

Health systems effects of successive emergency health and nutrition projects: an embedded retrospective case study analysis in Sudan and Pakistan

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Abstract

Despite increasing attention to the concept of a humanitarian-development nexus in recent years, limited research is available to improve health systems strengthening practice within humanitarian programmes. We used an exploratory, systematic, embedded, multiple case study design to discern systems effects of successive Save the Children chronic emergency health and nutrition projects implemented in Sudan and Pakistan between 2011 and 2018. We used textual analysis to code 63 documents focused on eight themes using NVivo 11.0. This was supplemented by six key informant interviews. Findings offer a complex and mixed picture, with contributions to systems strengthening in community systems, their linkages to health management structures, and human resources for health. Projects with primary mandates for urgent service delivery progressively found systems strengthening opportunities, through a combination of tacit choices and explicit objectives. In both countries, some ‘parallel systems’ were set in place initially, with immediate gains (e.g. quality of services) only occasionally accompanied by enhanced systems capacity to sustain them. Cycles of implementation, however, achieved financial transition of ‘macro-costs’ to the government (e.g. facilities in Sudan, staff in Pakistan) through indirect pathways and the influence of pluralistic governmental structures themselves. Opportunities were taken, or missed, based on dynamic relationships within the government-development partners eco-system. Transition steps also came with unintended effects and drops in intensity. Both project contributions to systems strengthening and our own study were limited by substantial gaps in evaluation and documentation processes. We provide cautious recommendations based on the literature and our two case studies. Even mid-size chronic emergency projects can and should make meaningful and explicit contributions to systems strengthening. This contribution will, however, depend on the development eco-system context, and development of better collective intelligence (coordination, evaluation and learning, benchmarking, accountability) to improve individual projects’ adaptive management efforts to improve fit with evolving national systems.

Keywords: Pakistan, Sudan, health systems strengthening, case study, emergency health and nutrition, humanitarian and development nexus

KEY MESSAGES

- Increasing attention to a nexus between humanitarian aid and development requires more attention to designing humanitarian programmes for long-term health systems strengthening.
- Project contributions to systems are negotiated, enabled or constrained, by a complex array of priorities within an 'eco-system' of government structures, funders, local leaders, development partners, implementing partners and project leaders.
- Evaluation and learning are essential to the advancement of systems strengthening. Given constraints on individual emergency projects, the call for more evaluation of systems effects must go to countries, donors and implementing agencies.
- Even mid-size chronic emergency response projects can make meaningful contributions to health systems strengthening.

Introduction

The last few decades have been characterized by drastic increases in the frequency and duration of humanitarian crises (OCHA, 2018b). The average length of a crisis with an active, inter-agency appeal rose from 4 to 7 years between 2005 and 2017, paralleling a marked increase in annual funding requirements (OCHA, 2018b) and, unfortunately, an increased gap between requirements and funds received from \$0.7 billion USD in 2007 to \$11.6 billion USD in 2017 (OCHA, 2018a).

This trend has brought attention to the burden of chronic emergencies, the need to move out of emergency phases into sustainable responses and the human and financial opportunity cost of failed transitions to development after an emergency (Affun-Adegbulu *et al.*, n.d.; Ozano and Martineau, 2018). Authors have referred to a 'nexus' between humanitarian and development work to describe a problem space, which faces conceptual and definition challenges (Affun-Adegbulu *et al.*, n.d.; Mosel and Levine, 2014; OCHA, 2018b; Ozano and Martineau, 2018; CORE Group, 2019). This debate, from emergency to strengthening systems, echoes that of 'diagonal approaches' in development, seeking to contribute to systems while guaranteeing results (Ooms *et al.*, 2008; Gounder and Chaisson, 2012; Hagan *et al.*, 2017). The continually increasing funding gap mentioned above underlies the need for better collaboration and transition between humanitarian and development actors (Affun-Adegbulu *et al.*, n.d.; Mosel and Levine, 2014; OCHA, 2018b; Ozano and Martineau, 2018).

One stream of research and debates has focused on preparedness during development phases to build resilience to shocks, anticipate if possible and mitigate the impact of emergencies. Notable examples include government interaction with pluralistic provider systems to protect against shock to equity and affordability (Witter and Hunter, 2017), and strengthening human resources for health (HRH) governance and investment to protect against internal brain drain (Roome *et al.*, 2014; Bertone and Witter, 2015). Another stream of work considers the need to address systems strengthening as early as possible during emergency responses to support sustainable transition to development (CORE Group, 2019; Ozano, 2018). This paper is a contribution to the latter.

A host of issues surrounding national governance and requirements within the emergency health and nutrition (EHN) and development sectors challenge the transition between humanitarian aid and development programming, and evidence on how to 'bridge' between the two is limited (Affun-Adegbulu *et al.* n.d.). National systems may be weak, lacking coherence or both (Affun-Adegbulu *et al.* n.d.), and challenged to deal with a sudden afflux of external resources, skilled labour and a multiplicity of actors (Hinds, 2015; Ozano and Martineau, 2018). Finally, humanitarian financing comes with strong expectations for results from donors and the

global community to lessen immediate suffering, and ends with abrupt drops in resources (financial, institutional and human) when a 'post-emergency' state is declared (Hinds, 2015; Ozano and Martineau, 2018).

Evidence gaps have been attributed to the existence of different terminologies, variable objectives and funding streams, lack of attention to the nexus' operationalization, a lack of guidelines and tools, and the occasional propensity to consider the nexus as a purely humanitarian construct (Hinds, 2015). Not all agencies span the emergency to development sectors, and within those that do, few professionals have expertise cutting across these two worlds (Hinds, 2015; Ozano and Martineau, 2018).

