



GAVI ALLIANCE

**EVALUATION OF GAVI SUPPORT TO CIVIL SOCIETY
ORGANISATIONS**

17 January 2012

COUNTRY EVALUATION REPORT - PAKISTAN

Prepared by:

Anita Zaidi with specific inputs from Ayesha Khan

and support from:

Cambridge Economic Policy Associates LLP



CONTENTS

Acronyms and abbreviations	iii
Executive summary	v
1. Introduction	1
1.1. Objectives of the country study.....	1
1.2. Methodology.....	1
1.3. Structure of the report	1
2. Country context and GAVI support.....	3
2.1. Background.....	3
2.2. Health and immunisation sector.....	3
2.3. Role of Civil Society Organisations	5
2.4. Overview of CSO and other GAVI support in Pakistan.....	6
3. Evaluation of policy rationale and programme design	7
3.1. Relevance of GAVI CSO support in Pakistan	7
3.2. Programme design	8
4. Evaluation of programme implementation	10
4.1. Role of GAVI stakeholders.....	10
4.2. Country implementation.....	10
5. Evaluation of programme results	14
5.1. Evidence on results	14
5.2. Unintended consequences.....	16
6. Recommendations	17
6.1. Recommendations to improve effectiveness of the programme.....	17
6.2. Channelling of funds.....	18
6.3. Integration with the HSFP.....	18
7. Conclusions.....	20
Annex 1: References.....	A1
Annex 2: List of consultees.....	A3
Annex 3: Country situational report	A5
Annex 4: CSOs participating in the GAVI CSO programme in Pakistan.....	A15
Annex 5: CSO activity matrix	A16
Annex 6: Timelines and utilisation of GAVI Funds across CSOs	A17
Annex 7: Case study.....	A20
Annex 8: Factors impacting effectiveness.....	A25
Annex 9: Review of Aga Khan University Grant, Pakistan	A26

ACRONYMS AND ABBREVIATIONS

Acronym	Full description
AKHSP	Aga Khan Health Services Pakistan
AKU	Aga Khan University
APR	Annual Progress Report
BHU	Basic Health Unit
CBO	Community Based Organisation
CEPA	Cambridge Economic Policy Associates
CHIP	Civil Society Human and Institutional Development Programme
CHW	Community Health Worker
CSO	Civil Society Organisation
DFID	Department for International Development
DTP3	Three doses of Diphtheria-Tetanus-Pertussis vaccine
DTP-Hep B- Hib	Diphtheria-Tetanus-Pertussis-Hepatitis B-Haemophilus influenzae type b
EoI	Expression of Interest
EPI	Expanded Programme on Immunisation
FATA	Federally Administered Tribal Areas
GAVI	GAVI Alliance
GAVI IRC	GAVI Alliance Independent Review Committee
GDP	Gross Domestic Product
GFATM	Global Fund for AIDS, TB, and Malaria
HANDS	Health and Nutrition Development Society
HIV	Human Immunodeficiency Virus
HSFP	Health Systems Funding Platform
IMF	International Monetary Fund
INS	Injection Safety Support
ISS	Immunisation Services Support
JRF	Joint Report Form
JICA	Japan International Cooperation Agency
KP	Khyber-Pakhtunkhwa province
LHW	Lady Health Worker
MCH	Maternal and Child Health
MDG	Millennium Development Goals
MoH	Ministry of Health
NHSCC	National Health Sector Coordinating Committee

Acronym	Full description
NICC	National Inter-agency Coordination Committee
NORAD	Norwegian Agency for Development Cooperation
NID	National Immunisation Day
NVS	New and underused Vaccines Support
PDHS	Pakistan Demographic and Health Survey
PPHI	People's Primary Healthcare Initiative
SC/UK	Save the Children, United Kingdom
SNID	Sub-national Immunisation Day
TBA	Traditional Birth Attendant
TT	Tetanus Toxoid
UC	Union Council (sub-district)
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organisation

EXECUTIVE SUMMARY

Pakistan is the world's sixth most populous country with an estimated 184 million people. Although a middle-income country with a GDP of \$1,000 per capita, it faces multiple fiscal, human resource, governance, natural disasters and insecurity-related challenges impacting the performance of its health and immunisation sector. DTP3 vaccine coverage of 88% is reported for 2010 however many stakeholders in the country believe that this is an overestimate. The widespread outbreak of poliomyelitis in over 30 districts of the country lend credence to actual vaccine coverage figures being much lower in areas outside of the Punjab province.

The dissolution of the Ministry of Health at the federal level on 30th June 2011 has uncertain but potentially far-reaching implications for health and immunisation programmes. Currently, the National Expanded Programme on Immunisation (EPI) has been housed within the Ministry of Inter-Provincial Coordination at the federal level.

CSOs play an important role in Pakistan's health sector, primarily in activities that complement service delivery such as conducting vaccine campaigns/ camps, training, providing equipment and related supplies, etc. Immunisation services are largely provided by the government, with a smaller contribution by the private sector and CSO-run charitable clinics mainly in urban areas. Some local CSOs have also been engaged in immunisation service delivery in rural areas of Sindh and Gilgit-Baltistan provinces.

GAVI's Type A support in Pakistan enabled the formation of a consortium of 15 CSOs. The consortium participated with the government, UNICEF and WHO in the development of the country proposal for CSO Type B funding. Type B support provided funding for the consortium to undertake programme activities in 33 districts (population 5 million). Programme activities were coordinated and monitored by a small unit of three individuals set up as a GAVI CSO Support Coordinating Unit. The unit was set up within the Ministry of Health, but physically housed in the UNICEF office, through which funds were also channelled to CSOs. As the government was a co-signatory, release of funding required government approval as well. Type B funded activities included a combination of immunisation-specific activities and other maternal and child health promotion activities.

Most country stakeholders viewed GAVI CSO support in Pakistan as an effective strategy for improving the performance of the immunisation programme, and CSOs as a major untapped resource in this regard. CSOs, government, and partners considered this partnership to have high value for meeting GAVI objectives. Although most stakeholders viewed the programme as closely aligned to country health priorities, many suggested that GAVI and government should more carefully define programme objectives in terms of expected results, focusing specifically on immunisation programme-related indicators, and providing direction to CSOs to support immunisation programmes in areas with poor vaccine coverage to achieve country-level impact. A key programme design flaw identified was lack of planning and budgeting for results, which hinders evaluation of programme impact.

The country coordination mechanism (with support provided by government and UNICEF) and monitoring processes were positively regarded and viewed as effective. Another key factor in ensuring successful implementation is pre-existing local relationships at the grass-roots level. The

interaction with the GAVI Secretariat was also viewed favourably. However, slow channelling of funds was identified by CSOs as a major impediment to timely implementation of activities. Of particular concern was the discontinuation of funding to CSOs for two months as a result of disbanding of the Ministry of Health. This created serious cash flow problems for the smaller CSOs, and in some cases, disrupted programme activities. Other implementation challenges identified related to the difficult security situation in Baluchistan and problems in finding female staff willing to work in remote areas.

The most visible impact of GAVI CSO support in Pakistan was considered to be the formation of a consortium of stakeholders (between CSOs, government, UNICEF and WHO) interested in improving country performance in immunisation and maternal-child health through Type A funding. This was viewed as a unique foundation building exercise to foster interest among CSOs for engagement in the immunisation sector. Type B funded programme activities were also considered as showing promise for achieving results but inadequate project duration and limited funds for assessment of impact on immunisation and maternal and child survival indicators were considered as programme shortcomings. The funding available for CSO activities was also considered too low to have meaningful country level impact, especially for Type B funding. Despite this, tangible results of improvement in government-reported vaccine coverage from several areas where CSOs were operational are available.

Stakeholders were strongly supportive of GAVI continuing to fund CSO programme activities. However, many specific recommendations for improvement were made. These include: (i) improving clarity of GAVI CSO programme objectives and expected outcomes and making these more immunisation-specific; (ii) increasing project duration; (iii) increasing funding levels; (iv) streamlining disbursement mechanisms; and (v) further engagement of provincial stakeholders by GAVI. Regarding channelling of funds to CSOs, two alternative approaches suggested by CSOs were: to fund the consortium through a large local CSO with the capacity to administer funds; or to continue the current mechanism but with a provision allowing UNICEF to disburse without delay if there is disruption in government functioning. Most CSOs favoured the latter option as it maintains both UNICEF and government as important partners in the consortium. It was hard to get a unified government opinion on the issue of channelling of funds, on account of uncertainty as country mechanisms for dealing with devolution of the Ministry of Health are still being worked out. Similarly, stakeholders were unsure about how the possibility of integrating GAVI CSO Support and other GAVI cash support within the Health Systems Funding Platform would play out in Pakistan, and advised caution in this regard.

1. INTRODUCTION

This report provides an evaluation of GAVI CSO support in Pakistan and forms a part of Cambridge Economic Policy Associates' (CEPA's) overall CSO evaluation report. The report has been prepared by Anita Zaidi with specific inputs from Ayesha Khan on a review of the Aga Khan University (AKU) grant¹ (CEPA's country partners in Pakistan), and support from CEPA.

1.1. Objectives of the country study

Pakistan is one of five country studies being undertaken under this evaluation.² The specific objectives of the country study are as follows:

- to understand the relevance of GAVI CSO support in the country, including the alignment of country funded programmes with broader immunisation/ health sector plans and priorities, as well as the suitability of various aspects of the programme design;
- to document the country's experience in implementing the programme, including identifying factors that have promoted or impeded effectiveness;
- to collate information on the results achieved through the funding to date; and
- solicit feedback on the suggestions for improving the effectiveness of the programme going forward.

The country study forms an important source of evidence for our evaluation of the policy rationale and programme design, implementation, and results of GAVI CSO support.

1.2. Methodology

The country study draws on information from: (i) country-level documentation; and (ii) interviews with local stakeholders during October and November 2011.

1.3. Structure of the report

The report is structured as follows: Section 2 provides the country context and overview of GAVI support in Pakistan. Sections 3, 4, and 5 respectively present an evaluation of the policy rationale and programme design, implementation, and results of GAVI CSO support in Pakistan. Section 6 provides some recommendations on improving GAVI CSO support, based on country-specific experience and feedback. Section 7 concludes.

This country report is supported by annexes on: bibliography (Annex 1); list of consultations (Annex 2); a copy of the Pakistan situational report prepared before stakeholder consultations (Annex 3); CSOs participating in Type B funding and geographical areas covered (Annex 4); summary results on Type B funding (Annex 5); a case study on using pay-for-performance mechanisms to boost immunisation coverage (Annex 6); timelines and utilisation of GAVI funds

¹ This is to avoid any conflict of interest as Anita Zaidi is employed at AKU.

² The other country studies are on DR Congo, Indonesia, Ethiopia and Afghanistan. The CEPA team is visiting the former three countries, and local partners have been appointed for Afghanistan and Pakistan.

across CSOs (Annex 7); a table on factors impacting effectiveness (Annex 8); and a review of the Aga Khan University grant (Annex 9).

2. COUNTRY CONTEXT AND GAVI SUPPORT

2.1. Background

Pakistan is the world's sixth most populous country with an estimated population of 184 million in 2011.³ The country comprises five provinces (Baluchistan, Gilgit-Baltistan, Khyber-Pakhtunkhwa, Punjab, and Sindh) and 157 districts and/or agencies. Although a middle-income country (GNI per capita of \$1,000 per capita)⁴, there are substantial inequities with 23% of population below the international poverty line of \$1.25 per day (1994-2008).⁵ Spending on social services including health and education has historically been low. Recently, conflict and natural disasters have dealt serious blows to the country's economy and infrastructure, including health-related infrastructure.

On 30th June, 2011, as a result of the 18th constitutional amendment on devolution, the Ministry of Health at the federal level was dissolved. The National Expanded Programme on Immunisation is currently housed in the Ministry of Inter-Provincial Coordination.

2.2. Health and immunisation sector

Pakistan's health and immunisation indicators are lagging significantly behind other countries in the region.⁶ Progress towards meeting MDGs 4 and 5 targets has been insufficient and uneven, and targets are unlikely to be met. Under 5 child mortality was 87 per 1,000 live births in 2009 with significant urban-rural and wealth quintile disparities. Although government spending on health has increased because of a rise in GDP (Rs.74 billion in 2008-2009 compared to Rs.38 billion in 2004-2005)⁷, it has remained below 1% of GDP for many years. As a result, the public health system is ill-equipped to deal with the many health problems of the Pakistani population. Most health care seeking for curative services now happens in the private sector.⁸

The recent People's Primary Healthcare Initiative (PPHI) by the Government of Pakistan initiated in 2007-08 is an attempt to provide improved primary health care services in many districts at the Basic Health Unit (BHU) level where most EPI centres are also located.⁹ Notably, however, the provision of immunisation services is not within the remit of PPHI. Further details on the structure and functioning of Pakistan's health system and relationship to immunisation programme are provided in Annex 3.

³ Human Development Report 2011; United Nations Development Programme

⁴ Millennium Development Goals. World Development Indicators 2011; World Bank. <http://data.worldbank.org/data-catalog/world-development-indicators> (accessed Oct 2, 2011)

⁵ UNICEF; http://www.unicef.org/infobycountry/pakistan_pakistan_statistics.html (accessed October 2, 2011)

⁶ Pakistan Health Profile; <http://www.who.int/gho/countries/pak.pdf> (accessed October 2, 2011)

⁷ Pakistan comprehensive multi-year plan for immunisations, 2011-2015, Federal EPI Cell, Ministry of Health

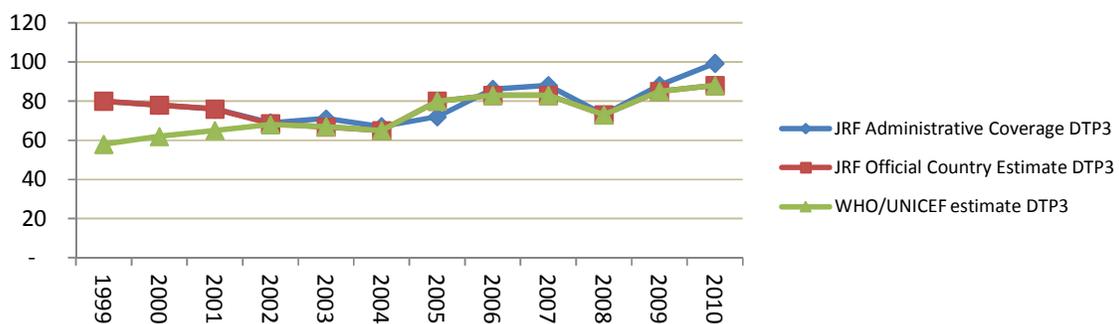
⁸ Federal Bureau of Statistics (Pakistan). Pakistan Social and Living Standards Measurement Survey 2010-2011. Islamabad, Pakistan: Federal Bureau of Statistics (Pakistan). <http://www.statpak.gov.pk/fbs/content/pakistan-social-and-living-standards-measurement-survey-pslm-2010-11-provincial-district-0> (accessed October 3, 2011)

⁹ Anna Heard, Imran Chandio, and Riaz Memon. Improving Maternal Health by Scaling Up Contractual Management of Basic Health Units in Sindh Province, Pakistan: A Health Systems Approach. Commissioned Paper for the International Conference on Scaling Up, Dec 3-6, 2008, Dhaka, Bangladesh.

