworthy.

There is an easy complementarity between RCTs and the notion that global health challenges demand high-tech solutions. RCTs are ideal for studying technological interventions. From bed nets to smokeless ovens, water purifiers and vaccines to shock garments, technologies fuel our collective desire to create 'magic bullet' solutions that suggest it might be possible to sidestep the conundrums and challenges of having to modify social behaviours and address structural inequalities to improve health. Of course, it seldom works this way. Technologies are often used incorrectly, or not at all, even though one might know they work to solve a health problem. Worse, privileging technological fixes may indirectly divert attention away from those things that do not involve technology but have great value nevertheless in health care.

Consider the value, in this sense, of the simple technologies of a razor blade in a safe birth kit or a clean plastic sheet on which a woman might labour to help prevent sepsis, or doses of misoprostol for preventing haemorrhage. All of these are hardly innovative and hardly high-tech, but can be both crucial to healthy deliveries. But technologies always demand a-priori behavioural considerations and these require high touch. That is, while technology can save lives, *technology alone* cannot save lives. The use of new technologies must be viewed in conjunction with an entire health system, as a node within the network of safety but not as a substitute for the network itself.

The metaphor of 'high touch' originates in clinical medicine. Whether referring to a biomedical doctor or a traditional healer, the art of being a good healer hinges on skills of touch: taking a pulse, palpating, observing carefully a person's constitution. It also means face-to-face engagement with patients and families: talking, questioning, observing their behaviours directly. As OHW's founder describes:

> High touch means conveying that you are 'in the room' with them. It means that there is a connection between everyone in the community who is involved in maternal care. That is what the network [of safety] is – a series of high-touch encounters built on this face-to-face sharing of knowledge, support and responsibility.

This contrasts with the doctor who relies on technology – the lab report, the MRI – as the most definitive source of evidence upon which a diagnosis is made and treatments are prescribed. Of course, most practitioners use both. Providing 'high touch' health care to women and infants does not mean eschewing technology, but it does mean not allowing technology to drive the intervention. It also means resisting the temptation to think that more and better technologies can substitute for a commitment to high touch.

Within the network of safety, health workers are careful to make sure that technologies reinforce rather than displace the strengths of the network. One of these, supported by Medic Mobile, uses a simple text-messaging system to support patient care at the facility and community provider levels. But even these technologies cannot replace the emphasis (and hard work) involved in ensuring skilled caregivers are in the room with delivering women (especially when reception for cell phones is unreliable). OHW, for instance, has experimented partnering with an organisation that produces a low-cost LED light to treat newborn jaundice. Here again, use of incubators as a well-intentioned high-tech intervention that, when used incorrectly, can result in the delivery of high levels of oxygen to newborns that results in blindness. LED technology may avoid that risk, but it still relies on altogether new levels of infrastructure that may not always be available in the most remote regions. Other technologies like 'life-wrap' suits to slow blood loss during transport for haemorrhaging women are also capable of saving lives, but like the other innovations, they also require intensive amounts of high touch training to be of use.

In sum, a high touch approach refuses to let the attractions of high-tech alternatives (and the ease with which they can be evaluated using RCTs) displace an emphasis on forms of evidence and accountability that are tailored to what is already working well but may not be particularly innovative or reliant on new or better technology. Here, what counts as an evidence base is tied to the somewhat nebulous sensibilities of 'high touch'—that literally require people to be within touching distance of one another, communicatively and physically.

Sustainability through local ownership

Long a clarion call for work in global health, 'sustainability' remains as powerful a concept as it is opaque. It is a concept that has been debated since the advent of the development era, often intertwined with political debates about how states should organise their finances to pay for health care. Typically, though, 'sustainability' has been conceptualised as something that has been achieved when donor communities no longer need to be involved, fiscally or otherwise, in the programmes they have supported. This conceptualisation is born from fears of aid 'dependency'. Yet sustainability by this measure is rarely achieved. Rather, sometimes intervention programmes fall into the trap of sustaining their own organisations despite failures in the field. Sometimes this ineffectiveness arises from the fact that the intervention is not sufficiently focused on integrating into existing health infrastructures. Sometimes sustainability is invoked as an indirect means of cutting off aid for programmes as funding organisations shift priorities.