In 2016, Save the Children, USA invested in learning and innovation for health systems strengthening (HSS) as a cross-cutting programmatic priority. Given its footprint in EHN, Save the Children, USA initiated this study in 2018, seeking to examine the opportunity space for systems strengthening in chronic emergencies, where successive projects had been implemented. By 2018, Save the Children, USA had emergency health, nutrition and water, sanitation and hygiene (WASH) programming in 28 countries, reaching millions of children, with a portfolio of grants over \$140 million USD. Save the Children, USA is also a member of the CORE Group's Humanitarian Development Task Force (HDTF) (CORE Group, n.d.), which has been supported by USAID's OFDA to examine options for progress on the humanitarian-development nexus (CORE Group, 2019).

Woodward *et al.* (2016) present priorities for HSS research in the humanitarian context under ten major themes (transition and sustainability, resilience and fragility, equity and gender, accessibility, capacity building, actors and accountability, community, health-care delivery, health workforce, and health financing). Our study addresses many of these elements, with a specific focus on capacity building, systems strengthening, transition and sustainability.

Research questions

We started with two open-ended exploratory research questions: (1) What systems effects—whether positive, negative, intended or unintended—could be observed retrospectively in documentation from successive EHN projects? and (2) What factors contributed to maximizing positive effects and reducing negative effects?

Our aim was not to assess project performance, but to explore system changes during sequences of project implementation in order to (1) provide recommendations to Save the Children on the strategic space and opportunities for improving HSS in its emergency programmes and (2) provide lessons learned to the HDTF and contribute to global development thinking on possible directions for

improving the strengthening of systems for health—capacity, sustainability, resilience—while responding to emergencies.

Methods

We used a systematic, embedded, multiple case study design (Yin, 2014) to examine the system effects of EHN interventions where successive projects could be identified in the previous decade. We faced limitations similar to prior research on the humanitarian-development nexus, whereby few professionals have expertise in both development and emergency response (Ozano and Martineau, 2018). Consequently, we assembled a multi-disciplinary steering committee from Save the Children and University of Iowa with researchers, a health system specialist and emergency health practitioners. Our team used a case study protocol as described below.

First, we reviewed 36 peer-reviewed articles on the intersection between EHN programmes and HSS. We identified articles using Scopus, PubMed and Google Scholar databases for peer-reviewed literature and numerous health system strengthening websites (e.g. UHC2030 and ReBUILD Consortium) for grey literature. We searched for the following terms in the title, abstract and keywords of each article (using the appropriate syntax for each database): ‘health system strengthening’ AND ‘universal health’ OR ‘systems theory’ OR ‘systems approach’ OR ‘complex adaptive system’ OR ‘emergency response’ OR integrative OR nutrition OR ‘humanitarian aid’ OR ‘emergency health’ OR ‘fragile state’. All 36 articles were reviewed using the following two guiding questions: (1) What are the national context and humanitarian response factors that framed the call for and design of the emergency response programme? and (2) What effects did the emergency response have on health systems or what questions were raised about future research/programme implications? As our work progressed, the Institute of Tropical Medicine in Antwerp published a systematic review of over 200 publications for UHC2030 (Affun-Adegbulu *et al.*, n.d.). This work was relevant to our interests and more ambitious than our own review. We carefully examined the report and found it not only complementary but also convergent with our own review.

Based on the evidence and questions from these previous studies, we developed a simple theory of change, which evolved through visual drafts, discussions and revisions over the study period (Figure 1). Our theory of change acknowledged the centrality of context and the effects of external projects on health systems and health outcomes. It also acknowledged that health systems have their own internal evolution leading to multi-directional cause and effect relations. As discussed below, this insight from the literature was reinforced by our findings. We used our literature review and theory of change to develop a set of ‘explanatory propositions’, about what a strengthened health system would demonstrate in different health system domains of analysis, or themes. These propositions sought to present dynamic ‘dimensions’ and relationships of systems strengthening and are available as a web annexe (Supplementary Annex 1).

Second, we selected the countries (and the cases within the countries) purposefully and opportunistically, based on expectations that documentation could be retrieved, that informants would be available, and that the experience of the projects was expected to provide lessons for Save the Children and the global development and humanitarian communities. The final sample included three cases (i.e. project phases) in Pakistan from 2011 to 2018 and two cases (i.e. regions) in Sudan from 2013 to 2018. The country contexts are summarized in the first row of Table 1.

Third, we requested documentation from all projects, which included annual reports, evaluation reports, progress reports, proposal summaries and other relevant materials from each project. We reviewed 50 documents from Pakistan and 13 documents from Sudan. Fourth, we reviewed each project document to identify the properties and dimensions of each major theme and developed a codebook referring to our explanatory propositions, under eight themes. The eight themes included: national coordination and policy setting; decentralization and management capacity; engagement with community organizations and societal partnerships; costing and financing; human resources; supply chain management; data—health information systems, monitoring and evaluation; and quality of service delivery and referral. Documents were analysed according to the codebook using the qualitative software package NVivo 11.0. Fifth, an individual case report was written for each project phase (Pakistan) or region (Sudan) using a case study outline that followed the format of the eight major themes in the codebook. Sixth, we developed two country reports synthesizing the case reports for Pakistan and Sudan. Country reports focused on the country context and a description of the timeline of Save the Children’s projects (including the budget, duration and beneficiaries reached); the effects of each project on project-specific health outcomes; and the interaction between project efforts and the resulting changes in the strength of the health system (i.e. explanatory propositions). Seventh, we obtained written comments on the country reports from the technical team and then conducted six key informant interviews with individuals who had been involved with the projects during their implementation. Each interview lasted about 75 min and the information gleaned from the interview was incorporated into the final country report. Finally, we conducted a cross-country analysis to determine the health systems themes that emerged from the two country reports. This paper presents the findings from the cross-country analysis.