Immunisation services in Pakistan are primarily offered through the government's Expanded Programme on Immunisation (EPI).¹⁰ Approximately 80% of traditional vaccine costs are supported by the Government of Pakistan.¹¹ In late 2008, GAVI supported the introduction of pentavalent DTP-Hepatitis B-Hib, with co-financing by the government. Immunisation delivery in Pakistan is undertaken by 10,000 vaccinators and 6,000 Lady Health Visitors (LHVs) and other paramedics.⁹ More than 100,000 Lady Health Workers (LHWs) assist in this process primarily by social mobilisation and defaulter tracing. There are 6,000 fixed EPI centres, approximately one for about 27,000 population, though there is wide variation in coverage from district to district, and even at sub-district levels.⁹ Various supplementary immunisation activities, such as National Immunisation Days (NIDs) for polio and vaccine specific mop-up campaigns, are organised in order to increase immunisation coverage among high-risk populations.

There are conflicting data on immunisation coverage in Pakistan. WHO estimates DTP3 coverage of 88% (Figure 2.1) for 2010, with a DTP1 to DTP3 drop-out rate of 8%. However, there are reports of over 280 polio cases in the country since 2010 and 30 plus polio-infected districts. In addition, independently conducted surveys indicate actual coverage is lower than WHO estimates¹² and, with the exception of Punjab and Gilgit/Baltistan provinces, many areas have large proportions of unimmunised children.¹³ Unprecedented floods, war, internal conflict, political uncertainty, and local governance issues have created significant barriers to maintaining high immunisation coverage.¹⁴

Figure 2.1: DTP3 coverage rate



Source: Pakistan APR 2010 and WHO/UNICEF estimates (update from June 2011)

GAVI is a key donor providing direct support for routine immunisations to Pakistan. Other donors (UNICEF, WHO, World Bank, Gates Foundation, Rotary International, and JICA) provide support for supplemental polio vaccination campaigns for polio eradication in the form of cash for campaigns as well as vaccine provision.¹⁵ The funding profile of Pakistan's EPI in

¹⁰ Hasan, Q., Bosan, A.H. & Bile, K.M., 2010. A review of EPI progress in Pakistan towards achieving coverage targets: present situation and the way forward. *East Mediterr Health J*, Vol 16.

¹¹ UNICEF. http://www.unicef.org/infobycountry/pakistan_pakistan_statistics.html (accessed October 2, 2011)

¹² National Institute of Population Studies (NIPS) Pakistan, and Macro International Inc. 2008. *Pakistan Demographic and Health Survey 2006-07*. Islamabad, Pakistan: National Institute of Population Studies and Macro International Inc.

¹³ Owais A, Zaidi AKM. Pakistan's Expanded Programme on Immunisation: an Overview. Commissioned Paper for a National Conference on Public-Private Partnerships for Polio Eradication, Islamabad, February 20-21, 2011.

¹⁴ Coverage estimates for Pakistan have been discussed in a recent report on Pakistan's health and immunisation sector performance prepared for GAVI (Annex 3).

¹⁵ Pakistan Annual Progress Reports to GAVI 2008, 2009 and 2010, Ministry of Health, Government of Pakistan.

2010 is provided in Annex 3. All major donors and CSOs are represented on Pakistan's NICC/ NHSCC which meets 3-4 times a year and is consulted on all country decisions pertaining to GAVI support.¹⁴ The Pakistan government also receives significant donor support for its health sector from the Global Fund for AIDS, TB, and Malaria, USAID, DFID, NORAD, and the German aid agency.

2.3. Role of Civil Society Organisations

Pakistan has a vibrant civil society sector with an estimated 45,000 active CSOs, with a collective membership of more than six million members and a quarter million staff, excluding religious organisations.¹⁶ CSOs range from large international entities such as Oxfam and Save the Children to small village level community organisations. Typically, the larger local CSOs engaging in the health sector have a province level focus; most however work at the district level. A few CSOs involved in the health sector also provide immunisation support through charitable clinics as well as support the government in conducting outreach and supplementary immunisation activities through holding vaccination camps and participating in campaign activities. A local CSO with a long history of involvement in routine immunisation provision is the Aga Khan Health Services Pakistan, with a major presence in the Northern Areas of Pakistan, and some presence in lower Sindh. HANDS in Sindh, and CHIP in Punjab reach large numbers of people with their health-related activities including social mobilisation and training of government staff in maternal child health and immunisation activities. (see Annex 4 for a list of CSOs participating in the GAVI CSO programme and their geographic areas of work). Several small CSOs (approximately 25-30) also run charitable primary health care clinics in urban slums in large cities with funding generated from local philanthropic support or the Pakistani expatriate community. These CSOs procure their vaccines through an arrangement as part of the EPI and provide vaccination for free or for a nominal service charge. The role of CSOs in vaccine advocacy at national or sub-national level has been limited and primarily been undertaken by professional physician organisations and funded through pharmaceutical support for promoting use of new vaccines in the private sector.

Donors/ international CSOs supporting CSOs in Pakistan include USAID, DFID, UNICEF, WHO, Save the Children, GFATM, David and Lucile Packard Foundation, Aga Khan Foundation, etc. Typically, CSOs receiving international funds work in close coordination with the government, with the Ministry of Health participating in proposal design and project planning, and the sponsor undertaking extensive audits themselves or by hiring a local accounting firm. Conversations with both government and CSOs indicate that projects have the most chance of successful completion if these are conceived and implemented in partnership with the government.

¹⁶ These CSOs are engaged in activities such as advocacy, community development, service provision (health, education, legal), emergency and disaster relief, poverty alleviation, policy think tanks, promotion of professional societies, village organisations, savings groups etc. Overview of Civil Society Organisations in Pakistan. Asian Development Bank 2009.

2.4. Overview of CSO and other GAVI support in Pakistan

Pakistan has been approved for both CSO Type A and B support in February 2008 and November 2008 respectively. As of July 2011, the entire approved Type A and B funds have been disbursed, amounting to \$100,000 and \$4,587,000 respectively. Delays in disbursement of funds resulted in the project being extended until the end of 2011. Pakistan has applied for GAVI bridge funding to continue CSO support activities in 2012. Table 2.1 below provides information on the timing and amount of approval and disbursement of funds for both types of support.

Table 2.1: Summary on Type A and B support

Type of support	Type A	Type B
Date of proposal submission	1 December 2007	7 March 2007
Date of approval	1 February 2008	25 November 2008
Date of disbursement	3 November 2008	First tranche: 20 th February 2009 Second tranche: 5 th October 2010
Total funds approved	\$100,000	\$4,587,000
Amount disbursed (as on July 2011)	\$100,000	\$4,587,000
Channelling of funds	UNICEF, Pakistan	UNICEF, Pakistan

Source: Finance Data, July 2011, GAVI

Pakistan has also received support from GAVI for NVS (\$11,494,166 from 2011 for Meningitis A-campaign and \$30,129,543 from 2004 for yellow fever), HSS (\$22,098,500 in 2008, 2010 and 2011), ISS (\$30,637,000 from 2001) and INS (\$7,791,770 from 2008 to 2010). Further, Pakistan has been approved for pneumococcal vaccine, with introduction expected in the second or third quarter of 2012. Pakistan's application to GAVI for rotavirus vaccine introduction was not approved in the July GAVI IRC meeting but a re-application is planned for the next round.

The CSO Type A funding supported a mapping exercise and meetings of CSOs active in health and immunisation sector in Pakistan, whereas Type B support funded CSO activities in strengthening the health sector to deliver immunisation as well as maternal and child health services related to achievement of MDGs 4 and 5 targets in the country. The support also involved a research component to AKU to provide evidence based estimations of the burden of rotavirus and measles infections in rural and urban areas of Sindh region.

3. EVALUATION OF POLICY RATIONALE AND PROGRAMME DESIGN

3.1. Relevance of GAVI CSO support in Pakistan

Relevance of supporting CSOs in Pakistan

Most stakeholders interviewed strongly favoured a role for supporting CSOs to strengthen immunisation sector performance in Pakistan. As noted previously, Pakistan has an active CSO presence in the health sector, with many local as well as international organisations. Many CSOs are engaged in maternal and child health service delivery, advocacy, and capacity development of communities and government health workers through trainings. GAVI CSO support was seen as a catalyst for getting CSOs more engaged in the immunisation sector.

Government and donors see the CSO role as primarily being community awareness and demand creation for immunisation rather than service delivery. However, there was a varying perspective on this at district government level and among CSOs where more expanded roles specific to their local contexts were also envisioned. These included supporting local government to achieve their immunisation targets (e.g. identifying and connecting un-served populations with government health services, covering fuel costs for transporting vaccinators to remote areas for holding vaccination camps, reporting to district governments on vaccinator absenteeism, etc.), advocating for vaccinator salaries to be paid on time, and evaluating immunisation coverage. Some stakeholders specifically commented on the important role local CSOs could play in enhancing the quality of information at district level on the status of immunisation services and coverage in their areas of work.

Several stakeholders interviewed were of the view that GAVI support to CSOs should be more specifically focused on immunisation activities, rather than general maternal and child health system strengthening as many other donors are also actively engaged in and providing funding for these areas.

Relevance of Type A and B support

Country stakeholders viewed both Type A and B support positively. For the Type A funding, the value was seen primarily in providing a platform for all the government agencies in maternal and child health (e.g. Family Planning and Primary Health Care (also known as Lady Health Worker Programme), Maternal Neonatal Child Health Programme, EPI), partner agencies (UNICEF and WHO) and CSOs to interact together. However, a one-time mapping exercise was viewed as insufficient for the country's needs and a more long-term engagement plan was suggested as a more effective strategy, especially as some CSOs are already participating in the NICC/ NHSCC. There were differing views on whether this should happen at the national or provincial level as the impact of devolution on Pakistan's EPI is still not fully understood. From the government perspective, an important gain from the mapping exercise was identification of CSOs with the relevant expertise, institutional infrastructure, and credibility to work with the government and partner agencies.

Type B support was seen as particularly relevant to Pakistan's context and a potentially important strategy for achieving immunisation strengthening targets. However, again there was lack of consensus on whether this should operate at the national or provincial level, or both. Almost all

stakeholders stated that long-term support to CSOs in Pakistan to engage in the immunisation sector could yield substantial dividends in improving programme performance. CSOs were seen as a major untapped resource in this regard. The research component to AKU was considered both relevant to and consistent with GAVI priorities, and those of Pakistan's EPI programme.

Alignment of activities funded with health/ immunisation plans

Country stakeholders generally agreed that the funded programmes were in close alignment with country needs and priorities in the health sector. Many of the funded programmes with their focus on enhancing the ability of the public health system to deliver better MCH care and vaccinations were thought to be particularly well-aligned to Pakistan's needs. However, partner agencies supporting the immunisation programme in Pakistan and senior government officials strongly felt that the support should more specifically target the immunisation sector and be results-oriented. The issue is discussed further in Section 4.2.

3.2. Programme design

The GAVI CSO programme in Pakistan was designed through the active participation of the Ministry of Health, the CSOs identified through the Type A mapping exercise, UNICEF and WHO. The UNICEF country office played a major role in setting up the consortium for proposal design coordinated through a GAVI CSO Support Unit located within the National EPI, Ministry of Health.

A number of strengths of the programme design were highlighted by the CSOs, the GAVI CSO support unit and UNICEF. These included: a highly participatory approach with active CSO input, diversity of the types of organisations involved with geographic representation from all federal units, support to grass-root organisations in their proposal development, a unique opportunity for CSOs and government to work together for a common goal and to learn about each other's work, flexibility for CSOs in designing programmes that they felt would best meet MCH needs in their respective geographic areas, and a strong process monitoring framework with regular engagement and support from the GAVI CSO Coordinating Unit which was very responsive to their needs¹⁷.

The overall goal of the programme design was for CSOs to complement government programmes in helping to achieve MDGs 4 and 5 (child and maternal mortality reduction targets).

On the other hand, a number of design issues were identified by stakeholders who thought that addressing these would increase the effectiveness of the programme in Pakistan. These included:

- *Lack of clarity on GAVI programme objectives.* Comments by a number of stakeholders indicated the need for GAVI to better define the objectives of CSO support. The objectives of Type A and B support were seen as being too broad and many felt could benefit from being more prescriptive in nature, with a particular focus on immunisation. For example, to many CSOs, it was not clear if an increase in immunisation coverage was the overall objective of the support, rather it was seen as support for CSOs to assist the

¹⁷ However, planning for evaluation of results and impacts measurements have been weak.

government in achieving MDGs 4 and 5. One CSO wanted to design a programme for prevention of maternal to child transmission of HIV as they thought it was within the remit of GAVI CSO support.

- *Low funding level:* The funding level was considered to be too low to achieve meaningful results at scale, especially for Type B funding. This was especially relevant for the international CSOs who typically have larger overhead costs. Some larger local CSOs felt that additional funds would have allowed them to work on a larger geographic scale (e.g. at district rather than sub-district or union council level) for which they had the capacity and linkages but insufficient funds. CSOs and government both felt that lack of sufficient funds precluded budgeting for evaluation of impact.
- *Short timeline to achieve programme objectives:* Almost all stakeholders mentioned that 18 months for project activities is too short a time to design and implement activities as well as assess their results. Specifically community mobilisation and trust building for behaviour change is a time-consuming activity and the short project timeline deters the measurement of impact for many CSOs who are primarily engaged in such activities.
- *Limited involvement of provincial governments in programme design:* Pakistan has five provinces and three other federating units (Islamabad Capital Territory, FATA, and Azad Jammu and Kashmir). Implementation of all health activities is at the provincial and district level. With the devolution of the “subject of health” to the provinces on 30th June 2011, they have acquired an even larger role in planning and implementation. However, GAVI engages with the federal government and the CSO programme, including engaging with the consortium of CSOs and partners, was designed at the federal level. The short time given for submission of application for Type B support after completion of the mapping exercise resulted in insufficient engagement of the provincial government structures. Therefore the provinces did not have an input in programme design which created some hurdles in implementation and delayed project activities in some areas.
- *Lack of planning and budgeting for results in programme design:* The programme did not incorporate planning for results in its design which hinders impact assessment of certain activities. Stakeholders considered this a design weakness and attributed it to a lack of clarity on GAVI’s programme objectives, lack of adequate funds for evaluation and a very short project timeline. Also, since CSOs were working locally but in diverse areas such as health education, promoting safe injection practices and family planning, selecting indicators to accurately monitor performance was problematic.

