Immunisation Inequities in South Asia

A Policy Review

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Immunisation Inequities in South Asia – a policy review

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ABSTRACT

Introduction: Population-based demographic and health surveys (DHS) and multiple indicator cluster surveys (MICS) in South Asia show sustained inequity in immunisation. The benefits of vaccines are not reaching the most disadvantaged populations. This study reviews immunisation policies and plans from eight countries in South Asia (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka) to determine whether these documents address equity in immunisation.
Methods: A two-stage analysis of equity in immunisation policy and plans was carried out through: (a) review of equity from immunisation data from successive DHS and MICS in the eight countries of South Asia, and (b) an assessment of the extent to which immunisation policies and plans (including national health policies, health plans that include immunisation, specific immunisation policies, and multiyear plans) include a particular focus on the most disadvantaged children. Drawing on an analytical framework findings were categorised in terms of: a) the intention of the policy or plan as regards equity, b) the information that supports that intention, and c) documented strategies to address equity gaps.
Findings: Immunisation coverage rates have improved in all eight countries of South Asia but there are persistent inequities, particularly in Afghanistan, Pakistan and India. Immunisation policies and plans recognise inequities to a varying degree. Yet, these documents are underdeveloped and are not optimised to inform and guide equity-focused programming, implementation or measuring performance over time. There is a gap between the aspiration for universal coverage of immunisation expressed in policies and plans, *and* the presence of high quality determinants analysis of inequities, specific strategies for tackling inequities, and measurable targets for equity. Realisation of the goal of universal coverage leading to measurable change in immunisation coverage is unfinished business.
Conclusions: National immunisation policy and plans in South Asia are sub-optimally tackling the equity issue. This is limiting equity-focused programming and implementation for the most disadvantaged children. National governments with the support of development partners need to incorporate as part of all policies and plans for immunisation: a) clear commitments to prioritise the most disadvantaged population, b) determinants analysis of inequities including data disaggregation, c) evidence based and costed specific strategies for tackling inequities, and d) targets for equity over time.

INTRODUCTION

The launch in May 2012 of the *Decade of Vaccines* (DoV) and the *Global Vaccine Action Plan 2011-2020* (GVAP) created renewed interest in strategies to increase access to and utilisation of vaccines. One of GVAP's objectives was to equitably extend the benefits of immunisation to all. It acknowledged that achieving this objective would mean that "every eligible individual is immunized with all appropriate vaccines—irrespective of geographic location, age, gender, disability, educational level, socioeconomic level, ethnic group or work condition—thereby reaching underserved populations and reducing disparities in immunisation both within and between countries".[1]

GVAP was well aligned with the current focus on inequities in the Sustainable Development Goals (SDGs) and the recognised growing importance of *intra-country* disparities that have been more challenging than *inter-country* disparities.[2] The SDGs position equity as a "core, cross cutting theme," with SDG 10 calling for a reduction in inequity both between and within countries. This refocus is reflected in new arrangements for monitoring universal health coverage (UHC), including measuring country progress against a comparable set of essential health interventions (including immunisation), as well as a stronger emphasis on tracking inequity reductions within countries through use of disaggregated data.

South Asia has seen impressive improvements in the coverage of vaccines in childhood immunisation programmes in the last two decades. In some countries, this has exceeded improvements in most other health and social programmes. Ministries of Health have adopted new vaccines and technologies, and moved closer to achieving vaccine preventable disease (VPD) elimination, eradication and control targets. However, improvements in immunisation coverage and new vaccine introductions have been accompanied by persistent, and in some cases growing inequities in access among different socioeconomic groups. Vaccination programmes have not reached all children equally, particularly the

[1]WHO UNICEF Global Vaccines Action Plan http://www.who.int/immunisation/global_vaccine_action_plan/GVAP_doc_2011_2020/en/ See pages 46-47

[2]WHO Health in 2015 from MDGs to SDGs WHO Geneva 2015

most disadvantaged.[3] [4] Inequities in immunisation have also shifted; for example, in some growing economies, inequities are increasing in urban populations reflecting the increasing urbanisation of South Asia.

Immunisation coverage is an important marker of a health systems' ability to reach all segments of society, including the ability to reach the most disadvantaged groups. This is because immunisation is often well funded and childhood vaccines in most countries are provided without out-of-pocket (OOP) costs to the caregiver. Moreover, governments and donors have invested heavily in social mobilisation and demand promotion for immunisation. It might therefore be expected that routine immunisation is one of the health interventions that performs the best in terms of universal coverage in developing countries.

In the last two decades, efforts to address inequities in immunisation, by national governments and partners such as the World Health Organisation (WHO) and UNICEF, have focused mainly on planning and implementation of immunisation services and vaccine delivery. The approach builds on an understanding that inequities arise because there are certain 'hard-to-reach' groups of beneficiaries, and has led to the development of dedicated strategies for operational planning such as the Reaching Every District (RED) strategy and, more recently, the Reaching Every Community (REC) strategy.[5]

But it is now clear that this approach is often failing to eradicate inequities. This is because, in practice, these approaches have often been geared towards over-all improvement in coverage without a particular focus on the most disadvantaged children. In the RED strategy, the least disadvantaged are typically reached first with the most disadvantaged children often remaining unimmunised.[6] Such strategies therefore often fail to achieve sustained reductions in inequities among the most disadvantaged children.[7]

One reason for this could be a lack of high quality policies and plans to promote a particular focus on the most disadvantaged children in the delivery of immunisation services. Policies and plans are important drivers of outcomes as they ensure the sustainability of political and organisational commitment, and availability and allocation of resources for immunisation. But in order for policies and plans to promote more equitable programme delivery, they must draw on disaggregated data and social determinants analysis. They must also set consistent and coherent targets for equity in immunisation. This study analyses the extent to which national policies and plans promote a particular focus on the most disadvantaged children.