Results

Table 1 presents summary findings from the two individual country reports (Sarriot *et al.*, 2019; Khalsa *et al.*, 2019). This section summarizes findings across these themes.

The priority of projects was on service delivery, which was reflected in the major achievements of each project. In the case of Pakistan, the projects’ objectives were the introduction and expansion of family planning and post-abortion care (FP/PAC) services in select facilities, which started as part of a multi-country effort to build capacity within Save the Children teams themselves. In Sudan, programming centred on primary care, including integrated management of childhood illnesses, malaria and malnutrition treatment, vaccinations, antenatal care, delivery care and postnatal care.

Evidence for systems effects

Projects in both countries progressively increased their orientation towards systems support and strengthening, and achieved financial transition of facilities (Sudan) and staff (Pakistan) to the government over their cycles of implementation. Regarding national coordination and policy setting, projects in both countries generally respected fundamental principles of alignment to national policies (sometimes supporting the updating or operationalization of policies) and coordination with government structures. In Pakistan, coordination with subnational structures, initially districts, created space for an expansion of the role of Lady Health Visitors (LHVs), and helped expand services. Harmonization with Family Planning

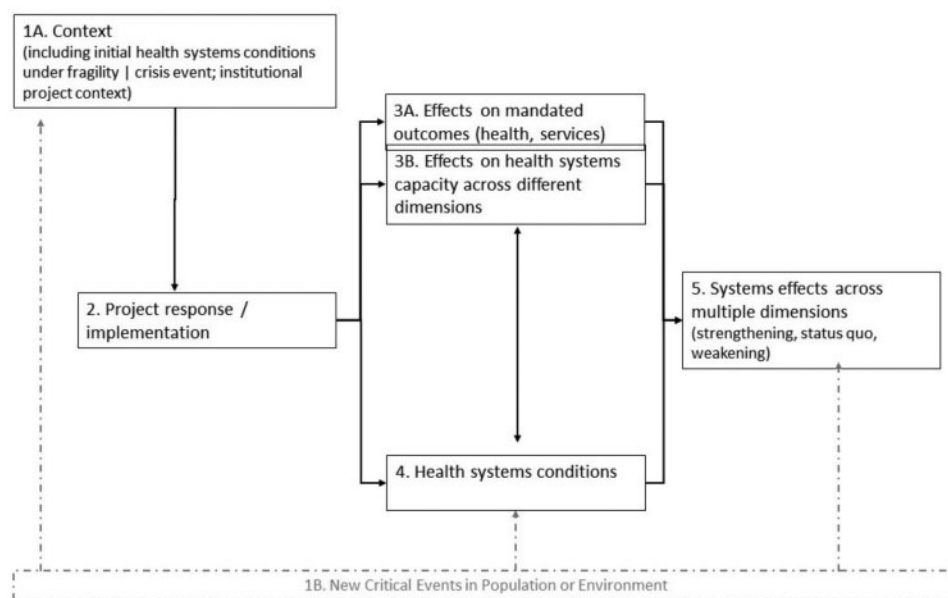


Figure 1. Theory of change for systems effects of EHN interventions.

2020 (FP2020) was used *de facto* as a proxy for alignment, notably in first project phases before the government intensified its leadership. At decentralized levels, this coordination may possibly have contributed to building some capacity through regular and joint reviews of data for management decisions. Outcomes of this learning-by-doing approach were not evaluated or documented.

With respect to decentralization and management capacity, several indicators (notably successful service expansion, documented transition strategies and the eventual handover of activities and facilities) seem to indicate that MOH processes for programme learning and management course correction may have improved over the course of implementation. On the positive side, Save the Children did work closely with the district- and provincial-level department of health (DOH) entities in Pakistan to improve management, and attention to transition needs increased between the first and third phases of the Pakistan projects. Based on documentation and key informant interviews in both countries, local- and district-level government coordination was, at least initially, stronger than with national entities. For example, national-level restrictions on non-governmental organization (NGO) movement in Sudan originated from political motives at a central level. Similarly, a newly decentralized system in Pakistan influenced the degree and shape of programme coordination with all levels of government. It required Save the Children to remain adaptive to government priorities at the national level, and quite possibly accelerated the systems strengthening orientation of the Save the Children projects.

In Sudan, Save the Children programming demonstrated strong success in engaging community organizations and societal partnerships. Save the Children strengthened linkages and accountability mechanisms between the MOH and other health system stakeholders while also improving community assets, including community health workers, volunteers and volunteer networks, and community health communities. Similar gains in Pakistan were slower to emerge, beyond a strong engagement behind the lady health worker (LHW) programme, and the development of a manual on community mobilization with the Pakistan Welfare Department (PWD) in the later project phases. Project documentation and informants

regretted delays in formative assessments and active steps of broad implementation with communities.

Though neither country's programming addressed costing and financing per se, some project activities resulted in positive evolutions in health financing. At a macro level, the MOH ultimately took over staff and clinical operations in Sudan, increasing the number of registered health facilities and leading increases in allocations to state health budgets. In Pakistan, Save the Children channelled costs towards governmental budget lines and subsequently expanded financing options for training costs and salary payment regarding the provision of FP/PAC services. While 'macro-costs' (e.g. clinical staff salaries) were mostly transferred back to the government in Pakistan, it was noted that 'micro-costs' (e.g. incentives for volunteers) could have significant value for the performance of referral systems, and their removal reduced performance. This is less a matter of financial dependency than an issue of proper planning for long-term national or local resourcing.

Building HRH was an overarching major contribution of projects to health systems, notably by developing technical and clinical skills in health services providers and task shifting/sharing, but also on discrete elements of management and information systems (databases, data collection tools, decision-making processes). In Sudan, expansion of human capacity came through training of volunteers and MOH staff [including traditional birth attendants and village midwives (VMWs)], improvements in task shifting/task sharing and expansion of service availability in new geographic areas.