4. EVALUATION OF PROGRAMME IMPLEMENTATION

4.1. Role of GAVI stakeholders

The UNICEF country office has functioned as the major partner agency in Pakistan for GAVI CSO programme planning, implementation and channelling of funds to CSOs (with the Ministry of Health being a co-signatory for release of funding). The WHO country office has had limited engagement with the programme. A small GAVI CSO Support Coordinating Unit comprising an overall coordinator, a monitoring and evaluation officer, and an administrative and finance officer was established under the National EPI, Ministry of Health, but physically placed in the UNICEF office in Islamabad which facilitated communication. Requests to UNICEF for funds were generated by the National EPI Manager, approved by the Secretary Health, and submitted to UNICEF for release. The interaction of the Pakistan CSO Support Coordinating Unit with the partner agencies and with GAVI Secretariat was described as very positive with frequent exchange of ideas, guidance to the programme, and jointly troubleshooting problems. GAVI Secretariat support, input, and flexibility were described as instrumental in the post-devolution scenario to allow continuation of the programme in Pakistan.

The major factor hindering timely implementation at country level was the delay in release of funding from the GAVI Secretariat for Type B support which resulted in delays in programme implementation to well into second half of 2009 although conditional approval from IRC was received in April 2008 and final approval in November 2008. These delays created a lot of uncertainty in the minds of CSOs about whether planned programme activities would in fact materialise and posed a challenge for the GAVI CSO coordinator to manage expectations.

4.2. Country implementation

The in-country GAVI CSO Coordinating Unit has been instrumental in programme implementation and its efficiency, responsiveness, professionalism, and quality of technical support provided were praised by all stakeholders interviewed. Many CSO heads stated that they had never experienced such a high level of facilitation by a government entity before, although they had a long history of partnering with various government agencies. These positive interactions were attributed to the capability and commitment of the people working in the Coordinating Unit.¹⁸

4.2.1. Type A support

Type A support was generally viewed as effectively implemented with a major contribution by the UNICEF country office staff in collaboration with the Ministry of Health, Pakistan. The funding was used to conduct a mapping exercise; develop a CSO consortium for Type B funding; and increase representation of CSOs on the NHSCC.

23 CSOs with a history of working with UNICEF, WHO, or the government in maternal-child health or immunisation-related activities in Pakistan were invited to a consultation meeting in

¹⁸ For example, the national EPI Manager in the Unit was technically well qualified and committed to the CSO programme, as was the UNICEF member on the team. The other members in the Unit were also competent individuals with experience in health/ immunisation.

September 2007 with the partners and government, coordinated by UNICEF. Open invitations through the print media were not issued.

After the consultation meeting, these CSOs were invited to submit expressions of interest (EoI) for GAVI CSO Type B funding. A technical working group, comprising representatives from the government, NICC/ NHSCC, UNICEF and WHO, was established and a consultant hired by the government to vet each of the CSOs expressing interest. Some international CSOs did not submit EoIs after the first meeting because they considered the funding level too low to cover their overhead expenses. Local CSOs however were enthusiastic about participating in this activity given the involvement of the government and UNICEF, which gave them confidence in the process.

15 CSOs meeting the GAVI eligibility criteria (such as resource capacity, professional management of finances, reputable audits etc.) were invited for a second consultative meeting in January 2008. Some “ghost” CSOs as well as those unlikely to have sufficient capacity to carry out programme activities to the level required were omitted at this stage. Subsequent meetings led to the development of a consortium of 15 CSOs with government and partners, the identification of three geographic clusters to avoid overlapping areas of work, and submission of a combined proposal by the consortium for Type B funding. This process is well described in a government publication entitled “CSOs to take up the Unfinished Business”¹⁹, and appears to have been conducted in a transparent manner with strong input from the technical working group. This formation of the consortium, with an opportunity to develop a joint proposal, learn from the work of other CSOs and have a joint platform for advocacy with the government was viewed as a rewarding exercise by the CSOs.

In addition, as a result of Type A support, the consortium agreed to have three CSOs²⁰ represented on the NHSCC on an annual rotational basis. These CSOs have been invited to attend NHSCC meetings held in 2011.

4.2.2. Type B support

Type B funding was channelled to CSOs through UNICEF with government acting as co-signatory on release of funds. Funding supported programme activities of the 15 CSOs in 33 districts of Pakistan. The types of activities supported included the following:

- Immunisation-specific activities such as supporting polio vaccine campaigns; training vaccinators; identifying and connecting unimmunised populations with vaccinators; facilitating vaccination camps in areas with un-immunised children; community mobilisation for enhanced uptake of vaccines; provision of needed equipment and supplies such as refrigerators, stabilisers, coolers etc.; advocacy with district governments for improving immunisation services including timely payment of vaccinator salaries; provision of Hepatitis B vaccines to high risk populations and tetanus vaccination to pregnant women; and post measles mass vaccination campaign monitoring and feedback to government on campaign quality.

¹⁹ CSOs to take up the unfinished business. Ministry of Health, Government of Pakistan 2011

²⁰ For the first year, the three CSOs are AKHSP, CHIP, and HELP.

- Other MCH promotion activities such as skilled delivery provision through establishment of MCH centres; construction of labour rooms; provision of equipment and supplies to government health facilities; rehabilitation of severely malnourished children; training of health staff in MCH care; community social mobilisation; advocacy; and building capacity of district governments for vaccine preventable disease surveillance.

A detailed Activity Matrix is provided in Annex 5.

Specific factors that supported implementation were: division of the CSOs into three geographic clusters (Sindh, Punjab and Khyber-Pukhtoonkhwa and Gilgit/Baltistan, and Baluchistan and Azad Jammu and Kashmir) with individual cluster leads; effective technical support from the GAVI CSO Coordinating Unit; a strong process monitoring framework with quarterly visits to each of the participating CSOs, and good relationships amongst most of the CSOs at the grass-root level. In general, government and partners were of the view that CSOs with extensive local linkages were more successful in programme implementation than those forming new linkages or trying to coordinate activities from provincial capitals. AKU's long term association with the district government officials (due to ongoing/prior research project) was also crucial in successfully facilitating the AKU grant activities.

At the same time, CSOs and government stakeholders also identified a number of issues that hindered implementation. These are summarised below.

- *Devolution and interruption of funding:* Devolution of the health subject resulted in interruption of flow of funds to the CSOs for two months as the Federal Secretary Health was a co-signatory to release of funds to the CSOs. Smaller CSOs with limited cash flows were seriously affected and many had to interrupt programme activities until intervention by the GAVI CSO coordinating unit and UNICEF could get the funds released. CSOs suggested that direct funding by GAVI, or funding the larger CSOs who have the capacity for administering funds and can sub-contract to the smaller CSOs could be considered as alternative approaches for funding in Pakistan.
- *Lack of provincial and district government engagement:* Because of short project submission deadlines, provincial governments were not engaged during proposal development. Several CSOs reported that when district governments were contacted to start working together they wanted provincial level permissions and memoranda of agreements signed. This delayed implementation until the federal government informed relevant provincial authorities about this programme through appropriate formal notification.
- *Lack of government staff of specific cadres at the district level and frequent turnover:* At the proposal development stage, CSOs had been told that the services of community midwives trained by the governments in MNCH programme were available in their areas. This cadre was included in several CSO activities but when the activities started, these workers were not in place. Additionally, many districts have frequent turnover of district health staff up to the level of Executive District Health Officers, especially in Sindh, which hindered programme activities. Additionally, lack of salaries and very low salaries (compared to PPHI staff who are hired from the same pool) have resulted in de-motivation of many vaccinators and LHWs. Many CSOs wanting to expand activities to remote areas of their

districts, especially in Balochistan and Khyber-Pukhtoonkhwa encountered significant difficulties in finding female staff.

- *Frequent staff turnover at government-owned CSOs:* Large government-owned but autonomous CSOs participating in the consortium such as the National Rural Support Programme and Punjab Rural Support Programme have frequent change of focal persons who often are not based locally making it difficult to evaluate programme performance.
- *Lack of buy-in by Peoples Primary Healthcare Initiative (PPHI) staff at district and provincial levels:* Several CSOs mentioned that the allocation of Basic Health Units (where most immunisation centres are located) to PPHI who are responsible only for curative and not preventive services such as family planning, growth monitoring, and immunisation has resulted in a “disconnect” at the BHU level between these services, their providers, and the PPHI staff who do not have an ownership stake in these services and are therefore not accountable for them. CSOs noted that this has resulted in lack of monitoring of immunisation services-related staff at the BHUs in some areas and low quality of services. Some CSOs had difficulty in working with vaccinators in districts where BHUs are managed by PPHI but were able to overcome by working with local kinship groups and relationships.
- *Security issues:* CSOs working in Khyber-Pakhtunkhwa and Balochistan cited security-related incidents as major impediments in carrying out outreach activities for unreached populations in remote parts of these provinces.
- *Inadequate budgeting for transport costs and inflation:* Some of the smaller CSOs were unable to accurately forecast funding needs related to transport to distant areas and inflation-related increases in prices of fuel and other commodities. This magnified over time as project initiation was delayed, impacting some planned programme activities.

Issues faced in implementing the AKU grant include resistance by the paediatricians in Tehsil Headquarter Hospital (THQ) to adopt a new referral procedures, low success rates in convincing private providers to refer cases, insufficient documentation on the referrals by LHWs and delays in test reporting, which resulted in a loss of interest among the communities and providers.

5. EVALUATION OF PROGRAMME RESULTS

5.1. Evidence on results

Review of APRs and the extensive documentation provided by the GAVI CSO Support Coordinating Unit (quarterly progress reports²¹, experience sharing meetings²², result outputs, other publications²³); detailed interviews with government, UNICEF and CSOs; and field visits to programme sites indicate considerable progress in achieving programme objectives. The most visible achievement of GAVI CSO support in Pakistan is the formation of a formal consortium with the CSOs, government and partners to work together in the health and immunisation sector.

5.1.1. Type A support

Type A support was effective in identifying CSOs active in the health and immunisation sector and developing a consortium that worked together on developing the country proposal and implemented it with Type B funding. For both CSOs and government, this was a unique and uncharted experience of coming together that appears to have generated much goodwill and respect for each other's role and contribution. The consortium was formalised through a signing of a "Declaration of Commitment" by the CSOs, government, and development partners on September 15, 2009 in a signing ceremony presided over by the Director General Health.

5.1.2. Type B support

As noted, considerable evidence exists to document the achievements of the CSOs participating in the programme through GAVI CSO Support Coordinating Unit's quarterly visits to each CSO for monitoring activities, detailed progress reports from each CSO, and through a variety of publications put out by the government and the CSOs. Their veracity is broadly confirmed by the UNICEF country office. A detailed matrix of results is provided in Annex 5, and summarised in Table 5.1.

Table 5.1: Key outputs from GAVI CSO Type B Funding (until September 2011)

Description	Value
Target Population for CSOs	Over five million
Number of Districts	33
Number of Union Councils	207
Villages Reached	4,532
Trainings related to maternal child health and immunisation have been delivered to	1,022,061 individuals residing in neglected and hard to reach communities; 6,825 health volunteers; 5,693 health care providers

²¹ GAVI CSO Programme Support Progress Report, Government of Pakistan, October 2010.

²² GAVI CSO Programme Support Experience Sharing Meeting Reports, Azad Kashmir and Balochistan, Punjab and Khyber-Pakhtunkhwa, and Sindh clusters, 2010-2011

²³ Sheikh, S., Ali, A., Zaidi, A.K., Aha, A., Khowaja, A., Allana, S., Qureshi, S. & Azam, I., 2011. Measles susceptibility in children in Karachi, Pakistan. *Vaccine*, 29 (18), 3419-23.

Description	Value
Health sessions for immunisation promotion activities held	4,945 + 1,0503 sessions arranged by HANDS
Number of supplementary immunisation campaigns supported	All national immunisations days (NIDs), and sub-national immunisation days (SNIDs) for polio and measles were supported by the CSOs in their areas
Number of children immunised with routine EPI doses	Mostly done in collaboration with government through camps organised in hard to reach areas. Most CSOs did not record numbers but some did. e.g. AKHSP supported immunisation completion for 10,7811 children in their respective UCs, HELP 3,931 children, and ~63,000 children by PVDP
Village health committees established or revitalised	More than 1,706
Primary and secondary public sector health facilities strengthened	100
Maternal child health centres established or supported	20
Severe acute malnourished children identified and managed	1,440 children were identified as malnourished, of which 616 were rehabilitated
District level surveillance for severe rotavirus gastroenteritis established in public sector hospitals	1
Measles seroprevalence survey in Karachi to assess coverage post-measles vaccine campaign	1

As noted in Section 4.2, the programme did not incorporate an impact evaluation, in terms of measuring impact on MDG 4 or 5 indicators through immunisation coverage, because of the short duration of the project and low level of funding. As such, baseline and end-line surveys to assess outcomes were not conducted. Despite this, some CSOs have shown that government reported DTP3 coverage in their areas has gone up substantially since their involvement. For example, in Tharparkar, one the remotest districts of eastern Sindh, partner CSOs were able to increase the EPI coverage rates of selected union councils (UCs) up to 45% which resulted an increase of about 24% at district level, and in Multan district of Punjab, coverage rates increased by to 15%.

Although it may be difficult to assign causation, these trends were observed after CSO activities were initiated, and at least in Tharparkar, there were no other known organisations supporting immunisation activities during the same time period. Also notably, in district Mattiari, a rural district of lower Sindh covered by HANDS and AKU, there have been no cases of polio in 2010 or 2011 despite several polio cases being reported from all the surrounding districts, and independent coverage evaluation of DTP3 rates indicate coverage of 76%, substantially higher than other rural areas of Sindh.^{9,10} An illustrative case study on the experience of the Aga Khan Health Services Pakistan on social mobilisers “pay for performance” is included in Annex 6.