[3]Cesar G Victora, JD Barros, Henrik Axelson, Prof Zulfiqar A Bhutta, How changes in coverage affect equity in maternal and child health interventions in 35 Countdown to 2015 countries: an analysis of national surveys *Lancet* 2012 380 1149:56

[4]Lara Brearley, Rudi Eggers, Robert Steinglass, Jos Vandelaer Applying an equity lens in the Decade of Vaccines *Vaccine* 31S (2013) B103– B107

[5]Sann Chan Soeung, John Grundy, Richard Duncan, Rasoka Thor, and Julian B Bilous From reaching every district to reaching every community: analysis and response to the challenge of equity in immunization in Cambodia Health Policy Plan. czs096 first published online October 9,2012 doi:10.1093/heapol/czs096 http://heapol.oxfordjournals.org/content/early/recent

[6]Cesar G Victora, J Patrick Vaughan, Fernando C Barros, Anamaria C Silva, Elaine Tomasi Explaining trends in inequities: evidence from Brazilian child health studies *Lancet* 2000 356

[7]Sann Chan Soeung, John Grundy, Richard Duncan, Rasoka Thor, and Julian B Bilous From reaching every district to reaching every community: analysis and response to the challenge of equity in immunization in Cambodia Health Policy Plan. czs096 first published online October 9,2012 doi:10.1093/heapol/czs096 http://heapol.oxfordjournals.org/content/early/recent

METHODS

Review of Equity from Immunisation Data

For the eight countries in South Asia, an analysis of immunisation coverage and inequity trends was undertaken using demographic and health survey (DHS), multiple indicator cluster survey (MICS), national survey, and WHO published data. The large population surveys provide our best estimates of immunisation coverage and the dominant exposures linked to coverage outcomes. However, there are distinct limitations to cross-country comparisons of survey data in the region because not all surveys results are available for all countries. For the analysis here, the most recent available DHS data[8] were obtained for immunisation coverage and disaggregated by socio economic status and geography. Findings were compared with previous DHS surveys to detect changes in coverage over time and coverage inequities. Where there were gaps, DHS data were complemented by analysis of the WHO vaccine preventable diseases monitoring data base,[9] and additional national survey data, including a MICS in Afghanistan[10] and a nationwide child health survey in India.[11]

Table 1 Data sources for review of equity from immunisation data

COUNTRY	DATA SOURCE	YEAR
Afghanistan	MICS	2010-2011
	WHO-UNICEF	1980-2014
Bangladesh	DHS	2011
	WHO-UNICEF	1980-2014
Bhutan	No survey data	
	WHO-UNICEF	1980-2014
India	DHS	2005-2006
	Rapid survey on Children	2012-2013
	WHO-UNICEF	1980-2014
Maldives	DHS	2009
	WHO-UNICEF	1980-2014
Nepal	DHS	2011
	WHO-UNICEF	1980-2014
Pakistan	DHS	2012-2013
	WHO-UNICEF	1980-2014
Sri Lanka	No survey data	
	WHO-UNICEF	1980-2014

[8]www.measuredhs.com

[9]http://apps. who. int/immunisation_monitoring/globalsummary

[10]Central Statistics Organisation UNICEF Afghanistan Multi Indicator Cluster Survey 2010-2011 http://reliefweb.int/sites/reliefweb.int/files/resources/AMICS-Jun24-2012-FINAL..pdf

[11]Ministry of Women and Child Development Rapid Survey on Children 2013 – 2014 Government of India

Analysis of Policies and Plans

Four types of national policy and plans for the eight countries of South Asia were analysed to determine the extent to which they promote a particular focus on the most disadvantaged children for health and immunisation coverage.

We assessed:

1) National health policies.

2) National health plans or similar sector-focused plans.

3) Dedicated policies for immunisation

4) Comprehensive multiyear plans for immunisation (cMYPs).

Documents were identified in internet searches of ministries of health and national health agencies, and through stakeholder discussions with key informants working in the Expanded Programme on Immunization (EPI) in South Asia. Initially, a manual word search was conducted within all documents for "equity" and "inequity", and for wording indicating consideration for inequity, including references to geographic location, age, gender, disability, educational level, socioeconomic level, and ethnic group. Following the initial search for words and wording, a public policy analysis framework was developed to guide content analysis.[12] The adopted framework focused on three units of analysis: a) the intention of the policy or plan regarding equity, b) the information that supports that intention, and c) documented strategies to address equity gaps. In accordance with the framework, main findings were analysed, summarised and tabulated.

[12]Adapted from Dunn, William N. *Public policy analysis*. Routledge, 2015

Definition of Key Terms

Equity in health and immunisation is defined as the absence of avoidable or remediable differences in access to or utilisation of health services, including vaccination;[13] it is also the situation in which all children's equal right to survival and development, and to reach their full potential without discrimination, bias or favouritism is fully observed in the delivery of health programmes, including immunisation.[14] **Immunisation coverage** is the proportion of the relevant population that has received particular vaccines.[15] The test for an **equity-based approach** to programme delivery is particular programme activity and political commitment targeted to the most disadvantaged children. **Universal coverage** in immunisation is when *all* children in a country access and utilise immunisation services.

A health and immunisation **policy** can be defined as documents that describe a directive in health and immunisation that has been endorsed by government or a government agency. **Health and immunisation plans** are a written set of instructions for programme delivery of national health and immunisation programmes that has been agreed by government and is implemented by a government agency.

Three units of analysis were identified: a) the intention of the policy or plan, b) the information that supports that intention, and c) documented strategies to address equity gaps. **The intention of the policy or plan** can be normative ('every child has a right and should be vaccinated') or descriptive ('without action on inequities, in five years x thousand children will be unvaccinated, therefore this policy aims will take the following actions …'). **The information that supports the intention** of the policy or plan is quantitative or qualitative data and includes statistical information, past experiences, expert testimony, and political and moral judgements that provide grounds for the intention of the policy or plan. **Strategies to address equity gaps** in immunisation are related to service delivery, community and stakeholder engagement, communication, programme financing, human resources for immunisation, and overall health system strengthening.