Pakistan's contribution to human resources was more complex. Save the Children expanded the skills of clinical service providers and LHWs to provide new FP/PAC services and expanded important efforts in building supervision capacity to establish quality services. Save the Children, however, decided early in the first project phase to hire its own clinicians, due to a controversial (among its own staff) concern for the need to demonstrate rapid and quality results to maintain donor support. Save the Children, however, transferred most of the clinical staff to the government over the subsequent phases. This came along with a number of other transition steps, notably in supervision and management, at a time of stronger leadership signals from the government with emphasis on

Table 1. Summary of case study findings by theme for Sudan and Pakistan

	Pakistan	Sudan
Project Summary	Multiple refugee crises, compounded by internally displaced persons (IDPs) from massive natural disasters, have led to significant humanitarian interventions in Pakistan. In 2011, Save the Children started receiving funds from a large foundation to integrate family planning (FP) and post-abortion care (PAC) into the package of essential health services its EHN programmes provided in countries facing emergency, one of which was Pakistan. The project involved three phases, during which FP/PAC services would be scaled up within the Pakistani health system across 13 health facilities in three districts across two provinces. These EHN projects were a capacity-building initiative to strengthen ability to respond to health and nutrition needs of women and children affected by emergencies, particularly focusing on Afghan refugees and IDPs affected by flooding. The project goals included: (1) systematically integrating FP/PAC in Save the Children agency systems at global and country levels and strengthening core capacity in FP/PAC service provision; (2) developing, implementing and monitoring FP/PAC programmes serving IDPs in Pakistan; and (3) initiating and implementing FP/PAC programme in new emergencies which may occur in countries with a high IDP and refugee populations.	Though Save the Children has been operating in Sudan for more than 30 years, political conflict has contributed to persistent instability and a crippled health system, ranking the country as the fifth highest on the world fragility index. In 2013, Save the Children received funding from the USAID Office of U.S. Foreign Disaster Assistance (OFDA) to carry out a series of projects in the Darfur and Kordofan regions. The projects followed a generally similar format of implementation in both states, employing intensive community-based strategies to build the capacity of the health system through an integrated approach across four key sectors: Health; Nutrition; WASH; and Child Protection (CP). Beyond the provision of direct health and nutrition services, Save the Children supported the construction and rehabilitation of WASH infrastructure along with community WASH education. Save the Children emphasized the inclusion of both host communities and displaced populations in the provision of EHN, WASH and CP services in Darfur and Kordofan states. Additionally, conflicts that arose in Sudan and South Sudan over the timeline of the projects caused shifts in population movement and increased numbers of IDPs, so the different project phases were adjusted to meet the needs of fluctuating populations.
Direct Health and/or Services Achievements	The emergency health programs expanded services and supplies for FP/PAC to refugees. It supported facilities, which expanded services and uptake of FP/PAC to both displaced and host populations. Additional needs of the community identified by trends in facility reports were also regularly and formally communicated to the department of health (DOH) and donors.	Project focus was on increasing accessibility of a quality essential package of health services to both IDPs and underserved host communities, inclusive of infrastructure, human resources, management and technical support, health facility commodities, nutrition centres and mobile outreach services. Plans were made to hand over health facilities and activities to the Ministry of Health (MOH) or local community-based organizations.
National Coordination and Policy Setting	Save the Children obtained approval for the project with central and provincial levels, but effectively co-ordinated first at district level in order, and recruited its own clinicians. Central level advocacy and coordination was a secondary priority compared with implementation and was predominantly carried under the FP2020 movement.	Save the Children contributed to national coordination and policy forums. Despite restrictive national policies on non-governmental organization (NGO) operations, the government's coordination with humanitarian partners ultimately enabled the implementation of health interventions by the MOH, Save the Children, and other partners. MOH ownership was promoted through close coordination of activities. Projects supported updating national guidelines.
Decentralization and Management Capacity	While co-ordinating with district health departments, Save the Children staff did not necessarily see themselves initially, as systems strengthening actors. Stronger government decentralized policies in Phase II established the importance of working in closer coordination with the province's DOH (above districts) and the national PWD, which was (re)established as the authority for FP/PAC clinical training. Save the Children increased its <i>de facto</i> role in capacity building for training, supervision and use of information for management decisions. Addressing decentralized management issues evolved to development-type activities by Phase III, with increased attention to 'transition' needs. The orientation towards transition and system strengthening evolved by 'muddling through' without explicit evaluation.	The projects did not explicitly target or document changes in the MOH's decentralized management capacity. Indicators—such as successful service delivery outcomes, documented transition strategies and eventual handover of activities and facilities to the MOH—however, suggest gains in MOH capacity. Service delivery sites were eventually handed over to the MOH as Save the Children progressively transitioned out of these areas.
Engagement with Community Organizations and Societal Partnerships	Save the Children worked primarily through the recognized government lady health worker (LHW) program over three phases. Save the Children expanded engagement to community groups themselves only progressively, through training of its own outreach staff and then national partners, as the DOH and PWD increased their involvement in the LHW program. A redesign of the	In a challenging national context, Save the Children partnership with community assets—community health workers (CHWs), volunteers, volunteer networks, community health committees (CHCs), and community networks for WASH and child protection—increased service utilization and possibly strengthened trust and accountability between the MOH, health facilities, and

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Table 1. (continued)