While the AKU grant demonstrated a workable model of a rotavirus testing facility in rural settings, it is unlikely that rotavirus testing/surveillance will continue after GAVI support. Major

constraints that were repeatedly mentioned by the local government/ hospital officials were the lack of availability of human resources (i.e. lab technicians). Further results of the AKU grant are discussed in Annex 7.

5.2. Unintended consequences

These relate to the following broad areas:

- Firstly, the formation of the consortium and active engagement of CSOs has resulted in raised expectations for continuation of support and engagement from GAVI with the CSO sector. These CSOs are still continuing programme activities and were involved in the submission of bridge funding to GAVI for continuation of Type B activities through the end of 2012. Programme closure could result in CSO alienation with GAVI.
- Secondly, some CSOs are engaged in service delivery for maternal and child health (e.g. antenatal care and skilled birth provision, nutritional rehabilitation of malnourished children) in their areas through establishment of new facilities or provision of costly supplies. Such activities are unlikely to be sustainable without external funding support and may therefore be unable to meet raised community expectations and demands in the long-term, leading to frustration with the local CSO and GAVI.
- Thirdly, and more specifically, AKU's evidence generation activities on disease burden resulted in strained relationships with the government as this conflicted with their estimates.

6. RECOMMENDATIONS

Stakeholders in Pakistan provided important feedback on some key recommendations for GAVI CSO support going forward. These are discussed below.

6.1. Recommendations to improve effectiveness of the programme

The evaluation of the programme design and implementation in country has highlighted a number of issues faced, and hence country consultees recommended that these be resolved to improve the effectiveness of the programme. Key suggestions include:

- *Improving the clarity of the programme objectives:* GAVI should clarify the objectives of CSO support and better define the activities it wishes to fund. While there is clearly a need for this to be flexible enough to fit with country contexts, the current definition is seen as too broad and would benefit from a focus on defined objectives and outcomes expected. EPI Programme Managers and UNICEF strongly felt that the objectives should be immunisation-sector specific for Pakistan.
- *Improve disbursement procedures.* As noted previously, this has been a significant issue impacting programme activities in the country, with funding delays both from GAVI to UNICEF, and from UNICEF to CSOs (because of devolution). Regarding the former, stakeholders recommend GAVI consider ways in which capacity to administer funds at the Secretariat level could be improved to minimise delays.
- *Increase project duration:* All stakeholders commented on the short duration of the project and recommended an increase in the duration of the window to achieve meaningful impact.
- *Increase size of funding.* All stakeholders in Pakistan noted that the limited size of funding has been an obstacle in achieving the objectives of the support.
- *Define and incorporate impact assessment in project design and funding outlay:* Immunisation sector partners, government EPI, and many CSOs noted the importance of planning and budgeting for results in programme design to demonstrate the value that CSOs can bring to strengthening immunisation services.
- *Addressing devolution of the Ministry of Health:* Some government and immunisation sector partners suggested that GAVI may have to change its approach in Pakistan based on how devolution impacts country immunisation programme. GAVI may have to take a “large country” approach with Pakistan, also engaging the federating units directly. At the very least, provincial government engagement must increase as they are now key stakeholders in improving the performance of the country immunisation programme.

6.2. Channelling of funds

Several alternative approaches to channelling of funds to CSOs in the country were suggested by CSO leads, in view of the interruption in funding experienced in the immediate aftermath of devolution. These included (a) direct funding of the CSOs; (b) funding through one of the larger local CSOs in the country with the capacity to manage and disburse large amounts of funds; or (c) funding through UNICEF country (or provincial) office without requiring government approval for release of funds.

Most stakeholders, including government and local CSOs, opposed routing funds through international CSOs or bilateral development agencies as being too time and resource-inefficient. CSOs were also against routing of funds through the government and cited UNICEF involvement as the agency responsible for disbursement of funds as a major reason for having confidence in this initiative to deliver what it promises. Some CSOs specifically mentioned that their Board discourages them from initiating projects with a direct funding relationship with the government as the government is not perceived as a reliable partner in this regard.

Given the overall context of Pakistan, the importance of maintaining government ownership and interest in the GAVI-CSO programme, as well as the government's commendable performance in managing the programme in collaboration with UNICEF, probably the best approach for Pakistan is to maintain the current model for channelling funds through UNICEF with government approval, with a pre-existing understanding on what mechanisms UNICEF can utilise in case of any disruption in government functioning. Whether the government approving agency will be federal or provincial (managed through UNICEF provincial office) will require extensive discussions with government and country immunisation sector partners (principally UNICEF and WHO).

6.3. Integration with the HSFP

Integration with the HSFP was a premature discussion in the context of Pakistan, given the confusion surrounding devolution and what it means for the country in terms of health sector donor funding. However, immunisation sector partners as well as senior EPI management staff, NITAG members interviewed, senior Ministry of Inter-Provincial Coordination officials, and CSO leads noted the following concerns:

- Support for country immunisation programme could get diluted and move away from funding immunisation-specific activities as competing health sector priorities take over. The timing would be especially unfavourable as Pakistan plans to introduce pneumococcal vaccines in 2012.
- Pakistan is moving towards decentralisation of the health sector, whereas GAVI and other development partners appear to be moving towards further centralisation. What these opposing trends mean for Pakistan, and how the HSFP concept would play out in the country, given devolution, is unclear.
- CSOs felt that it is unlikely that the government will include CSO partners in programme planning and implementation in the HSFP framework unless specifically required to do so. There is likely to be a broader array of stakeholders involved, for many of who

immunisation support may not be a priority, and some of who may be opposed to a CSO role.

- CSOs felt that funding for their activities could become even more complex and inefficient if a higher level and/ or multiple layers of approvals from the government may be required.²⁴ As noted previously, senior government officials and partners consulted were unable to comment specifically in this regard, other than expressing frustration and uncertainty regarding the devolution process.

²⁴ Currently, the CSO programme is handled by approvals by the national EPI Manager and Secretary, Health after which UNICEF releases funds. Both these officials are very familiar with EPI issues. The concern was that the HSFP approval may be more long-winded.

7. CONCLUSIONS

Almost all country stakeholders viewed GAVI CSO support in Pakistan as an effective strategy for improving the performance of the immunisation programme and see CSOs as a major untapped resource in this regard. CSOs, government, and partners considered this partnership to have high value for meeting GAVI objectives. The most visible impact of GAVI CSO support in Pakistan is the formation of a consortium of stakeholders invested in improving country performance in immunisation and realising achievement of MDGs 4 and 5 targets. All stakeholders were strongly supportive of continuing to fund CSO programme activities.

Specific recommendations regarding improving clarity of GAVI CSO programme objectives and expected outcomes were made, with strong suggestions for making these more immunisation-specific. Other recommendations related to increased project duration, increasing funding levels, improving disbursement mechanisms, and further engagement of provincial stakeholders. The impact of devolution of the Ministry of Health to the provinces on GAVI's relationship with in-country stakeholders and functioning of CSO support is uncertain at the present moment.

ANNEX 1: REFERENCES

- Human Development Report 2011. United Nations Development Programme.
- Millennium Development Goals. World Development Indicators 2011. World Bank. <http://data.worldbank.org/data-catalog/world-development-indicators> (accessed Oct 2, 2011).
- UNICEF http://www.unicef.org/infobycountry/pakistan_pakistan_statistics.html (accessed October 2, 2011).
- Pakistan Health Profile. <http://www.who.int/gho/countries/pak.pdf> (accessed October 2, 2011).
- Pakistan comprehensive multi-year plan for immunisations, 2011-2015, Federal EPI Cell, Ministry of Health.
- Federal Bureau of Statistics (Pakistan). Pakistan Social and Living Standards Measurement Survey 2010-2011. Islamabad, Pakistan: Federal Bureau of Statistics (Pakistan). <http://www.statpak.gov.pk/fbs/content/pakistan-social-and-living-standards-measurement-survey-pslm-2010-11-provincial-district-0> (accessed October 3, 2011).
- Anna Heard, Imran Chandio, and Riaz Memon. Improving Maternal Health by Scaling Up Contractual Management of Basic Health Units in Sindh Province, Pakistan: A Health Systems Approach. Commissioned Paper for the International Conference on Scaling Up, Dec 3-6, 2008, Dhaka, Bangladesh.
- Hasan, Q., Bosan, A.H. & Bile, K.M., 2010. A review of EPI progress in Pakistan towards achieving coverage targets: present situation and the way forward. *East Mediterr Health J*, Vol 16.
- National Institute of Population Studies (NIPS) [Pakistan], and Macro International Inc. 2008. *Pakistan Demographic and Health Survey 2006-07*. Islamabad, Pakistan: National Institute of Population Studies and Macro International Inc.
- Owais A, Zaidi AKM. Pakistan's Expanded Programme on Immunisation: an Overview. Commissioned Paper for a National Conference on Public-Private Partnerships for Polio Eradication, Islamabad, February 20-21, 2011.
- Zaidi AKM. Evaluation of GAVI Support to Civil Society Organisations in Pakistan Country Situational Report. Prepared for GAVI, October 2011
- Pakistan Annual Progress Reports to GAVI 2008, 2009 and 2010, Ministry of Health, Government of Pakistan.
- Overview of Civil Society Organisations in Pakistan. Asian Development Bank 2009.
- CSOs to take up the unfinished business. Ministry of Health, Government of Pakistan 2011.

- GAVI CSO Programme Support Progress Report, Government of Pakistan, October 2010.
- GAVI CSO Programme Support Experience Sharing Meeting Reports, Azad Kashmir and Balochistan, Punjab and Khyber-Pakhtunkhwa, and Sindh clusters, 2010-2011.
- Sheikh, S., Ali, A., Zaidi, A.K., Agha, A., Khowaja, A., Allana, S., Qureshi, S. & Azam, I., 2011. Measles susceptibility in children in Karachi, Pakistan. *Vaccine*, 29 (18), 3419-23.

ANNEX 2: LIST OF CONSULTEES

Individual	Organisation	Position
Government		
Mr. Amjad Ali Khan	Ministry of Inter-Provincial Coordination	Secretary
Dr Altaf Bosan	National EPI, Ministry of Inter-Provincial Coordination	National Manager
Dr Huma Khawar	GAVI CSO Support Coordinating Unit, Pakistan, National EPI, Ministry of Inter-Provincial Coordination	Coordinator
Ms. Sundas Warsi	GAVI CSO Support Coordinating Unit, Pakistan, National EPI, Ministry of Inter-Provincial Coordination	Programme Monitoring and Evaluation Coordinator
Dr. Hassan Murad Shah	District Government Mattiari, Sindh	District Executive Health Officer
GAVI Partners		
Dr. Mohammad Cisse	UNICEF	Chief of Health and Nutrition
Ms. Melissa Corkum	UNICEF	Communication Specialist (now based in Kenya)
Dr. Quamural Hasan	WHO	Immunisation Programme Officer
Type A and B CSO members/ staff		
Dr. Gaffar Billoo	Health and Nutrition Development Society (HANDS)	Chairman, Board of Trustees
Dr. Ghulam Farooq	HANDS	Executive Member, Board of Trustees
Ms. Azra Shakeel Shah	HANDS	Senior District Executive, Manager Mattiari
Ms. Abida Javeed	HANDS	District Programme Manager, Mattiari
Mr. Sada Hussain Solangi	HANDS	District Project Associate
Ms. Lubna Hashmat	Civil Society Human and Institutional Development Programme (CHIP)	Project Focal Person, Punjab/KP Cluster Lead
Dr. Rozina Mistry	Aga Khan Health Services, Pakistan	Project Incharge, Cluster Lead, Sindh
Ms. Malika Villiani	Aga Khan Health Services, Pakistan	Project Focal Person
Dr. DS Akram	Health, Education, and Literacy Programme (HELP)	Chairperson
Dr. Yasmeen Suleman	HELP	Executive Director

Individual	Organisation	Position
Dr. Zahid Akram Chattah	Basic Development Needs, Kasur	Project Focal Person
Dr. Zafarullah Khan	Basic Development Needs, Nowshera, KP	Project Focal Person
Mr. Arafat Majeed	National Rural Support Programme	Project Focal Person
Dr. Khail Ahmed Tareen	Basic Development Needs, Mastung, Balochistan	Project Focal Person
Mrs. Rehana Rashdi	Pakistan Voluntary Health and Nutrition Association (PAVHNA)	Project Focal Person
Mr. Mukhtar Ahmed Awan	Basic Development Needs, Muzaffarabad, Azad Kashmir	Project Focal Person
Others		
Mr. Aziz Memon	Rotary International, Pakistan	Country Polio Lead

ANNEX 3: COUNTRY SITUATIONAL REPORT

Overview of Pakistan health and immunisation policy

Pakistan is the world's sixth most populous country with an estimated population of 184 million in 2011.¹ Although a middle-income country (GNI per capita of \$1000 per capita)², there are substantial within country inequities with 23% of population below the international poverty line of US\$1.25 per day (1994-2008)³. Spending on social services including health and education has historically been low; Pakistan is ranked 125th in the world in the United Nations Human Development Index 2011¹. During the period of 1998-2008, IMF estimates that less than 1% of central government expenditure was allocated to health³, a figure that has remained consistently low at 0.5-0.6% of GDP through the years.

Until recently, national health and immunisation policies were formulated at the federal level in Islamabad, by the Ministry of Health, and implemented by the provinces and other federally-administered entities (Azad Kashmir, FATA, Northern Areas). On June 30th, 2011, as a result of the 18th constitutional amendment on devolution, the Ministry of Health ceased to exist at the federal level, and was "devolved" to the provinces. This has had a direct impact on vertically administered health programs such as the Expanded Programme on Immunisation (EPI) which is discussed below in further detail.

Geographically, Pakistan comprises five provinces (Baluchistan, Gilgit-Baltistan, Khyber-Pakhtunkhwa, Punjab, and Sindh) and 157 districts and/or agencies. Pakistan's public sector health facilities include tertiary or teaching hospitals located in larger cities at the top of the pyramid, district and tehsil/taluka hospitals in each district, and basic health units/rural health centres at the union council level. Almost all public health sector facilities are also designated as EPI centres. The lack of adequate funding has resulted in referral public health facilities being over-burdened, while primary care facilities, characterised by absenteeism and poor quality of services, are under-subscribed. In the absence of substantial investment, the Pakistan public health system is ill-equipped to deal with the myriad health problems of the Pakistani population with the result that most health care seeking for curative services now happens in the private sector.⁴ The 2010-11 Pakistan Social and Living Standards Measurement Survey reports that overall 71% of all health care utilisation occurs in the private sector.⁴ In the urban areas, private sector providers were sought by 78% of individuals ill in the previous two weeks, but notably, even in rural areas, 67% of healthcare provision occurred in the private sector.⁴

The recent People's Primary Healthcare Initiative (PPHI) by the Government of Pakistan initiated in 2007-2008 is an attempt to provide improved primary health care services in selected districts throughout Pakistan at the Basic Health Unit (BHU) level, through placement of contracted physicians in an arrangement with the provincial para-statal Rural Support Programs (RSPs), funded through the government.⁵ The primary objective of the PPHI programs is to revitalise the BHUs by effective management and facilitate provision of primary healthcare by ensuring availability of doctors and free medicines at the BHUs. Notably, however, the provision of immunisation services is not within the remit of PPHI. It is too early to measure impact on district-level health indicators. However, early assessments indicate increased utilisation of services at the BHUs managed by PPHI. The impact on service delivery is being independently

evaluated through the support of DFID to assess whether this is a useful model for replication in all districts.