[13]Equity, World Health Organization; http://www.who.int/healthsystems/topics/equity/en/

[14]What UNICEF means by an equity approach; http://www.unicef.org/about/partnerships/index_60239.html

[15]Centres for Disease Control and Prevention; vaccination coverage http://www.cdc.gov/vaccines/imz-managers/coverage/imz-coverage.html

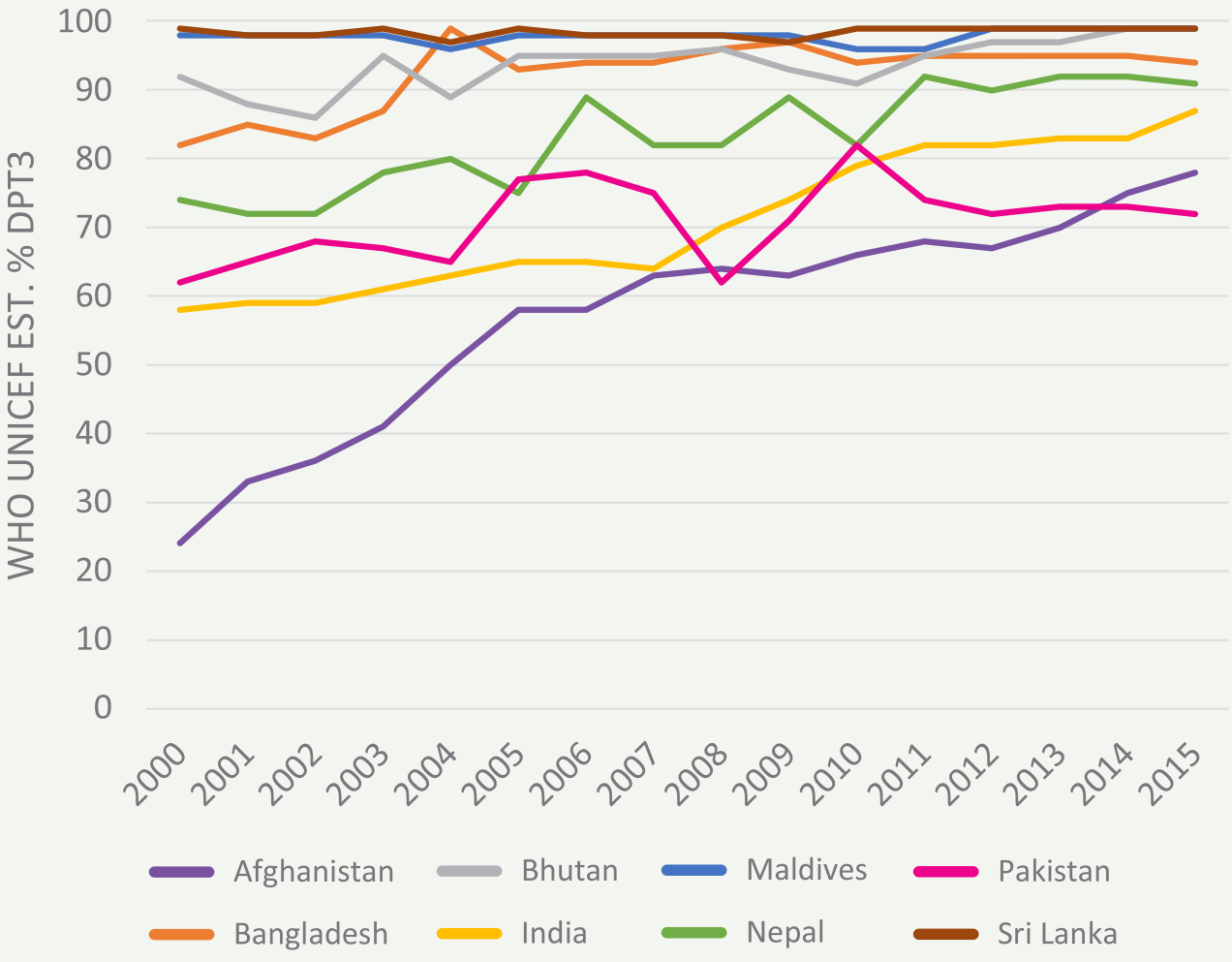
RESULTS

Immunisation Inequities

Assessment of survey data from the region confirms significant improvements in immunisation coverage in the last three decades. WHO UNICEF estimates for coverage of the third dose of a diphtheria-pertussis-tetanus containing vaccine (DPT3) show that, between 1990 and 2014, increasing numbers of children have been vaccinated. There was overall improvement in coverage in South Asia with all countries maintaining greater than 90% coverage since 2010 except for India, Pakistan and Afghanistan.

These three countries have large populations and account for 96% of under-immunised children in the region in 2015. Although India and Afghanistan saw significant increases in coverage from 2000 onwards, coverage in Pakistan only marginally improved.