	Pakistan	Sudan
Costing and Financing	community approach was recommended as late as Phase III. The project did not initially address sustainability issues related to costing and financing (hiring its own staff). By Phase II and III, the project fully supported the national policy of devolution to provinces, and channelled more costs to PWD and DOH budget lines. Save the Children largely phased out of paying salaries by Phase III and phased out international trainers in favour of national (PWD) trainers. Project activities however also saw negative service utilization consequences when micro-costs (volunteer incentives for Lady Health Workers, excluded from devolution plans) were removed.	communities, notably through community-level monitoring, surveillance, and referrals by volunteers and CHWs. Save the Children programs were not designed to address health services financing. By increasing the number of functional facilities registered and managed by the MOH, projects indirectly contributed to the federal government's allocation for states' health budgets. Save the Children's activities also stimulated community-owned local-level financing initiatives.
Human Resources	Save the Children launched a broad human resources development strategy that focused on clinical service providers and LHWs. It also addressed supportive functions—use of information and supervision. To rapidly introduce new services (FP/PAC) and generate demand through quality services, Save the Children and its donor chose to recruit, train and equip its own staff first. This fits the multi-country funding mandate of the project. When the MOH required full PWD endorsement of trainings, and devolved authority to Provinces, Save the Children <i>de facto</i> repositioned the project to better contribute to systems strengthening with trainers, trainees and recruits mostly from the MOH by Phase III. Evolution towards systems strengthening was interdependent with leadership steps taken by the government itself. Both expected and unexpected tensions, however, endured by the end of our study.	In the absence of direct measures, human resource strengthening is suggested from projects' achievements. Save the Children expanded human resources capacity and task shifting in programme locations, increasing service delivery rates. Strengthened linkages between MOH staff and community resources such as CHWs, traditional birth attendants, VMWs and community networks were documented.
Supply Chain Management	Save the Children initially developed its own procurement and supply chain for the projects ('parallel systems'), but co-ordinated with the government and aligned with regulations on local procurement of medical supplies. Evolution in practice over the project phases led to clearer capacity building (technical assistance and problem solving) objectives. By Phase III the project actively supported government-operated FP/PAC procurement and supply chain management, but still was asked to directly recruit one staff to operationalize the establishment of a pharmacovigilance system, as part of strengthening of the supply management system.	Save the Children operated its own supply chain management in coordination with partners and donors, as the MOH did not have a supply chain management system in place that was capable of responding to service delivery needs. Save the Children supported MOH facilities in programme areas with cold storage infrastructure. There was no indication of increased health system's ability to manage procurement and supply of commodities.
Data—Health Information Systems, Monitoring and Evaluation (M&E)	Save the Children placed important emphasis on data processes, reference to data for decision-making, use of special studies and evaluation throughout the three project phases. This involved training on data tools (registers, logbooks, reports), ongoing joint reviews with facility staff, adaptation of DOH/PWD tools and introduction of new tools to support patient tracking, quality of care or logistical flows, as well as repeated emphasis on use of information for decision-making. As in other areas, the primary beneficiaries of these efforts were initially Save the Children staff before focusing on DOH facility staff. Capacity building was not a measured objective, but possibly happened and was reported, in good part from 'learning-by-doing'. Projects may have contributed to a number of necessary but not sufficient systems elements to establish sustainable information systems and build a monitoring culture.	Save the Children projects contributed to a community management of acute malnutrition database and the WHO Early Warning System for disease surveillance. Joint implementation possibly increased capacity of facilities in data collection and management. Regular management processes, led with country partners, may have advanced the practice of data use for decision-making. Beyond these contributions, there is very little information available on the sustainability potential of project achievements.
Quality of Service Delivery and Referral	Save the Children built the conditions for quality of FP/PAC services. This included the introduction of new care procedures and practices, extensive skills building of Save the Children and then government staff, training of	Programme activities to strengthen quality of service delivery included improved facility preparedness, joint monitoring visits to facilities with programme technical staff and MOH service delivery staff, and technical training to

(continued)

Table 1. (continued)

Pakistan	Sudan
national master trainers, collaboration with the PWD and institutionalization of standards, diffusion of learning and skills to support task shifting, attention to data and performance with remedial and adaptive steps, and measurement of client satisfaction. Positive client–provider interactions and quality of services supported by community engagement and demand generation drove the successful uptake of services in the eight target facilities. There was no evaluation of the systems to sustain quality of service. By end of Phase III, Save the Children considered the need for a new phase to accelerate integration of quality improvement across services, and the conditions for sustainability.	health workers. Measures to assess the sustainability of quality improvement were not available. Save the Children adapted its plans and trained VMWs and strengthened referral linkages to increase coverage and quality of delivery care given strong cultural resistance for facility delivery. Projects also supported surveillance capacity, outbreak response and MOH capacity to contribute to large immunization campaigns. However, procurement of vaccines and commodities was facilitated by Save the Children and sustainable MOH supply and financing were addressed.

decentralization to provinces. Transition came, however, with a decrease in intensity of supervision efforts once under the full responsibility of the provincial DOH. A first phase innovation, which had shifted new clinical responsibilities to Lady Health Visitors (LHVs), was supported, evaluated and reportedly seen positively by MOH decentralized partners (districts). It had, however, not (yet) been approved as a policy at national level by the end of the study (when provinces had been given greater oversight).

In terms of supplying commodities, Save the Children largely directly managed to ensure availability of supplies. Support shifted to new needs, e.g. supporting the MOH with cold storage facilities in Sudan, but we found no clear indication of a supply system strengthening. In Pakistan, the supply interventions aligned with regulations for local procurement and devolved appropriately as the government chose to expand its role in FP-procurement. By the end of project Phase III, while supply management was nationally led, Save the Children was still asked to take a direct but new role, recruiting a key personnel to support launch of a pharmacovigilance system.