Immunisation services in Pakistan are primarily offered through the Government's Expanded Programme on Immunisation (EPI), initiated in 1978.⁶ Pakistan's EPI programme is governed by the National EPI Policy. This policy was re-formulated by the National EPI advisory Group (NEAG) in 2004, and was successfully adopted by the Ministry of Health in 2005. The National Immunisation Technical Advisory Group (NITAG), a continuation of NEAG, was formed in 2009, and includes partner agencies (primarily WHO and UNICEF), technical experts, and representation from the Planning Commission. The Group's aim is to review programme policies, and provide evidence-based recommendations about the introduction of new vaccines into the national EPI program.^{6,7} Approximately 80% of traditional vaccine costs are supported by the Government of Pakistan.³ New vaccines (pentavalent), introduced in late 2008 is supported through GAVI, with co-financing of 32 cents per dose by the Government of Pakistan. The Pakistan Demographic and Health Survey 2006-2007 reported an upward trend in the proportion of children who are fully immunised from 35 percent in 1990-1991 to 47 percent in 2006-2007 (please refer to later sections on performance of EPI).⁸

National EPI undertook an EPI policy revision in 2010 which included significant input from civil society members. The policy document is notable for expressing strong interest in partnering with civil society organisations for strengthening immunisation service delivery, especially in hard to reach areas.⁹ This policy is still in draft form as the devolution process has disrupted implementation.

Impact of devolution of Ministry of Health on National EPI

The devolution of the "subject of health" to the provinces in accordance with the 18th amendment of the constitution on June 30th 2011 left the national EPI in limbo as it was located within the federal Ministry of Health, with the National Manager EPI reporting directly to the Federal DG Health and Secretary Health. Other vertical health programs were similarly affected. After two months of uncertainty and concerns expressed by funding partners and other agencies over the flow of financial and technical assistance to Pakistan in the post-devolution situation, as well as a crisis situation regarding vaccine procurement and storage which were central functions, a decision to maintain EPI at the federal level and locate it in the Ministry of Inter-provincial Coordination (IPC) has recently been made. However, at the point of this writing it is unclear whether the IPC or Planning Division is the executing agency for EPI.

The Role of the CSO Sector in immunisations in Pakistan

Pakistan has a vibrant civil society sector with an estimated 45,000 CSOs active in the country, engaged in activities such as advocacy, community development, service provision (health, education, legal), emergency and disaster relief, policy think tanks, promotion of professional societies, village organisations, savings groups etc.¹⁰ These organisations have a collective membership of more than six million members and a quarter million staff.¹⁰ This estimate excludes religious organisations many of whom also engage in service provision. Organisations range from large international entities such as Oxfam and Save the Children to small village level community organisations. A well-regarded national CSO active in the health sector is the Edhi

Foundation which provides ambulance services as well as runs charitable clinics, and provides shelter for orphaned and homeless children and women. Other large local CSOs with a focus and established track record on women and child health include the Health and Nutrition Development Society or HANDS (Sindh, southern Punjab), Aga Khan Health Services Pakistan (Sindh, Gilgit/Baltistan, Chitral district of Khyber-Pakhtunkhwa), and Aman Foundation (Karachi).

Historically, CSO involvement in immunisation activities in Pakistan has mainly been limited to immunisation service delivery by international organisations such as UNHCR and MSF running refugee camps or camps for victims of natural disasters during relief operations as well as Rotary International which has a deep commitment to polio eradication. A notable local CSO with a long history of involvement in routine immunisation provision is the Aga Khan Health Services Pakistan with a major presence in the Northern Areas of Pakistan, and some presence in lower Sindh. According to official estimates, the government remains the primary provider of immunisation services with 97% children who are immunised receiving their vaccines through EPI.⁶ While this estimate is likely accurate for rural areas, a recent population representative survey in Karachi, a coastal city of 18 million people, revealed that among 75% children who were immunised, 25% had received vaccinations through the private sector.⁷ The major source of private sector immunisations were private physicians (80%), with a smaller contribution from the non-profit sector. CSOs working at village and town levels have also provided volunteers for polio vaccine campaigns in some districts of Sindh.

This picture of limited local CSO involvement has been changing with an increasing number of physician (especially paediatrician)-led CSOs concerned about the worsening polio situation in the country and the effect of frequent natural disasters on children's immunisation status and demanding to get involved. Both issues have repeatedly been brought up in the Pakistan Paediatric Association's meetings, conferences, and email lists. Several small CSOs (estimate 25-30) running charitable primary health care clinics (with funding generated from local philanthropic or the Pakistani expatriate community) have through liaison with local EPI officials been able to get EPI vaccines and provide them to children within the communities they serve. There is significant potential to increase their role in service delivery of immunisation provision in the country and GAVI CSO support has acted as a catalyst and provided networking support to several of these organisations. In response to UNICEF's invitation to 33 CSOs with a history of working with UN agencies or the Ministry of Health in maternal-child health to participate in the GAVI CSO program, over 20 organisations sent in proposals and 15 were funded. This included some large CSOs such as the National Rural Support Program, Punjab Rural Support Programme which traditionally have not had a health focus, as well as other CSOs with significant reach (HANDS, Aga Khan Health Services, Basic Development Needs). Notably, 4 of these 15 are physician or paediatrician-led organisations/activities (AKHSP, AKU, HANDS, HELP). The major focus of activity of participating CSOs has been in training and capacity development for health systems strengthening and immunisation provision.

Civil society organisations such as the Aga Khan University and HANDS are included in the membership of NITAG and NICC but involvement of local CSOs in the Health Sector Coordination Committee is limited. The NHSCC has been operational since August 2007 but

meets on an ad hoc basis, often at short notice. CSOs are invited occasionally, but with the formation of the CSO consortium have recently had a more prominent role in the NHSCC.¹¹

CSO involvement in vaccine advocacy in Pakistan has been mainly through professional physician organisations, with major roles in Hepatitis B vaccine, pneumococcal vaccine and typhoid vaccine promotion undertaken by the Pakistan Paediatric Association (PPA), Pakistan Medical Association (PMA), and Pakistan Islamic Medical Association (PIMA). These advocacy efforts, involving lectures, conferences, symposia, articles and supplements in newspapers, and electronic media are almost exclusively funded by pharmaceutical manufacturers for increasing vaccine sales in the private market. However, with immunisations now seen as a major health priority in Pakistan, CSOs are expressing an interest in engaging in this sector. An Islamabad-based CSO recently received funding from USAID to undertake a review of available data for policy makers on immunisation sector strategy and functioning. Another example is an innovative public-private partnership model set up a CSO, the Trust for Vaccines and Immunisations (TVI) by paediatricians interested in promoting typhoid vaccination in school health programs in Karachi, working closely with local government town health officials, with cross-subsidies from private school user charges to vaccinate public school children. The programme is funded through a grant from the International Vaccine Institute (Seoul, South Korea), in turn funded by the Bill and Melinda Gates Foundation. TVI recently also held a promotional event for meningococcal conjugate vaccines for Hajj travellers, funded by the pharmaceutical manufacturer, Novartis.

The Aga Khan University has contributed to advocacy efforts for introduction of pentavalent vaccine and pneumococcal conjugate vaccine through presenting disease burden data to national policy makers (DG Health and Secretary Health) at multiple fora and holding public advocacy seminars in partnership with the federal EPI. These activities have been funded through GAVI-sponsored initiatives such as the Hib Initiative and Accelerated Vaccine Introduction grant to the Johns Hopkins Bloomberg School of Public Health which provided funding to AKU.

Performance of Pakistan’s health and immunisation sector

Pakistan’s health and immunisation indicators are lagging significantly behind regional countries.¹² Although Pakistan has made progress towards meeting MDG4 and MDG5 targets, progress has been insufficient and uneven and targets are unlikely to be met (See Table 1 and Annex 2). Under 5 mortality was 87 per 1,000 live births in 2009 with significant urban-rural and wealth quintile disparities.

Table 1. Pakistan: Selected health indicators

Indicator	Value
Under-5 mortality rate, 1990	130
Under-5 mortality rate, 2009	87
Infant mortality rate (under 1), 1990	101
Life expectancy at birth (years), 2009	67
% of under-fives (2003-2009*) underweight (NCHS/WHO), moderate & severe	38
% of under-fives (2003 -2009*) stunting (WHO), moderate & severe	42

Source: UNICEF: http://www.unicef.org/infobycountry/pakistan_pakistan_statistics.html

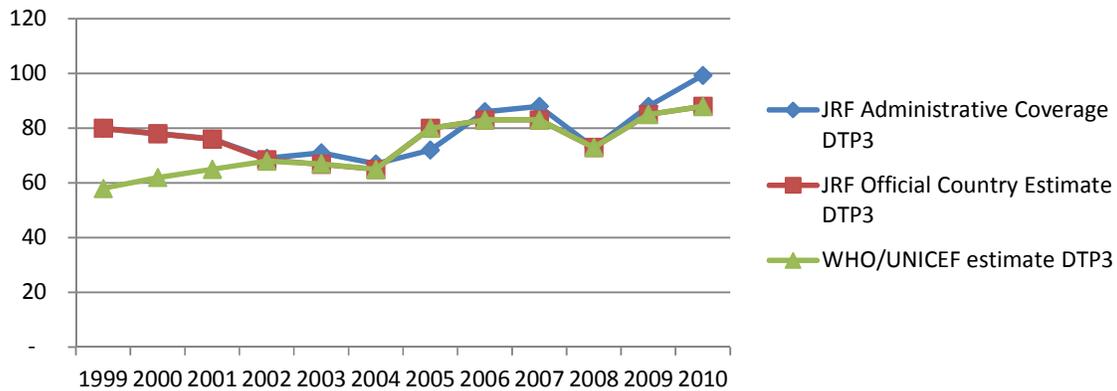
Immunisation delivery in Pakistan is undertaken by 10,000 trained vaccinators and 6000 Lady Health Visitors (LHVs) and other paramedics.⁶ More than 100,000 Lady Health Workers assist in this process by social mobilisation, defaulter tracing and occasionally providing vaccination services. There are 6,000 fixed EPI centres, approximately 1 for about 27,000 population, though there is wide variation in coverage from district to district, and even at sub-district levels.⁶ Various supplementary immunisation activities, such as National Immunisation Days for polio and vaccine specific mop-up campaigns are organised in order to increase immunisation coverage among high-risk populations.

The infrastructure of the EPI still has significant gaps.⁶ The National Policy recommends two vaccinators per union council (UC). However, only 1.3 vaccinators per UC are actually available. Except for Sindh, which has 115% of the required vaccinators, Punjab, Khyber- Pukhtoonkhwa (KP) and Baluchistan have only 52%, 70% and 72% of the required vaccinators, respectively. There is also considerable variation in the number of fixed EPI centres available per unit population in the different districts of each province.

The unprecedented floods of 2010 significantly damaged public health infrastructure, much of it still to be rebuilt. Relentless monsoon rains of 2011 have further ravaged lower Sindh with large areas inundated with several feet of standing water. Assessment of damage to EPI infrastructure is still underway. War, internal conflict, insecurity, political uncertainty, and local governance issues have created significant barriers to maintaining high immunisation coverage. Both Sindh and Baluchistan have had major polio outbreaks in 2010-11 with poliovirus emerging in many districts where transmission had previously been interrupted.

There are conflicting data on immunisation coverage in Pakistan. WHO coverage estimates show DTP3 coverage of 88% (see Figure 1), with a DTP1 to DTP3 drop-out rate of 8% in 2010. However, reports of over 250 polio cases in the country since 2010 and 30 plus polio-infected districts, as well as independently conducted surveys indicate actual coverage to be lower⁸, and many areas with large proportions of unimmunised children.¹³ Since each case of paralytic poliomyelitis represents just the tip of the iceberg with approximately 200 individuals infected with wild poliovirus for each case of polio, or 50,000 infections, the scale of the outbreak all over Pakistan despite repeated polio vaccine campaigns indicates serious gaps in routine immunisation coverage. FATA alone is notable for having an estimated 250,000-300,000 unimmunised children because of the ongoing conflict in the area.

Figure 1: DTP3 coverage rate



Source: Pakistan APR 2010 and WHO/UNICEF estimates (update from June 2011)

Accurate estimates of vaccine coverage in Pakistan are hard to come by. Vaccination cards are often missing, even if the parents report that their child was vaccinated, resulting in some coverage estimates based on verbal recall, which may over-estimate the number of children immunised, especially in Pakistan.²⁵ Sheikh et al²⁶ using serological confirmation, showed poor correlation between verbal recall and serological immunity for measles in Karachi, Pakistan. On the other hand, using card verified data only, results in under-estimates of coverage.⁴ There are often no vital registration records. Hand-written, poorly maintained immunisations registers with illegible writing abound at EPI centres.¹³ It has been over 13 years since the last census of 1998. Therefore, the number of children needing immunisation in a particular district or union council (administrative unit tier after district) is not known. Other deliberate sources of bias may also exist, leading to over-reporting of vaccine coverage by district authorities. GAVI's Immunisation Services Support (ISS) programme provide performance-based incentives that may encourage support-recipient countries to over-report coverage estimates.¹⁵

Table 2 summarises the difference between official estimates and independent evaluation of immunisation coverage in Pakistan by antigen when two sources of data were available for the same year (official estimate and the large Pakistan Demographic Health Survey 2006-2007 conducted by Macro International). Table 3 shows trends in immunisation coverage in Pakistan based on various surveys. Notably Pakistan Social and Living Standard (PSLM) surveys, conducted by the Federal Bureau of Statistics, Pakistan tends to report higher immunisation coverage than other surveys, and the most recent WHO estimate of 2010 is based on PSLM 2008-2009. This may be due to differences in survey methodology.⁸ The PSLM 2010-11 has recently been released and shows a DPT3 coverage rate of 85% in the country.