Figure 1 DPT3 Coverage in Countries of the South Asia Region 2000 – 2015 (WHO UNICEF Estimates)[16]



[16]WHO Vaccine Preventable Diseases Monitoring Data Base Global Health Summary 2015 apps.who.int/immunisation_monitoring/globalsummary

Figure 2 Under-immunised Surviving Infants (DPT3) South Asia 2000 and 2015 (WHO UNICEF Estimates).[17]

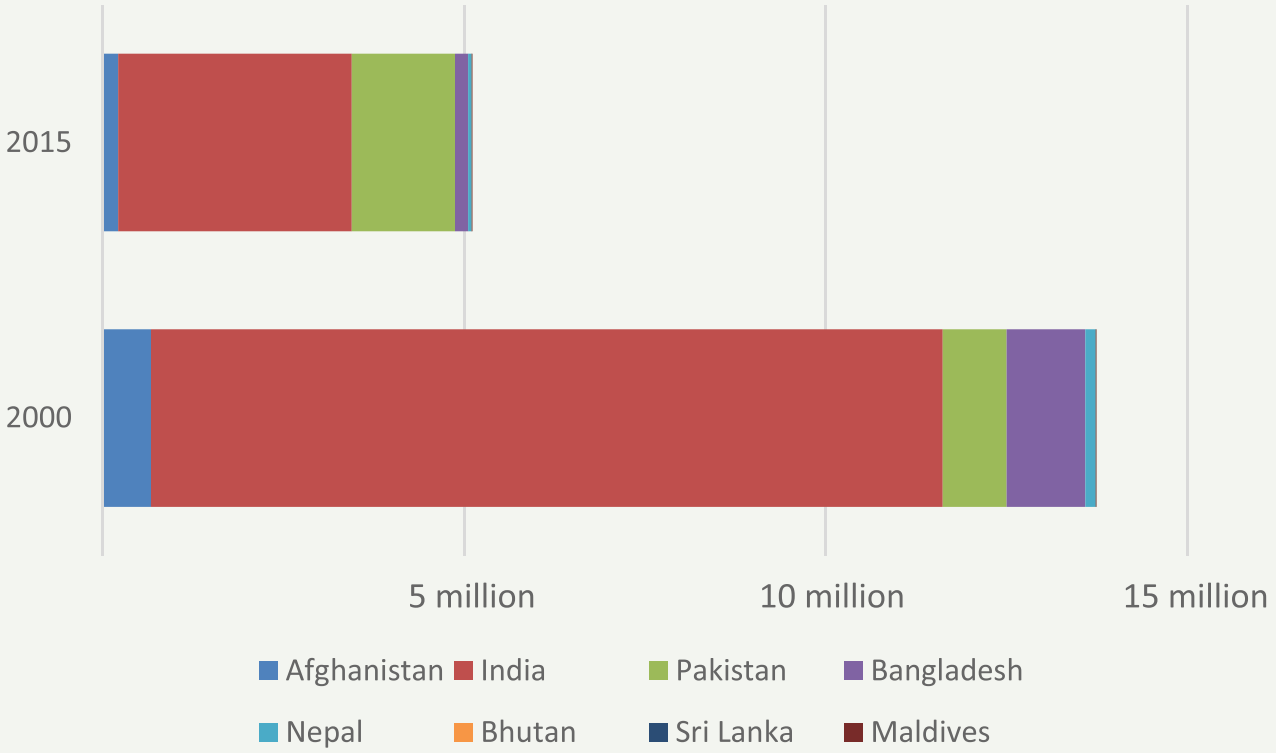


Figure 2 shows the numbers of under-immunised surviving infants (DPT3 coverage) between 2000 and 2015 in South Asia by country.

Because of improved coverage, more children in absolute numbers were reached in 2015 than in 2000. In India alone, the number of under-immunised children declined from 11 million to 3 million between 2000 and 2015. But the national data do not provide information about whether the proportion of under-immunised children within the lowest socio economic groups is declining.

Table 2 shows that the gaps in immunisation coverage are widest in the largest population countries of Pakistan and India. Differences between different states/provinces/regions of countries and differences based on wealth and education are marked in India and Pakistan. The countries tabulated below are the countries for which DHS data have been collected and analysed since 2006.

Table 3 shows trends in immunisation inequities (coverage of all eight vaccinations) measured as gaps between highest and lowest levels of wealth and education in the most recent and the first DHS from each of four countries. There is progress in Nepal and Bangladesh. India has stayed static in terms of reducing inequities, and inequities in Pakistan have increased. The analysis is limited to the four countries for which there have been successive DHS surveys.

Pakistan has widening inequities in immunisation coverage and only a slightly decreased number of unimmunised children (DPT3) in 2015 (1,424,640) when compared to 2000 (1,530,640).[18]

[17]WHO Vaccine Preventable Diseases Monitoring Data Base Global Health Summary 2015 apps.who.int/immunisation_monitoring/globalsummary

[18]WHO Vaccine Preventable Diseases Monitoring Data Base Global Health Summary 2015 apps.who.int/immunisation_monitoring/globalsummary

Table 2 Percentage gaps in immunisation coverage in five South Asia countries, across various factors, most recent Demographic Health Survey (DHS) Data (All eight vaccinations) [19]

	Bangladesh 2011			Maldives 2009			Nepal 2011			Pakistan 2012			India 2006		
Indicator	**Highest**	**Lowest**	**Gap**	**Highest**	**Lowest**	**Gap**	**Highest**	**Lowest**	**Gap**	**Highest**	**Lowest**	**Gap**	**Highest**	**Lowest**	**Gap**
% Gap between Urban and Rural Children	86.5	85.8	0.7	91.4	93.5	-2.1	90	86.6	3.4	65.8	48.4	17.4	57.6	38.6	19
% Gap between Males and Females	87.3	84.3	3	93.4	92.3	1.1	88.2	85.7	2.5	56	51.5	4.5	45.3	41.5	3.8
% Gap Highest and Lowest Regions	93.5	80	13.5	95.5	87.8	7.7	93.7	87.7	6	73.9	16.4	57.5	80.9	21	59.9
% Gap between Highest and Lowest Wealth Quintiles	93.5	76.8	16.7	92.2	94.7	-2.5	95.7	84.5	11.2	75.4	23.4	52	71	24	47
% Gap between Highest and Lowest Educational Levels	99.5	76.4	23.1	88.9	89	-0.1	96.4	78.1	18.3	75.6	39.8	35.8	79.9	26.1	53.8

[19]Data sourced from www.measuredhs.com

Table 3 Trends in inequities of immunisation coverage by education and wealth level, all 8 vaccinations, DHS Data[20]