In both countries, Save the Children also adopted a ‘learning-by-doing’ approach to building capacity in data systems (Health Information Systems and Monitoring and Evaluation). For example, Save the Children contributed to a community management of acute malnutrition database and the WHO Early Warning System for disease surveillance and may have built local capacity by improving the use of data for decision-making. In Pakistan, documentation showed a strong emphasis on data processes, including training on data tools, joint reviews with facility staff, adaptation of DOH/PWD tools and introduction of new tools for patient tracking, quality of care, logistical flows and using data for decision-making. In both cases, however, measured demonstration of gains in data systems capacity was limited or non-existent. Documentation and evaluation of project components lagged programme efforts, and did not capture decision steps, or changes in health systems capacity, beyond the service indicators required contractually.

Projects in both countries contributed to quality of service delivery and referrals. In Sudan, this came from strengthening training for VMWs in key interventions at birth and strengthening referral linkages. In Pakistan, this came from the introduction of new care procedures and practices, extensive skills building of both Save the Children and government staff, training of national master trainers, and collaboration with the PWD. Save the Children noted a successful uptake of services in the eight target facilities, driven by measured positive client–provider interactions, community engagement and demand generation. If there was increased capacity to sustain

quality improvement systems beyond project life, it was not documented.

Informant interviews strengthened our impression from project documentation that a systems orientation of the projects evolved over time and was somehow negotiated based on opportunity and constraints, rather than being explicitly established. Emergency response inherently limits focus on systems strengthening. Informants showed a favourable orientation towards ‘wishing’ for more HSS impact, but this orientation was implicit, without a strongly formulated vision in project documents. Ultimately, the negotiation of project orientation towards systems strengthening belonged to this implicit internal negotiation space.

These generally positive observations come, however, with qualifications, caveats and limitations from the perspective of strengthening systems. Our findings are based on retrospective observations, with intentionally limited hindsight judgement on choices made by the projects at any point in time. In both countries, some parallel systems were set in place, at least initially. We also found insufficient information about establishing quality assurance systems, even when quality of care had been a priority project issue. Questions remain in Sudan about the actual transition of financing for facilities and the level of capacity building for health information systems as well as monitoring, evaluation and learning functions. In Pakistan, we noted partial devolution to the DOH and decreased intensity of training and supervision. While Save the Children made useful contributions to establish sustainable information systems and build a monitoring culture, we could not document what systems could effectively remain in place post project.

Discussion

Due to the case study design of this paper, our results do not allow making absolute and generalizable statements (see Limitations section, below), but they provide an added component to the experience and literature, which frames our thinking about the systems effects (both positive and negative, intended and unintended) of successive EHN projects. Our discussion consequently builds first on our findings but expands to include implications that advance the existing literature and ongoing questions of the field.

Overarching lessons

Our findings reinforced the theory about a two-way relationship between projects and country structures (Figure 1) that emerged from our review of the literature. Projects operate in a social-institutional

ecosystem. They find their role in dynamic tension between their mandate, project leaders' mixed or tacit aspirations (juggling both urgent population needs and the long-term obligation towards national systems), and the shifting relationship with and orientations of the government itself. This tension goes both ways—project to system and system to project (Affun-Adegbulu *et al.* n.d.; Ozano and Martineau, 2018)—and is not without frictions and the necessity of adaptive management (Andrews *et al.*, 2016). In Pakistan, for example, our informants offered differing views on the project options that were initially available or desirable. Project personnel chose to achieve results and ensure quality of services under the concern that lack of progress might have led to an early termination of the project after the first years of implementation. It did so in coordination with subnational management structures and approval from the MOH. Ultimately, government (systems) decisions and firm communication helped the implementing agency (project) increase its focus on systems support and systems strengthening. This suggests that while projects have an effect on health systems, systems strengthening outcomes and the sustained impact on population health result from a combination of project effects, endogenous health systems' evolutions, and their interaction.

We also noted some development-type challenges, at least when it comes to interaction with government and stakeholders, which may be due to our focus on 'mid-size' projects in chronic emergencies over multiple years. These include the universal structural challenges of drug and commodities' procurement and supply management, or the example of small incentives for volunteers, which we called 'micro-costs'. This similarity supports the concept of a humanitarian-development *nexus* (Affun-Adegbulu *et al.* n.d.; Mosel and Levine, 2014; OCHA, 2018a; Ozano and Martineau, 2018) and was corroborated both by informants and a set of similar case studies implemented in the context of development (Hejna and Sarriot, 2019; Olivas and Story, 2019; Pritchard *et al.*, 2019; Story *et al.*, 2021).

The issue of 'micro-costs' will itself need proper consideration in the future, building on the recent WHO guidelines for community health workers (Cometto *et al.*, 2018). This may be controversial but, just as salary costs need to be properly integrated in long-term plans, if small incentives to volunteers have a substantial positive impact in the operations of referral systems, we may need to consider integrating them in a well-designed and ethical payment structure.

Programmatic implications

What opportunities for strengthening systems can be found in the 'window of opportunity' of EHN programmes (Bertone *et al.*, 2014)? We start with projects themselves, but we could not avoid developing suggestions for the 'institutional ecosystem', which we think aligns with the wisdom of a New Way of Working (OCHA, 2017), its call for collective outcomes and actor engagement, and with researchers calling for better use of data and evidence (Affun-Adegbulu *et al.*, n.d.; Ozano and Martineau, 2018).

Not every wheel needs to be reinvented

Projects and their donors should continue to value what already shows potential in programmatic choices. Focus on results and benefits to people was an overarching drive of the study projects, and—apart from the initial decision made in Pakistan to directly hire clinicians—was not in opposition to positive systems contributions. In fact, even in Pakistan, the demonstration of expanded benefits to the population may have been one of the drivers for the government reasserting its leadership and taking on more of the human and

commodities' costs. Investments in human resources, strengthening and linking community systems and resources to local and subnational health systems management, improving quality and utilization of data, creating space for coordination and management of the complexity and diversity of implementers (both within and outside of the government), finding efficiency gains in supply management, and building the conditions for quality of care and the proper balance between prevention and curative services are (and remain) potentially valuable to the long-term strength of health systems if done effectively. Combined with improved learning and evaluation, mid-size interventions have the potential for positive systems strengthening impact. We need to break the occasional mental association between 'large-scale' and 'systems strengthening'. Large-scale interventions can create more change than mid-scale ones, but that goes both for positive and negative effects. Changing a key relationship or efficiency hinge (e.g. coordination of improved task sharing) at a sub-national level can be 'systems strengthening' if the demonstration of performance and efficiency gains and accompanying engagement of national stakeholders allow it to be scalable. The point is for each type of project to fit the appropriate opportunity for potential systems strengthening.