²⁵ Millennium Development Goals. World Development Indicators 2011; World Bank. <http://data.worldbank.org/data-catalog/world-development-indicators>

²⁶ Sheikh, S., Ali, A., Zaidi, A.K., Aha, A., Khowaja, A., Allana, S., Qureshi, S. & Azam, I., 2011. Measles susceptibility in children in Karachi, Pakistan. *Vaccine*, 29 (18), 3419-23.

Table 2: Difference in official estimates and independent evaluation of vaccine coverage in Pakistan by antigen

Antigen	Official estimate 2007*	Independent evaluation 2006-2007§
BCG	89	80
Polio-3	85	83
DTP3	83	58
Measles-1	80	60

Source: *Official estimate reported to WHO-UNICEF, 2007; §Pakistan Demographic and Health Survey, 2006-07

Among all the survey data presented below (Table 3), the PDHS 2006-2007 is likely the most reliable estimate of coverage because of large sample size and robust methodology (DHS Measure). The high PSLM survey coverage is implausible given no drop outs between DTP1 and DTP3.

Table 3: Trends in immunisation coverage for specific vaccine antigens reported in different Pakistan surveys

Table 10.4 Trends in vaccination coverage									
Percentage of children age 12-23 months who received specific vaccines, Pakistan									
Survey	BCG	DPT			Polio			Measles	All vaccinations
		1	2	3	1	2	3		
PDHS (1990-91)	69.7	64.1	60.0	42.7	64.8	60.5	42.9	50.2	35.1
PIHS (1995-96)	73.0	73.0	64.0	58.0	71.0	65.0	58.0	47.0	45.0
PIHS (1996-97)	76.0	76.0	70.0	63.0	80.0	76.0	67.0	49.0	49.0
PIHS (1998-99)	65.0	67.0	63.0	58.0	77.0	76.0	70.0	55.0	49.0
PIHS (2001-02)	67.0	71.0	67.0	63.0	68.0	91.0	89.0	57.0	53.0
PSLM (2004-05)	82.0	82.0	81.0	80.0	82.0	81.0	81.0	78.0	77.0
EPI (2006)	77.7	74.6	69.3	64.5	73.7	68.9	64.4	62.6	56.8
PDHS (2006-07)	80.3	74.8	66.5	58.5	93.0	90.6	83.1	59.9	47.3

Sources: NIPS and Macro, 1992; Federal Bureau of Statistics, 2007c; MOH 2006
 PIHS = Pakistan Integrated Household Survey
 PSLM = Pakistan Social and Living Standards Measurement Survey

Source: Demographic and Health Survey 2006-2007, Pakistan

Both the PDHS 2006-2007 and PSLM 2010-2011 reveal significant inter-provincial, between districts in the same province, urban-rural, gender, and wealth quintile disparities in immunisation coverage through-out Pakistan.^{4,8} For example, DTP3 reported coverage was 91% in Punjab, 83% in Sindh, 81% in KP, and 60% in Balochistan,⁴ 50% boys versus 44% girls were found to be fully immunised in the PDHS 2006-2007, and 26% children in the lowest quintile were immunised versus 64% in the highest quintile.⁸

Key donors supporting immunisation and health systems, and health-focused CSOs in Pakistan

Pakistan government expenditure on health has remained below 1% of GDP for many years. However, because of rising GDP, total spending on health by the government has risen from Rs. 38 billion in 2004-2005 to Rs. 74 billion in 2008-2009.¹⁶ Table 4 shows government and donor support to Pakistan's EPI in 2010.

Key donors providing direct support for routine immunisations or supplemental polio vaccination campaigns are GAVI, UNICEF, WHO, World Bank, Gates Foundation, and JICA.¹⁷ Overall, financing for Pakistan's EPI in 2010 was US \$111,370,589. Pakistan's Comprehensive

Multi-Year Plan (cMYP) 2011-2015 for immunisations indicates that the comparable figure for 2008 was \$214,179,140 (including \$104,313,976 for routine immunisations and the remainder for supplementary campaigns).¹⁶ The government's contribution to EPI has increased from \$14.5 million (13.9% of total EPI costs) in 2008 to \$16.6 million (14.9% of total EPI costs in 2010). The Pakistan government co-finances procurement of pentavalent vaccine at the minimum level.

Table 4: Overall Expenditure/ Financing for Immunisation from all sources (Government and donors) in US\$

Expenditures by Category	Expenditures Year 2010	Country	GAVI	UNICEF	WHO	World Bank
Traditional Vaccines*	4,829,989	4,829,989				
New Vaccines	49,360,398	5,559,176	43,801,222			
Injection supplies with AD syringes	2,115,571	903,293	1,212,278			
Injection supply with syringes other than ADs	143,208	143,208				
Cold Chain equipment	170,813			170,813		
Personnel	1,500,000	1,500,000				
Other operational costs	539,876	539,876				
Supplemental Immunisation Activities	52,710,734	3,169,412		3,337,190	4,440,000	41,764,132
Total Expenditures for Immunisation	111,370,589					
Total Government Health		16,644,954	45,013,500	3,508,003	4,440,000	41,764,132

Source: Pakistan Annual Progress Report to GAVI 2010

The Pakistan government also receives significant donor support for its TB, malaria, and AIDS programs through the Global Funds for AIDS, TB, and malaria, and for maternal-child health from USAID, DFID and NORAD. International CSOs such as Save the Children and Red Cross receive funding through their external funding mechanisms. Most national CSOs generate funds through local networking, fund-raisers, and expatriate Pakistanis.

Larger CSOs such as HANDS, AKHSP, and the Aga Khan University (academic organisation with significant community health work in Sindh province) are able to successfully solicit funds directly from international donors for their health activities. These are organisations with well-established accounting mechanisms and a successful track record of implementation of project activities. Donors supporting local CSOs directly in Pakistan include USAID, DFID, UNICEF, WHO, Save the Children, GFATM, David and Lucile Packard Foundation, Aga Khan Foundation, and many large local corporations. Typically CSOs receiving international funding work in close coordination with the government, with the Ministry of Health participating in proposal design and project implementation and the sponsor undertaking extensive audits

themselves or through hiring a local accounting firm. Grant applications may also be joint (e.g. GFATM) with the government and CSO applying as a consortium, but independently done sub-contracting and financial flows. Many sponsors also hire external monitors to independently monitor programme activities.

Sponsors are interested in directly funding local CSOs with an established track record because of lower cost-to-activity ratios as overheads of local CSOs are considerably lower than international CSOs, and an expectation of high chances of project success. However, conversations with both governmental employees and CSOs indicate that projects have the most chance of successful completion if these are conceived and implemented in partnership with the government.

References

1. Human Development Report 2011. United Nations Development Programme.
2. Millennium Development Goals. World Development Indicators 2011. World Bank. <http://data.worldbank.org/data-catalog/world-development-indicators> (accessed Oct 2, 2011).
3. UNICEF. http://www.unicef.org/infobycountry/pakistan_pakistan_statistics.html (accessed October 2, 2011).
4. Federal Bureau of Statistics (Pakistan). Pakistan Social and Living Standards Measurement Survey 2010-2011. Islamabad, Pakistan: Federal Bureau of Statistics (Pakistan). <http://www.statpak.gov.pk/fbs/content/pakistan-social-and-living-standards-measurement-survey-pslm-2010-11-provincial-district-0> (accessed October 3, 2011).
5. Anna Heard, Imran Chandio, and Riaz Memon. Improving Maternal Health by Scaling Up Contractual Management of Basic Health Units in Sindh Province, Pakistan: A Health Systems Approach. Commissioned Paper for the International Conference on Scaling Up, Dec 3-6, 2008, Dhaka, Bangladesh.
6. Hasan, Q., Bosan, A.H. & Bile, K.M., 2010. A review of EPI progress in Pakistan towards achieving coverage targets: present situation and the way forward. *East Mediterr Health J*, Vol 16.
7. Siddiqui N, Owais A, Zaidi AKM. Role of private sector in childhood immunisations in Karachi – a population representative survey. Masters thesis, Aga Khan University, 2010.
8. National Institute of Population Studies (NIPS) [Pakistan], and Macro International Inc. 2008. *Pakistan Demographic and Health Survey 2006-07*. Islamabad, Pakistan: National Institute of Population Studies and Macro International Inc.
9. National EPI Policy 2010. Draft February 1st 2011.
10. Overview of Civil Society Organisations in Pakistan. Asian Development Bank 2009.
11. CSOs to take up the unfinished business. Ministry of Health, Government of Pakistan 2011.
12. Pakistan Health Profile. <http://www.who.int/gho/countries/pak.pdf> (accessed October 2, 2011).

13. Owais A, Zaidi AKM. Pakistan's Expanded Programme on Immunisation: an Overview. Commissioned Paper for a National Conference on Public-Private Partnerships for Polio Eradication, Islamabad, February 20-21, 2011.
14. Sheikh, S., Ali, A., Zaidi, A.K., Agha, A., Khowaja, A., Allana, S., Qureshi, S. & Azam, I., 2011. Measles susceptibility in children in Karachi, Pakistan. *Vaccine*, 29 (18), 3419-23.
15. Lim, S.S., Stein, D.B., Charrow, A. & Murray, C.J., 2008. Tracking progress towards universal childhood immunisation and the impact of global initiatives: a systematic analysis of three-dose diphtheria, tetanus, and pertussis immunisation coverage. *Lancet*, 372 (9655), 2031-46.
16. Pakistan comprehensive multi-year plan for immunisations, 2011-2015, Federal EPI Cell, Ministry of Health.
17. Pakistan Annual Progress Reports to GAVI 2008, 2009 and 2010, Ministry of Health, Government of Pakistan.

ANNEX 4: CSOs PARTICIPATING IN THE GAVI CSO PROGRAMME IN PAKISTAN

CSO Name	Targeted Districts
Aga Khan Health Services, Pakistan (AKHSP)	Tando Allayar, Sindh
Aga Khan University (AKU)	Karachi (all 18 towns/5 districts), Sindh Hala/Mattiari, Sindh
All Pakistan Women's Association (APWA)	Murree, Punjab
Basic Development Needs (BDN)	Kasur, Punjab Multan, Punjab Nowshera, Khyber-Pakhtunkhwa Mastung, Balochistan Muzaffarabad, Azad Kashmir
Civil Society Human and Institutional Development Programme (CHIP)	Jhelum, Punjab Swabi, Khyber-Pakhtunkhwa Skardu, Gilgit/Baltistan
Health and Nutrition Development Society (HANDS)	Hala/Mattiari, Sindh
Health, Education, and Literacy Programme (HELP)	Tharparkar, Sindh
Literacy/Information in Family Health and Environment (LIFE)	Muzaffarabad, Azad Kashmir Loralai, Balochistan
National Rural Support Programme (NRSP)	Turbat & Gawadar, Balochistan Kotli and Rawalakot, Azad Kashmir
Pakistan Voluntary Health and Nutrition Association (PAVHNA)	Pishin & Killi Karani, Balochistan Larkana, Sindh
Punjab Rural Support Programme (PRSP)	Rahim Yar Khan, Chakwal, Vehari, Faisalabad, Mianwali and Lodhran, Punjab
Pakistan Village Development Programme (PVDP)	Sanghar, Sindh
Social Action Bureau for Assistance in Welfare and Organisational Networking (SABAWON)	Peshawar and Mardan, Khyber-Pakhtunkhwa
Save the Children, UK	Quetta & Qilla Abdullah
The Health Foundation	Karachi (Landhi, Korangi and Shah Faisal Colony), Sindh

ANNEX 5: CSO ACTIVITY MATRIX



Annex 5 GAVI CSO
Pakistan Activity Matr

ANNEX 6: TIMELINES AND UTILISATION OF GAVI FUNDS ACROSS CSOs

1. CSOs reimbursement delayed due to devolution period

S. No	Name of CSOs	Amount in PKR	Project End Date as per original PCA	Documentation completed/ received GAVI unit Pakistan, Islamabad	Actual disbursement	Delay in disbursement due to Devolution*
1	LIFE Welfare Association	1,477,888	December 31 st , 2010	June 20 th , 2011	August 12 th , 2011	1 month 20 days
2	Social Action Bureau for Assistance in Welfare and Organisational Networking (SABAWON)	1,539,536	December 31 st , 2010	June 20 th , 2011	August 12 th , 2011	1 month 20 days
3	Pakistan Voluntary Health and Nutrition Association (PAVHNA)	1,764,133	April 30 th , 2011	June 20 th , 2011	August 12 th , 2011	1 month 20 days
4	Save the Children UK	4,080,837	March 31 st , 2011	June 20 th , 2011	August 12 th , 2011	1 month 20 days
5	All Pakistan Women's Associations (APWA)	304,705	March 31 st , 2011	June 20 th , 2011	August 12 th , 2011	1 month 20 days
6	Health and Nutrition Development Society (HANDS)	814,704	March 31 st , 2011	June 20 th , 2011	August 12 th , 2011	1 month 20 days
7	Civil Society Human and Institutional Development Programme (CHIP)	3,073,593	May 31 st , 2011	June 20 th , 2011	August 12 th , 2011	1 month 20 days
8	Health Education and Literacy Programme (HELP)	831,470	May 31 st , 2011	June 20 th , 2011	August 12 th , 2011	1 month 20 days
9	Participatory Village Development Programme (PVDP)	1,267,500	March 31 st , 2011	June, 2011	August 12 th , 2011	1 month 20 days
	Total	15,154,366				

*Devolution of Ministry of Health occurred on June 30th 2011.