Programmes that are not integrated into different interlocking levels of health infrastructure, and local health culture(s), risk of having their programmes disappear the moment the donors lose funding or interest. Perhaps a better rubric for thinking about these problems of sustainability can be seen in the work of Possible.org (another NGO that works in Nepal) that of 'durability'. Durability calls for relationships and infrastructures to which health-development work should aspire for long-term endurance and impact.

The last tactic of the network of safety is that of working towards effective local ownership: practical, emotional and ideological. Ideally it allows different stakeholders to drive change, including at times arguing over how this should best be done. Thus questions of who directs project implementation includes difficult discussions with local partners and at other times it requires delicate negotiation when local team members are asking for more hands-on work by international or national team members. Because it is often difficult to manage different levels of confidence in the creation of the network, one measure of success is the ability for it to leave interventions in the hands of local, regional and national health programmes. Having this as a goal helps diverse types of local participants to know, from the outset, that they will need to think about long-term integration with existing infrastructures. This also means not presuming easy power dynamics or shared access, and assuming one will need to know the particular dynamics of privilege and responsibility at work across different iterations of the network of safety. Again, this is often a stated desire in global health organisations but, seldom is it actually built in as a design goal.

For example, OHW came to this understanding of sustainability/durability inadvertently during their years of working in Tibet (Craig, 2011). After setting up the programme over a nine-year period, the training and outreach were fully integrated with the Lhasa Municipal Health Bureau and Tibetan physicians were teaching most of the curriculum. After political riots broke out in 2008 and the Chinese government mandated that all foreign NGO personnel leave the country, OHW was under threat of closure and the few foreigners regularly involved in teaching did not have their visas renewed. However, because OHW supported a strong team of local actors, who were already running the programmes, they continued working without foreigners involved, eventually applying for state permits to operate as a local NGO which enabled them to receive both state funding and resources from Chinese and Tibetan philanthropists. The Tibet programmes continue today and have been used as the model for programmes in safe motherhood throughout the Tibetan Autonomous Region. OHW learned from this experience that local ownership should be a priority and considered primary evidence of success.

The network of safety approach foregrounds, from the beginning, what a viable, ethical, and sustainable exit plan will look like. OHW found that at least a three- to four-year period was needed for initial assessment and ethnographic work, implementation and for building multiple stages of transition, including training programmes and upgrading existing facilities. And yet sustainability also means *sustaining relationships* and this means a commitment to refresher training courses as well as restocking of non-perishable supplies, all the while pushing to leverage state support and supply of these things. Again, these are not unfamiliar goals for any global health programme, but we stress the importance of building in the exit plan from the start and monitoring its progress at every step of the way.

Strategic investment in local health personnel and advocacy for living wages, rewards and incentive structures, and recognition for this work as government health workers is all part of what the organisation calls success, and also why it relies on tactics of scaling across. It is unrealistic to assume that in all places, states will be able to absorb the costs that come with managing and supporting a network of safety, or that there will always be health infrastructure within which to integrate, but it is reasonable to assume that what funding is available can be leveraged across scales. Thus, while sustainability is often a desired outcome (and an implicit goal) of global health programmes, few actually count this outcome in ways that see it as a type of evidence of success in global health work. Attentiveness to local ownership should be a priority from the initial planning phases all the way to the time when the implementing agency leaves, and this outcome should count as much, if not more than, making sure such interventions are being done in statistically robust ways.

Conclusion

Many readers involved in global health (or in international health before this) will recognise the tactics described here as key ingredients for good health interventions. Still, it is surprising how many of these tactics fail to be discussed or prioritised as new demands for evidence-based global health work are rolled out. Questions about how new demands that arrive from the large funders (including the Bill and Melinda Gates Foundation, the Global Fund or even the WHO) have shifted the ways we talk about and do health work, however, raise interesting dilemmas for small NGOs. How should we most effectively measure outcomes in global health work, and how might we account for the impact of health interventions in complex local settings where much of what we do cannot be counted using RCT and statistical models, are questions that not asked often enough.