Evaluation and learning are critical to the advancement of systems strengthening

Evaluation and learning are the only tools differentiating good intentions in systems strengthening from effectively strengthened systems. Without serious evaluation investments, little will be achieved in maximizing the opportunities created by projects. Limited evaluation restricts the robustness of lessons learned, and very-consequently the ability for local and national stakeholders to discern which approaches deserve expansion and replication. In other words, evaluation is not just key to demonstrating what systems improvements have been achieved, it is a major limiting factor to advancing systems strengthening.

We cannot overstate the importance of evaluation and learning, and yet we need to stay clear of the temptation to decontextualize the choices that individual projects must make. It would be both facile and wrong to recommend that future projects assess all systems effects, preferably 'holistically', involving all stakeholders in all things. The call for evaluation and learning must go to countries, donors, researchers and implementing agencies (NGOs, UN or other) in the ecosystem of individual projects, first, as projects have limited discretion in and by themselves about their scope, and secondly, as the science of HSS evaluation is itself challenging and evolving (Adam *et al.*, 2012; Chee *et al.*, 2013; Aqil *et al.*, 2017).

Advocacy can be a system strengthening intervention, if carried out with accountability and respect for national systems

Given the complexity within the governments supported by projects, we should not underestimate the value of time spent on advocacy to influence governance and policymakers. All projects in our study sought to fit within national guidelines, obtained the necessary approvals and carried some advocacy to facilitate their work at the local level. The question is whether this was perhaps sometimes done 'as a matter of fact' by project managers, without enough realization that the number of mid-size projects implemented in a country in emergency contexts can have large influence at the aggregate level. Coordination mechanisms and technical groups often exist. It may be useful to research whether these could increase their impact by having a strategic approach to advocacy, and whether projects could integrate this role more specifically in their plans. This would

be appropriate, e.g. to address not only health worker compensation as salaries but also for the micro-costs. Large international NGOs, such as Save the Children, which have strong advocacy arms could explore ways to find more synergies between national advocacy and programme implementation ‘in the weeds’. Further opportunities for emergency projects to advance systems strengthening may, however, rest with collective efforts of the emergency response partners’ ‘eco-system’, as single-project and single-minded advocacy efforts in a fragile health system also carry the risk of negative disruption without some form of accountability.

Efforts to benchmark stages of maturity of different health sub-systems coming out of crises could have substantial benefits

Some efforts are already under way, in line with global efforts to stage the nature of crises—country ‘fragility’—with draft typologies of appropriate engagement and response in health and humanitarian response (Affun-Adegbulu *et al.*, n.d.; ALNAP, n.d.; WHO, 2012; OCHA, 2014; IRC, 2016; Jowett *et al.*, 2019). UHC 2030 recently released guidance on assessing healthcare under stress (Pavignani and Colombo, 2019); these efforts are critical and could one day provide better guidelines for programme implementation. Better and shared recognition of the status of specific components of the health system may allow a more dynamic approach to programme designs, based on changing context and systems strengthening opportunities. This could allow individual projects to better assess their potential role in developing local innovations (Hinds, 2015; de Castellarnau and Stoianova, 2018; Ozano and Martineau, 2018), whether it be through task sharing, developing new health cadres, expanding linkages to human capital in communities, new partnerships, digital health or other innovations.

Not all disruptions are positive, but all innovations require some disruption

Emergencies can occur in contexts of weak governance (Brinkerhoff and Bossert, 2008), which may co-exist with excessive central control and insufficient local adaptation and innovation. In emergency contexts, this strong central control relaxes, allowing disruptions that can lead to innovations. Only time will tell if evolution of the LHV clinical role in Pakistan, first permitted by districts, will become institutionalized if evidence convinces province and national levels that it was a positive disruption, which has expanded the capacity of the system to deliver FP services, or if it will be retrospectively judged as non-alignment at a time when central oversight was looser. As all innovations require some disruption, to minimize the risk of *negative* disruptions in the context of fragile governance, involvement of national stakeholders, from government to academia and civil society, needs to be actively pursued (e.g. the FP2020 example above). Better benchmarks, collaborative learning, mutual accountability and commitment to evaluation can help projects drive innovations to expand the performance of health systems. Cluster and coordination forums remain essential to optimize project interventions in fragile systems.

Can we develop stress tests of health systems components?

The reflection on transition benchmarks is not recent (Brinkerhoff, 2008), possibly suggesting that solutions will not be easy to come by. Beyond useful readiness measures (MSH, n.d.) and transition benchmarks, the global community may consider innovating to develop ‘stress tests’ for key structural health systems elements such as drug procurement, supply management and health information systems. Though abolishing parallel systems is widely desirable, stress

tests—if they can be developed and their reliability proven—could signal to projects whether to accept or reject gap-filling measures, based on evidence. Accordingly, we noted positive transitions back to governments, but had no information as to what performance this transition allowed to sustain. If predicting the success of transition may remain challenging, could small-scale stress tests of actual local transition efforts provide signals to the aid community that conditions for wholesale transition are or are not met? This would perhaps rationalize the balance between protection of population health and long-term systems strengthening goals.