	Bangladesh 2011			Nepal 2011			Pakistan 2012			India 2006		
Indicator DHS 2	**Highest**	**Lowest**	**Gap**	**Highest**	**Lowest**	**Gap**	**Highest**	**Lowest**	**Gap**	**Highest**	**Lowest**	**Gap**
% Gap between Highest and Lowest Wealth Quintiles	93.5	76.8	16.7	95.7	84.5	11.2	75.4	23.4	52	71	24	47
% Gap between Highest and Lowest Educational Levels	99.5	76.4	23.1	96.4	78.1	18.3	75.6	39.8	35.8	79.9	26.1	53.8
Indicator DHS 1	**Bangladesh 1994**			**Nepal 1996**			**Pakistan 1991**			**India 1993**		
% Gap between Highest and Lowest Wealth Quintiles	73	48.5	24.5	71.1	32.4	38.7	54.7	22.5	32.2	65	17.1	47.9
% Gap between Highest and Lowest Educational Levels	87.1	51.7	35.4	91.4	38.1	53.3	54.9	31.4	23.5	76.2	23.3	52.9

[20]Data sourced from www.measuredhs.com

Policy Analysis

A total of 28 policies and plans were reviewed (Table 4). Seven were national health policies, eight were national health plans, five were national immunisation policies, and seven cMYPs. Health sector plans were located for all eight countries, and cMYP were identified for all countries with the exception of the Maldives that was never a Gavi supported country and integrated planning for immunisation into the child health strategy.

Table 4 Policies and Plans for Analysis

Country	Health policy	Health sector plan	Immunisation policy	cMYP
Afghanistan	National Health Policy, 2005	Strategic Plan for the Ministry of Public Health, 2011-2015	National Immunisation Policy, 2008	Comprehensive Multi Year Plan 2015-2019
Bangladesh	National Health Policy, 2008	Population and Nutrition Sector Development Program 2011-2016	National Immunisation Policy, 2014	Comprehensive Multiyear Plan 2011-2016
Bhutan	National Health Policy, 2011	Gross National Happiness Commission, Eleventh five year plan, 2013	No separate immunisation policy identified	The Multi Year Plan for Immunisation 2014-2018
India	National Health Policy of India, 2014	National Health Mission, 2016	National Vaccine Policy, 2011	Multi Year Plan for Immunisation 2012-2018
Ma s	Health Master Plan, 2006-2015	National Health Strategy and Action Plan	No separate immunisation policy identified	Maldives was never a Gavi eligible country
Nepal	National Health Policy Nepal 2071	National Health Sector Programme	No separate immunisation policy identified	National Immunisation Programme cMYP 2012-2016
Pakistan	National Health Policy, 2009	Planning Commission Vision 2030, 2007	National EPI Strategy 2015	Comprehensive Multi Year Plan 2014-2018
Sri Lanka	No national health policy identified	National Health Development Plan 2013-2017	National Immunisation Policy, 2014	EPI Program Multi Year Plan for Immunisation 2012-2016

Intentions of Policies and Plans

Indications of intentions to achieve universal coverage for health and immunisation were found in all national health policies, health sector plans, immunisation policies and cMYPs, although there were differences in the degree of prominence. Across all documents, intentions to prioritise equity are often based on moral principles or values, such as social or gender justice, human and child rights, or a fulfilment of a constitutional mandate. Annex 1 summarises intentions expressed in policies and plans.

National health policies often quote fundamental or constitutional rights to health and social justice as justification for a focus on equity in health. Five of seven health policies refer explicitly or implicitly to overarching concepts such as 'fundamental human rights' when setting out intentions on equity (see extract below from Bangladesh National Health Policy).

> "With a vision that recognizes health as a fundamental human right the need to promote health is imperative for social justice"… "The overall objectives of the NHP will be to (i) increase availability of user-centered quality services for a defined Essential Service Package (ESP) delivery along with other health related services, and (ii) develop a sustainable quality health service system to meet people's need." (Bangladesh National Heath Policy, 2008)

In all health policies, equity appear to be synonymous with unrestricted access to services regardless of background characteristics such as location, religion or caste (see example from the Bhutan health policy below):

> "The Royal Government of Bhutan shall continue to pursue and sustain the universal health coverage achieved; by providing all Bhutanese citizens with access to equitable and quality basic health services including prevention, promotion, treatment and rehabilitation." (Bhutan National Health Policy, 2011)

Dedicated immunisation policies also refer to fundamental rights and justice as the basis for intentions on equity, thus establishing coherence with national health policies. Immunisation-specific policies emphasise other principles such as quality, comprehensiveness, coordination, sustainability, and safety:

> "The policy objectives will be to: 1) Improve coverage for immunisation services to reach unreached populations and traditional target groups… 2) Achieve disease elimination… 3) Expand protection … 4) Ensure the quality and safety of immunisation services… 5) Ensure consistency… 6) Ensure that a human resource management system in place to ensure the provision… 7) Promote research… 8. Promote sustainability of the immunisation program and security of vaccine supply." (Bangladesh National Immunisation Policy, 2014)

However, immunisation policies lack an explicit commitment to prioritise the most disadvantaged groups, instead equating equity with universal coverage. Health sector plans align with health policies and most immunisation policies in an understanding and definition of equity as universal coverage.

All cMYPs commit to expanding outreach to the underserved and hard-to-reach, but there is in general insufficient information on the characteristics of these groups, in terms of their socio-economic status, or ethnic or cultural background. Information on the means by which additional resources would be committed to reach those who are disadvantaged in terms of coverage is also missing. However, although this shortcoming exists across all cMYPs, in the more recent multiyear plans from Pakistan (2014-2018) and Afghanistan (2015-2019) there is a trend towards better recognition of equity in immunisation as a programmatic priority. Both plans thus include an objective to improve the performance of the immunisation system, measured in terms of coverage and equity, as well as distinct indicators of reduced geographical and socioeconomic inequity. These intentions on inequity are nevertheless still rather generic in their identification of disadvantaged groups as they do not move beyond the general and non-specific categorisations such as target populations.