In fact, the shift to global health has made many who have been in the international health world for decades feel that much of what they have been doing all these years is now discredited, dismissed sometimes on grounds that it did not provide an evidence base. We suspect there will be readers who suggest that just as older approaches used in international health should now be organised as RCT studies, the tactics described for the network of safety might also be organised or structured in this way. We hope that the materials here join others (Farmer, Kim, Kleinman, & Basilico, 2013) in providing grounds for resisting this. Alternative accounting, as exemplified here, is an attempt to rethink what we mean by evidence, not simply an attempt to shift the ways we gather it. In this sense, finally, we note that alternative accounting efforts might be read as partly about the commitments and capabilities of small- vs. large-scale global health institutions but it is also potentially useful for any intervention (large or small) that wants, or needs, to think in new ways about evidence.

Today, notions of ‘partnership’ circulate widely in global health and development discourse, with the (sometimes naive) hope that ‘partnerships’ will displace historic relationships defined in and around donor/client hierarchies and colonial/imperialist legacies (Cooke & Kothari, 2001; Smith, 2012). How exactly partnerships should be created and sustained in situations where there are still donor organisations and recipient communities remain crucial areas of inquiry and reflection for those engaged in global health work (Crane, 2013), but we argue that partnerships need first to be attentive to the work of accountability.

The approach we have outlined here envisions and actualises such partnerships as networks – strong webs of connection between wives and husbands, couples and communities, village health posts and urban referral hospitals, local health officials and national policy-makers. What we can learn from this approach is that in order to create these partnerships we might need to shift how we talk about evidence in ways that are accountable to our partners, and in ways that are accountable to different kinds of familiar but too often invisible and unquantifiable things. This includes incorporating cultural knowledge in intervention designs, scaling across rather than up, counting every ‘n of 1’ as substantial evidence, privileging high touch over high tech and, finally, measuring sustainability as priority outcomes. Our goal in this paper is not so much to argue *against* the RCT but to argue *for* the use of different kinds of models that count outcomes and think of evidence in different ways. These tactics of accountability may feel old and familiar, in intention and in content, to some who have worked in the field for many generations. Our goal is to re-open conversations about them in order to reframe debates about what counts as evidence in global health today.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes

1. We note at the outset that OHW has been able to develop its programmes with a good deal of freedom because of its funding sources. Indeed the relationships between donor and implementor can be a limiting factor in debates over what constitutes evidence of impact. It is precisely the rising trend towards using RCT statistical forms of evidence at the largest funding institutions (and the trickle-down effect this has on small NGOs) that prompted us to write this article.
2. Using these methods, the organisation knew that there had been no maternal deaths – the first such year on record in its Tibetan sites. They also reported newborn mortality decreased by 10% in some villages in the county in which they had been working the longest. In 2012, after two years of programme implementation in Nepal's Baglung District, the district health office reported a 50% reduction in maternal and neonatal deaths, with healthy deliveries attended by an SBA increasing from 22% to 78%. That same year, OHW transitioned to an entirely Nepali staff running this country programme. OHW relies on a random sampling of 10% government data gathered in the communities where it works.
3. There are occasional efforts to incorporate qualitative information in systematic ways into large-scale health planning exercises. For instance, the *optimise* guidelines from the WHO for health worker roles for maternal and newborn health is described as an effort to prioritise qualitative ethnographic information in planning exercises (Colvin, 2014). (We also remind readers that efforts have a long history in medical anthropology). Generally, these efforts should be applauded. However, the need for systematic evaluations of this sort of information in ways that standardise *study quality* (evidence base), the *guidelines for inclusion and analysis* (representativeness and randomisation criteria), and the use of *peer review* all reproduce the very erasures of cultural specificity that we refer to here, even while ostensibly trying to include it. (Interestingly, even in this case the author is unable to explain what sorts of cultural specificity makes its way into the plans in the end, and, like many of us working in institutional settings like this finds the process of bridging the gap between these epistemological worlds to be of more interest than the concrete planning outcomes of the effort to build these bridges.)
4. It is called the Kristeller manoeuvre and has been the subject of controversy and even clinical trials to determine its safety. See http://www.ncbi.nlm.nih.gov/pubmed/22752555. This study notes increased episiotomies but does not mention rupture of uterus or placenta. We note that these controlled practices may vary significantly from the practices of some rural birth attendants.
5. By reliability here, we mean the following: RCTs are often used to establish cause and effect relationships (that is, they are able to show using controls that outcomes were due to more than chance or random effects). We want to argue that reliability might also be found in the specific case materials that reveal how interactions were enabled, how activities were impactful, and what outcomes mattered for those involved (often especially that a child or mother did or did not die).

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