Can better collective intelligence (coordination, evaluation and learning, benchmarking, accountability) lead to a better fit of individual projects with national systems strengthening ambitions?

Most mid-size projects will not have the discretion to expand substantially their evaluation and learning budget during a rapid emergency response. A possible step forward might be for the donor community and the cluster mechanism to keep track of the level of overall funding to an emergency (which they already do) and trigger increased funding for evaluations at different thresholds, not simply to look at aggregate results or the health system as a whole (Pavignani and Colombo, 2019), but to actually boost evaluations of individual projects where sub-national innovations show potential for systemic influence. These funds might go to academic partners or independent researchers working closely with project implementation teams and stakeholders themselves. On some questions, these investments could go to rapid system assessments, collaboration, learning and adaptation efforts (USAID, n.d.), or use scenario approaches to map the potential and risk of different pathways. These assessments could benefit multiple actors in any given area including the government, and build capacity for adaptive management, the understanding of uncertainty and the use of data.

Limited funding for the transition from a humanitarian response to development programming is a missed opportunity

The issue of funding drop at the end of a crisis, also not a new concern (Steets, 2011), came up throughout our study. In both countries, we saw some positive evolutions towards a development approach and systems strengthening over time, but informants emphasized the paradoxical ‘risk’ of moving to a post-emergency status. Given that continued funding can prove to be far more efficiently spent than start-up investments (Sarriot *et al.*, 2011), this feels like a substantial lost opportunity on a global scale. Traditional donors and international NGOs bring substantial financing to emergency situations. Is it time to test innovations whereby a portion of humanitarian response funding is set aside for development programming for an extended period after the conclusion of humanitarian programming? These funds could be set aside by donor and implementing agencies themselves, or through pooled funds, and might help incentivize projects and governments towards early systems strengthening orientation. It is not impossible to imagine, given the number of collective efforts around the globe.

Future research

Most of the discussion points above translate to potential research questions. A first question must be raised, however: how much research can be carried out by single projects as opposed to mechanisms cutting across institutions and projects? Given the overbearing role of an ‘eco-system’ of actors, and the time and duty-bound role of single projects, research questions need to match the mandate and influence of actors.

At a single project level, research is critical to advance evaluation models. If mid-size projects can be influential on health systems, as supported by our case studies, then what is the essential requirement for evaluation to maximize their contribution, without hindering the call for emergency response? Who does what? With what engagement of local actors? What does it cost? And who pays for it?

Collective efforts and global partnerships have become somewhat normative in global health. Our encouragement for 'stress tests', building collective intelligence, and a second look at transition funding would all require the development of a multi-donor and multi-agency research agenda with contributions from the groups mentioned in this study, among others.

Our case studies suggest that lessons can be learned from both centralized and decentralized centres of the health systems. Research must find ways to move forward with national, but also subnational and local, actors as primary learners and designers for the future.

Limitations

This case study was not an evaluation of a project or group of projects, but an exploratory and analytical examination of health systems effects of successive projects, which already carried out their mandate. The study is a natural exploration on how system effects manifest themselves, and how health systems influence and are influenced by projects. As such, it offers limited opportunity to promote generalizable solutions when 'context is one of the most important barriers to the making of recommendations for interventions which are evidence-based and can be universally applied in all fragile settings' (Affun-Adegbulu *et al.*, n.d.).

We discovered that gathering all documentation about projects implemented by Save the Children had some challenges and project documents had their own limitations. Key informant interviews were essential to providing nuances or correction about the sequence of events on several elements. Unfortunately, finding informants with a clear memory of these projects' history proved to be difficult, given high project staff turnover and the remote implementation of the study. More field-based research and additional key informants, notably from national institutions, would likely have been helpful with additional resources.

As already discussed, a general limitation is that a substantial number of lessons that were inferred from the project documents could not be conclusive for lack of focused evaluation efforts on these themes. This was primarily due to the projects' mandates and donors' reporting guidelines. Even process elements that may have strengthened the health system, such as the execution of exit strategies and handovers, were not detailed in these reports and corresponding measures of success were not available.

Regarding the case study methodology, the field of HSS is struggling to advance a clear evaluation model (Adam *et al.*, 2012). While gap-filling or parallel systems are easily recognized (e.g. payment of staff or procurement of goods by an international agency), making a clear pronouncement on whether a project intervention 'supported' or 'strengthened' the health system remains challenging. We considered developing a process to critically review all findings and explanatory propositions to establish a supported vs strengthened rating, but did not feel our approach (including the methodologies used in the documentation of each project) was suited for this type of analysis. We used explanatory propositions, expanding on evaluation questions from previous authors (Chee *et al.*, 2013), but as useful as these propositions were in constructing a multidimensional narrative, they did not have the simplicity and power of reliable quantified measures of change.

Finally, our case studies involved successive chronic emergency mid-size projects (which we define as representing \$500k to \$1.5 million annually). This limits the applicability of our conclusions, notably in acute crises.

Conclusion

We conclude that even mid-size projects can have meaningful contributions to systems strengthening. It is, in fact, our opinion that they should. But nothing is guaranteed. Tacit orientation and interest in contribution to long-term gains require better tools—notably evaluation—to become explicit and strategic. Implementation agencies and donors have the duty to maintain focus on addressing peoples' needs, as the first and ultimate driver of systems change. There is room to improve contributions to national system strengthening, but ultimately with a substantial burden of responsibility on the collective institutional eco-system of humanitarian and development assistance. Our suggestions overall make the case for shared systems and performance outcome metrics (Aqil *et al.*, 2017) at collective or sector level, with stronger process and focused outcome metrics at the individual project level, to maximize learning from local/subnational efforts. Continued research efforts and advances in evaluation research on the humanitarian to development nexus are critical and can make a difference.

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Supplementary data

Supplementary data are available at *Health Policy and Planning* online.

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