In some instances specific social groups such as urban poor, migrants or conflict affected population are identified. However, the social determinants that impede access for such groups are not articulated.

> "Analysis of the divisional level data on coverage obtained from both routine surveillance and surveys have revealed existence of pockets of relatively low coverage areas in some districts. These low coverage pockets are mainly located in the estate sector, previously conflict zones in North and East Provinces and urban slum areas in Colombo." (cMYP Sri Lanka 2012-2016)

Information that Supports Intentions on Equity

Policies and plans were analysed to establish the extent to which data are utilised to identify disadvantaged groups and other factors relevant to equity. Annex 2 contains findings regarding information that supports intentions to act on inequities.

National health policies and health sector plans are often found to specify overarching socioeconomic groups that are described as disadvantaged, including women and girls, the illiterate, rural and urban slum populations, the poor, and migrants.

In Pakistan, the National Health Policy identifies "populations with low literacy, unemployment, gender inequality and social exclusion". The Pakistan National Health Plan identifies the most vulnerable groups as 'the poor, the aged, the disabled, women in distress, street children and child workers'. In India, both "urban and rural lower socio-economic groups and tribal populations, urban poor, remote hamlets, migrants and scheduled castes and tribes" are identified as being most at risk.

Immunisation policies and cMYPs have a different emphasis, and focus on groups emerging as a result of poor programme delivery; e.g. children living in areas where the immunisation system is performing poorly, or where there is reliance on private sector providers and public providers.

cMYPs acknowledge that poor health system performance is found mainly in areas where disadvantaged groups (such as ethnic minorities, and certain occupational groups, the urban poor, migrants etc.) live. In Bangladesh, the cMYP proposes to give priority to "underserved and hard to reach and high risk groups", but there is far less detail on what the social characteristics of the groups that are most affected are.

Across all documents there is insufficient systematic use of disaggregated data to inform the categorisation of any particular group or area as disadvantaged. Although DHS and MICS surveys contain gender and socioeconomically disaggregated data, as well as data on geographic variations in immunisation coverage, cMYPs do not systematically utilise these data to develop strategies targeted at the most disadvantaged. This suggests that countries are not sufficiently collecting or utilising data and information to guide policy and planning for greater equity. For example, in the assessment of the impact of gender on immunisation access, the issue is framed mainly in terms of differences in immunisation coverage between boys and girls, rather than on the decision making power of male and female caregivers in facilitating immunisation. Afghanistan National Health Plan is one exception, however, that mandates a gender strategy to be mainstreamed through the national immunisation programme. Ethnicity is another example: although it is sometimes acknowledged that belonging to specific ethnicities can be *associated* with lower health care access; there is not an attempt to describe the ethnic and cultural diversity by use of disaggregated data. Absent from policies and plans is also thorough consideration of determinants of inequity related to urbanisation, violent conflict and post conflict reconstruction. In fact, conflict is referred to largely as a backdrop to lower coverage and access and strategies adapted to conflict or post conflict contexts are not articulated. Figure 3 shows the variety of determinants of inequities acknowledged in policies and plans.

Figure 3 Determinants of Inequities Outlined in Policies and Plans

Documented Strategies to Address Equity Gaps

All national health policies set out equity promoting strategies aimed at enabling universal coverage of health services, including immunisation; summarised in Annex 3.

> "The goal is sustainable improvement in health, nutrition and family welfare status of the people, particularly of the poor and vulnerable groups, including women, children and elderly with ultimate aim of their economic and social emancipation and physical and mental wellbeing." (Bangladesh National Health Policy 2008)

This approach often entails public funding for healthcare and expansion of delivery infrastructures. The strategies set out in national health sector plans are more specific about action to be taken to address inequity. Plans often suggest strategies relating to structural reforms, such as decentralisation, expansion of delivery systems, partnership with civil society organisations (CSOs), and innovative financing for immunisation. Health sector plans suggest targeted and social protection measures, such as special resource allocations for the underserved, as a means to address the equity gap.

In Nepal, the National Health Policy states that behavior change communication (BCC) and social mobilization and advocacy activity are inadequate, especially in targeting the hard-to-reach, disadvantaged and marginalized population. The National Health Plan (NHSP 2) proposes expansion

of rural health clinics and establishment of tribal health programmes, and the cMYP stresses the importance of targeting communication strategies to the "hard to reach".

> "BCC and social mobilization and advocacy activity [is] inadequate, especially targeting hard-to-reach, disadvantaged and marginalized population" (Nepal cMYP 2012-2016)

In Afghanistan, the National Health Policy proposes a universal health coverage and health system strengthening approach. The National Health Plan proposes a general strategy to "redistribute" services to underserved areas, a universal health coverage (UHC) model for a basic package of health services strategy, NGO contracting, and implementation of a gender strategy.

Immunisation policies also emphasise strategies to enable universal coverage, but with a more specific focus on the delivery of vaccines. Strategies to achieve equity thus typically relate to extending the number of vaccination sites and expanding service provision into new areas, such as urban slums. For example, the National Vaccine Policy of India states that

> "the children of poor families, who can't afford these vaccines, are at a disadvantage and introduction of these new vaccines into the NIP is an approach to make vaccines accessible to the poor and needy." (India National Vaccine Policy 2011).

The National Immunisation Policy in Afghanistan proposes the implementation of three strategies of fixed, outreach and mobile strategy. For those health facilities in "specific geographical areas with significant population which are not covered through outreach and mobile activities", it proposes to establish additional sub-centres which "should have cold box and vaccine carrier, and the midlevel should be trained on EPI. Immunisation sessions should be scheduled according to the population. One recommendation is to provide immunisation sessions four times per year." (National Immunisation Policy Afghanistan 2008).