2. CSOs fund utilisation (year wise)

S. No	Name of CSOs	As per original PCA amount in PKR	Extension amount in PKR	Utilisation 2009 in PKR	Utilisation 2010 in PKR	Utilisation 2011 in PKR	Total Utilisation %
1	LIFE Welfare Association	9,965,000	2,989,500	2,989,500	5,480,750	3,719,925	94.10
2	Social Action Bureau for Assistance in Welfare and Organisational Networking (SABAWON)	10,988,000	3,492,000	3,296,400	6,043,400	4,166,110	93.27
3	Pakistan Voluntary Health and Nutrition Association (PAVHNA)	13,000,000	3,755,500	3,900,000	7,150,000	4,580,725	93.29
4	Save the Children UK	27,205,577		8,161,673	14,963,067	4,080,836	100.00
5	All Pakistan Women's Associations (APWA)	5,000,000	1,642,000	1,500,000	2,750,000	1,559,500	87.47
6	Health and Nutrition Development Society (HANDS)	11,519,192	3,477,100	3,455,757	6,335,555	3,414,168	88.06
7	Civil Society Human and Institutional Development Programme (CHIP)	20,572,302	3,507,540	6,171,690	8,228,920	8,790,093	96.31
8	Health Education and Literacy Programme (HELP)	7,960,650		2,388,195	4,378,357	831,091	95.44
9	Participatory Village Development Programme (PVDP)	8,450,000	3,148,000	2,535,000	4,647,500	3,628,500	93.21
10	Aga Khan University (AKU)	8,486,357		2,545,907	3,394,542	1,272,953	85.00
11	Aga Khan Health Services of Pakistan (AKHSP)	17,316,240		5,194,872	9,523,932		85.00

S. No	Name of CSOs	As per original PCA amount in PKR	Extension amount in PKR	Utilisation 2009 in PKR	Utilisation 2010 in PKR	Utilisation 2011 in PKR	Total Utilisation %
12	Punjab Rural Support Programme (PRSP)	20,921,175			14,644,822	3,138,176	85.00
13	National Rural Support Programme (NRSP)	20,939,900	3,102,000	6,281,970	11,516,945	2,326,500	83.71
14	The Health Foundation (THF)	11,040,218	56,300	3,312,065	6,072,119	42,225	84.95
15	Basic Development Needs (BDNs Nowshera, Muzd, Multan, Mastung & Kasur)	46,417,994	4,883,000	13,925,398	25,529,896	4,309,406	85.31
16	Vaccinator Training by CHIP	30,695,700			21,486,990	8,113,983	96.43
	Grand Total	270,478,305	30,052,940	65,658,427	152,146,795	53,974,191	90.43

ANNEX 7: CASE STUDY

Pay for performance for social mobilisers supporting immunisation for children: Aga Khan Health Services, Pakistan

AKSHP is one of the participating CSOs in the GAVI CSO programme funded consortium in Pakistan. AKSHP was incorporated in 1984, and has been operational in large parts of Pakistan. It is part of the umbrella group of organisations constituting the Aga Khan Development Network. AKSHP runs several primary and secondary care facilities in Gilgit/Baltistan and Sindh. In Gilgit/Baltistan, AKSHP is recognised as a major service provider for women and children.

In order to increase the uptake of vaccine services in Tando Allayar, a rural district in Sindh, AKSHP adopted a pay for performance (P4P) approach to motivate community health workers to promote vaccinations and other maternal child health care services in their area. Of note, AKSHP has not had a history of working in this district but has strong infrastructure in nearby Hyderabad city.

Key activities:

- Relationships were established with the local community-based village organisations (CBOs) in three union councils (UCs), administrative sub-districts of Tando Allayar.
- CBOs were requested to identify suitable community health workers (CHWs) from their areas. The requirement for the selection of a CHW was that they should belong to the same area or from the nearby village, be affiliated with a CBO, male or female, aged between 20 and 60 years, be able to read, have respect in the community, have previous experience in a similar role and preferably have any professional and/or certificate course in health.
- The list of villages in the three UCs were mapped out. The project team undertook visits to each of the areas and agreed on demarcated areas with each CHW in the presence of the health committee members of the CBOs. If these were non-functional, these were revitalised with the help of CBO members.
- A package of services was developed to be delivered by CHWs that included registration of families with children younger than 5 years, promotion of routine immunisation in children and pregnant women, identification and management of malnourished children, promotion of birth spacing/family planning, promotion of skilled birth delivery, antenatal and postnatal care and social mobilisation. The package of services designed was selected very carefully keeping in mind the monitoring of outcome indicators and denominators for measuring the progress of the program.
- Each CHW was then assigned their package of responsibilities which included specific task descriptions such as registering and gathering children and women for vaccination by the area vaccinator at a pre-agreed venue, date and time. Wherever there was a BHU in the area, CHWs were responsible for referring children to the nearby BHU for

vaccination. Besides sensitising the community, CHWs were also responsible for ensuring updated records of their assigned villages.

- Contracts were developed with each of the CHWs and with their CBOs, clearly stating the terms and conditions of payment. Separate contracts for pay for performance were developed with the health care providers (e.g for skilled births).
- Three cycles of trainings were conducted in counselling techniques and health education on importance of vaccination (EPI vaccines for children and tetanus toxoid for women of childbearing age), birth preparedness, community integrated management of childhood illness (illness recognition and referral), and malnutrition rehabilitation.
- A process was developed that on the one hand built the capacity of the local community as monitors of the service and on the other hand, verified the performance from the data source (client registration form, ante-natal cards, delivery record signed by the skilled provider). Once community health worker's performance was audited, a compensation issuance note was signed by the designated health committee member and the project team representative.
- The incentive was a fee-for-service scheme with monthly/ quarterly performance payments paid to the CSOs/first level facility health care providers/ CHWs based on the total number of incentivised interventions delivered in a month/ quarter. Incentives listed below were agreed after numerous consultations with the district health management teams, local CBOs, and Pakistan GAVI CSO Support Unit.

Service	Incentive	Incentive to
<ul style="list-style-type: none"> • Registration and weight of a newborn • Registration and weight of under 5 child • Monthly monitoring of a malnourished child • Identification of a pregnant lady • Ensuring that women receive at least one injection of TT during pregnancy 	PKR* 25 per service	CHW
Registration of a family with at least one child of less than 2 years of age and not practicing family planning	PKR 25 per unit	CHW
Referral by TBA/CHW for delivery to identified skilled care provider	PKR 300 per delivery to traditional birth attendant (TBA)	TBA/CHW
Safe Delivery by a Skilled Birth Attendant	Delivery Kit	TBA/CHW
Postnatal Visit	PKR 50 rupees	TBA/CHW
Ensures: <ul style="list-style-type: none"> • Growth monitoring by an LHW • Vaccination by vaccinator • Nutritional counseling of U5 children by a CHW 	PKR 25 monthly for each child	CHW
Bonus if a malnourished child becomes nutritionally normal	PKR 70	CHW

Service	Incentive	Incentive to
Incentives for community based organisation (CBO)		
Formation of a Health Committee by the CBO (one time incentive)	PKR 5000 per CBO	CBO
Identification of CHWs (one time incentive)	PKR 3,500 per CBO	CBO
Social Mobilisation	PKR 100,000 per CBO annually	CBO
Cost of one computer with printer for record maintenance per CBO	PKR 30,000 per CBO	CBO
Pay for Performance Scheme per Union Council	PKR 517,500	CBO
Reporting incentives per CBO for 12 months	PKR 12,000 annually	CBO

* Approximately 86 Pakistani rupees are equivalent to US \$1.

Transition to output based incentive system

In the initial phase of the programme, the incentives were built around a combination of inputs and outputs. As the programme completed its first phase comprising of registration of women and children, the package of incentives were changed to only output based indicators which simplified the payment to the CHW. The details are shown in the following table:

Service Unit	Unit reimbursement	Reimbursement to
Pregnant women gets TT vaccination	PKR 25	TBA/ CHW
TBA that accompanies the mother to avail skilled delivery service	PKR 300	TBA
Growth monitoring, immunisation and nutritional counselling per child	PKR 25	CHW
Home visit to malnourished child	PKR 25	CHW
Bonus for a child who becomes normal weight and maintains on normal growth percentile	PKR 75 per quarter	CHW
Successful counselling of family to avail family planning service	PKR 25	CHW

Lessons learnt

1. Innovation

AKSHP selected the CBOs on the basis of certain criteria which included maturity and experience. Pay for performance was new but CBOs were able to see the value of it and felt motivated as it gave them a responsible role. CHWs were also reluctant in the beginning, expecting salaries but accepted the idea that compensation will be linked to productivity. This P4P approach enabled the project to achieve good results in the short time period from May 2010 to August 2011:

- 100 % children in the programme population were registered.
- 39.8 % increase in the number of children at 23 months of age who are fully immunised in the three union councils.
- 13.2 % increase in TT coverage of pregnant mothers in the three UCs from the baseline.
- 21.6 % children with severe malnutrition showed an improvement in the nutritional status.
- Skilled birth delivery increase by 25.3%.

2. Willingness to take more responsibility

In the initial discussion, project teams assumed that CHWs will be willing to take the responsibility for populations of 800-1,000 in line with the Pakistan LHW programme. However, as soon as the P4P concept was understood, CHWs were very keen to have a larger areas assigned to them. Some of the CHWs took this task up as if it was a full time task. On average each CHW covered a population of 10,000 to 15,000.

Challenges

Operationalising P4P was a challenge but the flexibility in the project allowed these to be addressed in a timely manner. Some of the challenges faced by the project are discussed below.

1. Verification of services provided

Incentives could only be given when the service delivery was verified up to the desired level. This meant review of all the performance reports of the CHWs through independent audit by CBOs and separately by the project team. This resulted in delay in the payment to CHWs which also affected their morale.

2. Mode of incentive payment

Host organisation and the donor agency both required complete transparency in the amount being transferred and cash handling. Since CHWs did not have bank accounts, therefore the funds were transferred into the CBO account. Therefore, even when the funds were released by the host organisation, it often got stuck in the CBOs account. This further delayed the payment to CHWs. Moving from Phase 1 to Phase 2 (output based incentive payments) and bundling these streamlined disbursement mechanisms substantially.

3. Documentation

Working with CBOs on this innovative model of payment required lots of discussion around preparing contracts, performance indicators and in establishing a system for measuring performance.

4. Literacy Barriers

CHWs were mostly women and only had basic literacy skills. Therefore they found data handling difficult. The tool for data recording was simple, but still had to be pre-tested and simplified and then re-simplified.

5. Difficulty in women's mobility

Hard to reach areas often have difficult terrain and restrictive social environment which makes it challenging for women to move around independently. Initially, when the P4P concept was unclear, female CHWs were keen to be allocated to areas near their homes for convenience and easy mobility. However, when the relationship between population size and the number of visits for income became clear to the CHWs, they wanted to have larger areas allocated to them as it meant more income. In the ordinary situation, it would be expected that women will not be willing to work with a male CHW in the conservative Pakistani culture but the mode of incentives motivated female CHWs to team up with male CHWs and share their benefits. They defined each others' role such that male CHWs accompanied female CHWs for home visits and assisted them in filling up the form. Correspondingly, since it was not always possible for the male CHWs to visit every household or talk to women about maternity or family planning, this role was taken up by the female CHWs. An incentive sharing plan was developed by such teams.

6. Readiness to work under the innovative payment approach

At the time of invitation to the local CBOs for partnering in the programme, they were not informed about the innovative payment mechanism that was to be adopted. However, when they were informed, they were a little uncomfortable with this mode of payment. Since, the discussion about this innovative payment approach was kept flexible, therefore, it was possible to incorporate participant's views on the unit costs and on the package of services on which the CHWs will be reimbursed. Once CBOs were able to see how this could be advantageous, they were ready to discuss this payment approach in detail.

Conclusion

Pay-for-performance system is quite cost efficient and brings accountability in the system. If designed with care and carefully monitored, this approach can be implemented in a variety of settings for supporting desired outputs.

ANNEX 8: FACTORS IMPACTING EFFECTIVENESS

There are a number of factors (both positive and negative) which have affected the effectiveness of the CSO programme in Pakistan. These factors are summarised in the table below. Positive factors are indicated by ‘+’ while negative factors are indicated by ‘-’ and factors which have been viewed differently by different stakeholders are indicated by ‘±’.

Table A7.1: Summary of factors affecting effectiveness

Type	Factors
GAVI-specific factors	<ul style="list-style-type: none"> - Limited funding (Type B) and disbursement delays - Short timeline for Type B proposal + GAVI Secretariat technical support to government has been efficient and responsive to country needs
Country-specific factors	<ul style="list-style-type: none"> - Devolution of the Federal Ministry of Health resulting in delay of release of funds to CSOs and some loss of confidence - Frequent turn-over of government staff at district level - Security challenges, especially in Balochistan and KP/FATA + Strengthening of government-CSOs partnership for maternal-child health and immunisations + Energising CSO sector to become involved in immunisation programme support
Programme-specific: Type A	<ul style="list-style-type: none"> + Resulted in the formation of a consortium of CSOs that participated in the development of the Type B proposal and have pledged to work together for the cause of immunisations
Programme-specific: Type B	<ul style="list-style-type: none"> + Participatory approach with active CSO involvement + Establishment of a strong CSO Coordinating Unit in the government - Unclear objectives of GAVI CSO support - Short project timeline and limited funding to show programme results - Insufficient engagement of provincial and district governments in programme planning

ANNEX 9: REVIEW OF AGA KHAN UNIVERSITY GRANT, PAKISTAN

1. Introduction

Funded under the GAVI CSO Support grant to Pakistan for increasing involvement and strengthening of civil society organisations to address immunisation and health systems deficiencies, the Aga Khan University's research component²⁷ was to provide evidence based estimations of the burden of vaccine preventable infections (rotavirus and measles) in rural and urban areas of Sindh, Pakistan. The broader purpose of the research was to better inform the national vaccine policy regarding rotavirus and measles vaccines in the EPI programme and enhance coverage. The total cost of AKUs component was US\$ 99,845. Specific project objectives were:

1. **Component 1** (US\$ 66,107): to estimate the burden of severe rotavirus gastroenteritis in children <5 years in the rural district hospitals of Matiari and Hala
 - To establish sentinel surveillance capacity of rural Tehsil Headquarter Hospital (THQ) hospitals in Matiari and Hala to detect rotavirus infections which would serve as a model for other public sector hospitals in rural areas across Pakistan
 - To upgrade laboratory facilities and train staff/develop the capacity of Matiari and Hala THQ hospitals for establishing rotavirus detection by ELISA
 - To strengthen existing referral mechanisms at the level of community outreach (LHWs), and for both primary health care providers in the public and private sector for improved rotavirus case detection and management outcomes
 - To create awareness of vaccine preventable diseases at the community level and sensitise health decision makers for expansion of vaccination coverage and quality of service delivery
2. **Component 2** (US\$ 33,737): to estimate the seroprevalence of measles immunity among children aged 12-59 months in Karachi by measuring serological markers of immunity and receipt of measles vaccine at different ages.

2. Evaluation Framework and Rationale

The purpose of the evaluation is to specifically review how GAVI funded Type A and B CSO activities improved immunisation and health system gaps in country; the effectiveness and relevance of the designated activities/research with national and GAVI priorities; what are the key lessons learnt; and how can the information gleaned be used to inform future programs and policies at the national, regional and global level by national stakeholders, donors and GAVI partners. For each CSO component the evaluation process is broken down into three major areas of review:

Policy rationale and programme design which seeks to study the extent that the CSO selected and approved activities were in line with country needs, overall GAVI objectives and principles.