However, in contrast to other types of documents, and reflecting a particular focus on the most disadvantaged in defining equity, cMYPs often refer to strategies such as Reaching Every District (RED) and Reaching Every Community (REC), expanded out-reach, and tracking of drop-outs. RED and REC focus on improved planning and microplanning at the district level and entails analysis and identification of those who are missing out on immunisation.

The Nepal cMYP states that:

> "Immunisation services are provided mainly through fixed and outreach clinics. There are about 3-5 outreach clinics per VDC based on the local micro plan. Some areas in mountain districts mobilize mobile teams to reach children in hard-to-reach areas…" (Nepal cMYP 2012-2016)

In Bangladesh, the cMYP proposes implementing the RED strategy in every district through 'micro-plan to reach every children and child bearing age women……. Identify low performing districts/Upazila……..Regular supportive supervisory visit to each Upazila at least once per month by a supervisor…….Established proper primary healthcare delivery system to city cooperates……Review district/Upazila and city cooperate coverage performance and vaccine wastage quarterly.'(Bangladesh cMYP 2011-2016).

In Pakistan and Afghanistan, the more recent cMYPs set out elaborate strategies for improved programme performance and increased equitable coverage in areas such as programme management and accountability, disease surveillance, human resource planning, vaccine supply and delivery, and demand generation for immunisation.

DISCUSSION AND CONCLUSION

Immunisation coverage rates have improved in all eight countries of South Asia but there are persistent inequities, particularly in Afghanistan, Pakistan and India. The analysis of health and immunisation polities and plans in South Asia show a high level of commitment towards addressing and removing inequities in health and immunisation. Yet, these documents are underdeveloped and are not optimised to inform and guide equity-focused programming, implementation or measuring performance over time. There is a gap between the aspiration for universal coverage of immunisation expressed in policies and plans, and the presence of high quality determinants analysis of inequities, specific strategies for tackling inequities, and measurable targets for equity. Realisation of the goal of universal coverage leading to measurable change in immunisation coverage is unfinished business.

The disconnect between aspiration and action is harmful to efforts to improve equity in immunisation since a programmatic focus that prioritises the most disadvantaged children needs to be integrated within all levels of policy, planning and programme activity.

When expressing intentions on equity, national health policies, health sector plans, immunisation policies (with one exception, Pakistan) equate equity with universal coverage. Although several cMYPs, and a single dedicated immunisation policy (from Pakistan), define an approach that focuses on underserved (hard-to-reach) children, the cMYPs define such disadvantaged groups in broad and unspecific terms.

The reality is that there is a complex array of factors driving inequity in access and utilisation, including poverty, low educational status, ethnicity, low levels of female autonomy, and location in remote areas affected by conflict. National health policies and health sector plans emphasise overarching socioeconomic groups such as the poor. Immunisation specific policies and cMYPs take a system-based approach and identifies the disadvantaged in terms of those groups that are not reached by the immunisation system.

Whereas national health policies and immunisation policies call mainly for interventions on the supply of health and immunisation services, health sector plans suggest targeted structural reforms and initiatives to improve equitable access, including strategies to improve financial protection, social protection, gender equity, ethnic health care services, urban poor strategies and health services in conflict settings. In cMYPs, the proposed strategy is to improve microplanning and out-reach at district and community level to improve overall coverage in poor performing areas. There is therefore significant potential to develop and refine strategies to tackle inequities in policies and plans.

National governments with the support of development partners need to incorporate as part of all policies and plans for immunisation: a) clear commitments to prioritise the most disadvantaged population, b) determinants analysis of inequities including data disaggregation, c) evidence based and costed specific strategies for tackling inequities, and d) targets for equity over time.

Routine immunisation strategies should translate high level global and health sector commitments to equity into programme operational actions. Specific policy and planning gaps to be addressed include better articulation of the REC strategy, dedicated strategies on access to immunisation in urban areas, better defined pro-poor financing of national programs, and improved technical guidance on building equity assessment and monitoring into planning and delivery. Immunisation in the context of urban primary health care, ethnic minority health, gender and immunisation in conflict settings, are areas for attention.

The experience of routine immunisation in South Asia provides salient messages for vaccine programmes as well as other emerging health programmes. In the absence of comprehensive policies and plans to prioritise disadvantaged groups, there is a risk that, over time, these programmes will widen inequities by benefiting more socially advantaged sections of the population. Approaches to immunisation policy and planning document development should therefore be urgently reviewed to increase their content on equity.

Annex 1 Overview of intentions relating to immunisation inequity in policies and plans

	National Health Policy	National Health Sector Plan	National Immunisation Policy	cMYP
Afghanistan	Right to health	Right to health and social and gender equity	Immunisation services will be provided free of charge to the population regardless of ethnicity, race, religion, gender, geographic location or political affiliation.	Objective is improved performance of the immunisation system measured in terms of coverage and equity Improve geographical equity - % of districts that have ≥ 80% DTP3 coverage Improve socioeconomic equity – reduce DTP3 coverage gap between lowest wealth quintile and highest wealth quintile
Bangladesh	Health a fundamental right	Intention to main stream equity and gender in core programmes	Objective to reach the unreached Ensure consistency in service provision	Principle to give priority to "underserved and hard to reach and high risk groups"
Bhutan	Constitutional right to free access to health care	Equitable Social Development a pillar of programmes	No separate Immunisation Policy identified	Intention to promote the health of the population by providing better health care in the spirit of social justice and equity.
India	Principle to prioritise resources for the vulnerable	Principles of universal access. equity, efficiency and quality	Principle of ensuring access for all the population.	Principles of universal coverage and equitable access
Maldives	Policy goal to "ensure that all citizens have equitable access to health care. "	Aim of universal health coverage and gender equity	No separate Immunisation Policy identified	Principles of the rights of the child and Equity