²⁷ Initiated in May 2009 for an initial period of 1 year followed by an extension for 6 months.

Implementation of activities section looks at how effectively and efficiently the proposed target activities were carried out, the challenges, and achievements of the CSO support

Results/Impacts reviews the relevance (both positive and negative aspects) of achieved results (and where possible outcomes and impacts) on country priorities, its uptake into policy and programme adaptations or design, including envisioned future changes.

This evaluation draws upon a number of information sources such as project documents, structured interviews with key stakeholders such as government and civil society organisations, field visits, and quantitative analysis where feasible, to reach its final conclusions on the three areas described above.

Activities/Research Component	Results/Outcomes or Impact	Implementation	Policy Rationale and Programme Design
Component 1: Estimating burden of severe rotavirus gastroenteritis/diarrheal illness in children <5 years in district Matiari's two THQ hospitals Matiari and Hala			
<p>1.1: Capacity building of THQ hospital laboratories to conduct rotavirus ELISA testing</p>	<p><u>Status: Completed</u></p> <p><u>Outputs</u></p> <ul style="list-style-type: none"> • 4 THQ lab technicians trained on rotavirus EIA test • 2 lab technicians hired by AKU to support THQ technicians • Equipment – 2 Generators, 2 small refrigerators, and lab consumables <p>Established data recording system</p> <p><u>Outcomes</u></p> <p>Functional rotavirus EIA testing facility in rural THQ hospital laboratory</p>	<ul style="list-style-type: none"> • A workable model of rotavirus EIA testing facility in rural THQ settings has been demonstrated • GAVI grant funding helped provide resources for upgrading the lab facilities, staff trainings, staff, and provision of basic equipment and supplies • AKU's long term association with the district government officials (due to ongoing/prior research projects) was crucial in successfully facilitating the grant activities • AKU used GAVI CSO funding to provide salary support in hiring 2 lab technicians (1 each in THQ hospitals) which was crucial to the success of the surveillance– highlighting the difficult balance between project success and long term sustainability of the initiative. GAVI support also covered trainings, equipment/supplies for the labs, and upgradation of lab facilities. • Resistance to change- Some level of resistance by the pediatricians in THQ hospitals to adopt new referral procedures • Issues of post–grant sustainability– despite the commitment and availability of trained THQ 	<p><u>Overview</u></p> <ul style="list-style-type: none"> • The GAVI CSO support for AKUs research and surveillance project is both relevant to and consistent with GAVI priorities and also in the context of providing an evidence base for advocacy to Pakistan's EPI program. Discussions with the EPI programme highlighted the relevance of this research and information needs for making well informed policy and programme decisions– as were undertaken in the initial conceptualisation phase of programme design. However, at times during this process the findings from the research strained the relationship between government officials and AKU- highlighting the difficult balance between maintaining scientific accuracy and findings of sub-optimal service coverage/delivery by government programs. While it appears that the EPI programme and government officials strongly supported the initial selection of sites for establishing surveillance there was no real long term (i.e broader plan) planning for extension onto other sites or continuation (if needed) beyond this project life. This obviously has implications for long term project impact, i.e national recommendations cannot really be safely made

Activities/Research Component	Results/Outcomes or Impact	Implementation	Policy Rationale and Programme Design
		<p>lab technician it is unlikely that rotavirus testing/surveillance will continue beyond project life. Major constraints that were repeatedly mentioned by the local government/hospital officials were lack of availability of human resource (i.e lab technicians) to continue providing rotavirus testing and support for reagents/supplies.</p>	<p>and is a challenge faced in many development interventions. In addition, it appears that prior to the full release of the rotavirus surveillance findings, the EPI programme has already submitted an application to GAVI for inclusion of rotavirus in its routine vaccination.</p>
<p>1.2: Community awareness for rotavirus detection and referrals with communities, LHWs, private and public sector providers</p>	<p><u>Outputs</u></p> <ul style="list-style-type: none"> • 60 lane sessions with 1001 female participants • 69 lane sessions with 1156 male participants • Referrals of children with severe gastroenteritis after community lane sessions = 67 <p><u>Outputs</u></p> <ul style="list-style-type: none"> • Enhanced recognition severe gastroenteritis signs/symptoms and necessary actions or referrals among the communities, LHWs, and health care providers • Access to rotavirus testing facilities for local healthcare providers 	<ul style="list-style-type: none"> • Demonstration of an integrated community model of awareness, referrals, standardised case management and diagnosis for rotavirus diarrheal illnesses • Low success rates in convincing private providers to refer cases • Not sufficient documentation on the referrals by LHWs • Rotavirus is not preventable (other than by vaccines) 	<ul style="list-style-type: none"> • Furthermore, even within this programme design and findings there are a few points for consideration in terms of the design of the project components and when proposing policy changes: <ul style="list-style-type: none"> ○ Given the low overall routine vaccine coverage (Pakistan Demographic Health Survey 2006-7, AKUs measles survey 2011) there may be merit to a utility analysis comparing resource allocation to a new vaccine (rotavirus) vs. investing in improving routine immunisation coverage ○ Given the limited routine vaccine coverage a cost-benefit analysis is warranted for the proposed rotavirus vaccine particularly for sustainability after the GAVI cost-sharing period is over. Feasibility studies looking at different incidence scenarios and cost-effectiveness analysis would be helpful in making more informed decisions.

Activities/Research Component	Results/Outcomes or Impact	Implementation	Policy Rationale and Programme Design
1.3: Sentinel surveillance in THQ hospitals Matiari and Hala	<p><u>Status: Completed</u></p> <p><u>Outputs-</u></p> <ul style="list-style-type: none"> • Number of children with complaints of diarrhea = 2585 • Number (%) with acute diarrhea = 2288 (88%) • Number of stool specimens collected for testing = 324 (14%) • Number (%) confirmed rotavirus = 85 (26%) <p><u>Outcomes</u></p> <ul style="list-style-type: none"> • Functional surveillance in rural settings with availability of rotavirus trends over 18 month time period • Provides an evidence base to strengthen advocacy argument for inclusion of rotavirus vaccine in the EPI programme Pakistan 	<ul style="list-style-type: none"> • A workable model of setting up sentinel surveillance for rotavirus in rural THQ settings has been demonstrated • Caution in interpreting results and/or overestimation of rotavirus incidence and morbidity as a result of sentinel surveillance/hospital samples data collection • 56% of the parents did not give stoolsamples – what can be some of the lessons in reducing refusal (i.e parental time constraints) • Delays in test reporting resulting in loss of interest of the communities or providers • Test results have little implications for management/treatment decisions • Rotavirus is not preventable – so no preventive measures possible 	<ul style="list-style-type: none"> • Sentinel surveillance from public facilities only, misses considerable incidence of rotavirus but also over-represents more sick cases. This suggests that rotavirus may be more common than the results indicate. A modeling study may be warranted to understand the true incidence of rotavirus in the communities and this analysis may supplement the cost-benefit/ cost-effectiveness analysis suggested above. • While clearly the rotavirus surveillance in Matiari district demonstrates a steady non-seasonal trend of serious diarrheal infections it would be helpful to have data from other districts across before a “blanket decision” for rotavirus vaccination to all children is made. • It would be helpful to carefully review surveillance data and if possible identify if any specific factors (i.e. malnutrition) increase morbidity/ mortality associated with rotavirus infections and target children in those categories first. • Continuous vs. sporadic surveillance– policy decisions need to be made on the advantages and costs of continuous surveillance vs. sporadic surveys for estimating disease burden in other districts. At this time there are no ongoing sites/district surveillance for rotavirus disease burden. • Establishing linkages with existing surveillance

Activities/Research Component	Results/Outcomes or Impact	Implementation	Policy Rationale and Programme Design
			<p>systems- could initial discussions with EPI programme have assisted in linking this surveillance with existing surveillance (to feed information) system/mechanisms in the country (i.e. measles, polio). There is a general concern on the functionality and reliability of the existing surveillance system that needs to be reviewed in future GAVI support</p>
Component 2: Measles antibody sero-prevalence survey in Karachi			
<p>2.1: Cross sectional household survey N = 504 (September – November 2009) – this survey was designed to review the effectiveness of measles vaccine and of supplemental measles immunisation activities (SIA) in vaccinating children previously missed during routine vaccination activities.</p>	<p>Completed</p> <p><u>Outputs</u> – survey completed</p> <ul style="list-style-type: none"> • Measles antibodies detected = 55% children • Alarming only 3% of parents reported receiving measles vaccination during SIA <p><u>Quality and Evidence Output</u></p> <ul style="list-style-type: none"> • Objective measure of antibody response to 1 or 2 doses of measles vaccine • Objective measure of measles immunisation protection in the target population • Quality and coverage gaps identified in 	<ul style="list-style-type: none"> • Concerns about the reliability of the 1st survey methodology were voiced by the EPI programme which highlights the sensitive nature of such survey findings particularly when results are not as desired. This concern does not have scientific merit/validity since the survey methodology used both verbal history/interviews combined with saliva specimens to test for measles IgG antibody from all union councils in the metropolitan area that were covered by the SIA. The findings of this survey were published in an international journal of repute “Vaccine”. It is therefore safe to conclude that survey findings accurately reflected the measles vaccination situation in the targeted communities. • Repeat survey showed similar findings 	<ul style="list-style-type: none"> • Advocacy strategies and effectiveness - While it’s definitely good to have strong evidence documenting the prevalence of measles immunity and coverage of SIAs, it may be worthwhile to ask how advocacy strategies can be targeted for better acceptance of the findings. In the current state of non-ownership of these findings by government health officials, actual improvements in services and coverage seem unlikely. How best can GAVI and AKU or their partners help health officials accept this information and encourage/ address meaningful changes in SIAs and coverage? • Programme or Summary Briefs - Translating the findings of the survey into cluster specific recommendations and if available triangulating records from SIA/service delivery may be helpful to increase uptake of survey findings

Activities/Research Component	Results/Outcomes or Impact	Implementation	Policy Rationale and Programme Design
<p>2.2: Additional survey and GIS mapping to evaluate measles coverage post vaccine drive 2011 (July – September 2011)</p>	<p>overall routine vaccination services</p> <p>Completed</p> <p><u>Outputs</u> – 2nd survey completed</p> <ul style="list-style-type: none"> • 18% of parents reported receiving measles vaccination during supplemental immunisation activities (SIA) 2011 • 27% of the parents in the targeted clusters were aware of the SIA • Vaccinator visited home = 38% <p><u>Evidence Based Output</u></p> <p>Objective evidence that coverage of routine vaccination and measles during SIAs remains low with wide variation in geographic clusters in Karachi 10-27%</p>	<ul style="list-style-type: none"> • General law and order disruptions/instability were faced by the study teams in Karachi 	<p>since programme implementers/decision makers rarely have time to read articles and lengthy reports</p>

3. Lessons Learnt

It is worth mentioning that given the fairly short duration of GAVI CSO support and the many confounding factors that influence policy and programme decisions at the national level, impact is difficult to measure and inferences of causality are limited and should be made with caution. For most parts this assessment has identified outputs and some outcomes.

1. *Effectiveness of the program.* AKU was very successful in completing both surveillance and research activities in a timely and efficient manner. These results would be best used if accepted by government officials in charge of immunisation. While results showing low coverage may be initially unappealing to these officials, advocacy approaches and other means may be explored to involve government decision makers in finding means to overcome gaps in coverage.
2. *Sustainability.* There was no viable sustainability plan for the continuation of rotavirus surveillance beyond the programme life despite significant resource investments on the training of lab technicians and upgradation of facilities in the THQ hospitals Matiari and Hala. This is an ongoing dilemma when dealing with public sector health facilities which are generally understaffed and have little financial flexibility to sustain beneficial interventions without external assistance. Often the building up of expectations and “transient” systems in the community followed by gaps in service provisions leads to loss of credibility and should be seriously considered when developing proposals.
3. *Adequate time duration.* Establishing rapport in the communities and building relationships with stakeholders particularly government officials takes time. One year may be too short for achieving meaningful results and outcomes in most cases. This was the case with a number of CSOs in this grant support and should be considered in future GAVI support.
4. *Information sharing with Local CBOs.* It may be worthwhile to encourage sharing the findings by each CSO in the GAVI support grant with local CBOs or village development organisations in their geographical cluster to disseminate information more widely amongst audiences at the grassroot level for greater strengthening of civil society awareness.
5. *GAVI CSO Support, Design and Capacity Building.* The underlying premise of GAVI CSO funding support to work via CSOs and in the process strengthen/build long term country level capacity that complements enhancements in immunisation, child health and health systems is commendable. On many different levels CSOs can play a major role from advocating community interests (effective advocacy) to gate keepers of quality of service delivery (local supervision of quality standards) to actual delivery of services (contracted out services) themselves. It appears that GAVI CSO support provided a lot of technical assistance to the CSOs in proposal writing, budget development, monitoring results, and evaluation strategies. For AKU, the support provided a platform for young researchers to develop on-ground implementation and research skills in survey design and connect with government partners. However, some limitations of project design were that it was CSOs, particularly mature ones like AKU that determined the design and

site selection versus a broader government/EPI programme strategic vision that directly capitalised the benefits to be gained from the GAVI support to CSOs. In fact, as was the case with AKU, CSOs were encouraged (by GAVI proposal team/secretariat) to work in geographic locations and areas where they already had ongoing interventions i.e AKU therefore chose the rural sites of Matiari and Hala for demonstration of rotavirus surveillance.

6. *Results Measurement from the Community Perspective.* With several years of accumulated GAVI CSO support experience from the pilot countries it would be worthwhile to now review what this support has actually achieved in-countries and within the communities (as end beneficiaries). For example, future assessments should include independent “community surveys” to review both community perceptions of benefits and measured changes in results/outcomes (and where possible key indicators). Pre-design GAVI assessments should also consider reviewing upfront what sustainability plans or exit strategies CSOs have and whether these get translated into sustainability beyond the immediate funding period. Consideration also should be given as to whether in countries with mature CSOs can funds be reliably channelled through a CSO secretariat without necessary additional (7%) administrative costs of UNICEF /other middle organisations. What mechanisms can ensure accountability without additional costs?

4. Supporting information: List of consultations

Table A1: List of Consultations

Name	Position/Organisation
Huma Khawar	GAVI CSO Alliance Coordinator
Sundus Warsi	PM&E Officer GAVI CSO Alliance
Dr. Anita Zaidi	Project Incharge, Aga Khan University
Asif Raza	Project Focal Person, Aga Khan University
Dr. Altaf Bosan	Programme Manager EPI Program
Dr. Murad Shah	EDO Matiari
Dr. Muzafar Samoo	MS THQ Hospital Matiari