Pakistan	Policy objective includes removing barriers to access to affordable, essential health services.	Equity, gender justice and quality	Principle of equal eligibility irrespective of gender, religion, race or ethnicity. Principle of safety, effectiveness	The objective of the national immunisation program is to improve performance of the immunisation system that is measured in terms of coverage and equity Improve geographical equity - % of districts that have ≥ 80% DTP3 coverage Improve socio-economic equality
Nepal	Constitutional right of all citizens to access equitable and accountable health care system	Gender sensitivity, social inclusion, rights based approach and equitable health services.	No separate immunisation policy identified.	A right to free health care, and to live in an environment free of discrimination and institutionalised inequality
Sri Lanka	No separate National Health Policy identified.	Ensuring access to high quality comprehensive and equitable health care services. Equity interpreted as not only better health service access, but also more equitable economic and social development.	Policy objective to provide affordable and quality services in a sustainable and equitable manner.	Principle of universal coverage

Annex 2 Overview of information that supports intentions on equity in policies and plans

	National Health Sector Policy	National Health Sector Plan	National Immunisation Policy	cMYP
Afghanistan	General national survey data quoted; contrasts provided in rates made with Iran and Pakistan. No further disaggregation of data. Gender disparities mentioned but not described.	General population data. No disaggregated data presented	No disaggregated data is presented	Some disaggregated data by geographic region, socioeconomic class and gender. underserved groups are classified as populations residing in low performing districts, remote area residents, displaced people and nomads, areas of insecurity
Bangladesh	The poor, women, populations with a "tribal identity" noted as disadvantaged. No further disaggregation of data	Ethnic group people with disabilities, the elderly, The professionally, geographically and socially excluded. No disaggregation of data	The poor, the aged and remote populations, urban poor identified as those at risk.	The poor, the aged, remote populations, and marginalized urban populations identified as the most disadvantaged
Bhutan	General population health and demographic data cited. No disaggregated data presented.	Pregnant mothers and children (with anaemia and stunting) are inferred as being high vulnerable groups No disaggregated data presented	No separate Immunisation policy identified	Unreached populations and migrants and populations of low performing areas, populations in northern and less densely population areas identified as the disadvantaged. No disaggregated data
India	Lower socioeconomic groups, tribal populations, and the urban and rural poor identified as disadvantaged. No further disaggregation of data	Inhabitants of remote hamlets, migrants, scheduled castes and tribes, the poor, the homeless and street children, rag pickers, vendor and beggars identified as the most disadvantaged. No further disaggregation of data	Those unable to access private markets identified as disadvantaged. No further disaggregation of data	Urban and rural poor, migrants, schedules castes, scheduled tribes identified as the most disadvantaged
Maldives	No separate Health Policy identified	No groups identified as disadvantaged; no demographic or social data presented on the characteristics of the socially disadvantaged	No separate immunisation policy identified	No groups identified as disadvantaged; no demographic or social data presented on the characteristics of the socially disadvantaged

Pakistan	Populations with low literacy, the unemployed, those affected by social exclusion identified as disadvantaged No disaggregation of data	The poor, the aged, the disabled, women in distress, street children and child workers identified as the most disadvantaged.	Vulnerable and at risk populations mentioned. Reference to high risk communities, and disadvantaged and marginalised groups. No disaggregation of data	Some disaggregated data by geography and wealth, Underserved and marginalized populations identified as disadvantaged
Nepal	Data cited on communicable diseases and mortality, but data is not disaggregated. Reference is made to old, disabled, single women, poor, marginalised and at risk communities as disadvantaged	Those experiencing geographic and financial barriers to care, cultural groups of poor, Dalit, Janajati, muslim, identified as the most disadvantaged. No further disaggregation of data	No separate immunisation policy identified	Populations with financial barriers, living in conflict areas, and affected by cultural identified as the disadvantaged. No disaggregation of data
Sri Lanka	No separate Health Policy identified	Those working in the estate sector, hard-to-reach, groups, the vulnerable, disabled, displaced, the rural poor, populations in the North identified as disadvantaged.	The immuno-suppressed, premature infants, pregnancy, and those at increased risk of exposures identified as at risk or vulnerable groups	The urban poor, rural extremely poor, estate workers, internally displaced and populations in the North identified as most disadvantaged

Annex 3 Overview of documented strategies to address equity gaps in policies and plans

	National Health Sector Policy	National Health Sector Plan	National Immunisation Policy	cMYP
Afghanistan	UHC approach using basic services package and hospital services package. Indicates need to identify additional means to reach populations not yet reached.	Health System Strengthening model UHC Model for Basic package Delegation to NGOs Gender Strategy	Quarterly reviews of EPI data Delegation of tasks to CSOs and community volunteers Increased female participations in vaccination delivery	Improved programme performance management and accountability; Improved surveillance and reporting Strengthened supply and service delivery; expansion of delivery and HR through NGO contracting, needs-based supply Demand generation
Bangladesh	Expansion and strengthening of health infrastructure (especially reproductive health care) Development and expansion of tribal health programs for ethnic populations Health programme strengthening in poor areas Health insurance for the poor	Strengthening of rural health clinics Geographical expansion of EPI (increased number of vaccination points) Establishment of MNCH services in rural areas	Expansion of immunisation services for the urban poor. Demand creation with religious leaders and opinion leaders Gender strategy is included in the policy	RED strategy in every district Identifying low performing areas – performance reviews Improved supportive supervision Partnerships with CSOs/NGOs
Bhutan	Universal immunisation coverage; provision of free public access to services that are universally accessible Improvement of literacy rates Socioeconomic development	Strengthening of service delivery through decentralisation Strengthening of outreach through urban and village health workers, Intensifying inter-sectoral collaboration and a 'health in all policies' approach Raising the percentage of GDP allocated to health (to 5%). HR master plan to allocate human resources to primary care facilities based on utilisation patterns.	No separate Immunisation policy identified	Intensification of routine immunisation Strengthened role of VHWS in reporting and social mobilisation Improved process monitoring in districts with < 90% coverage Analysis of causes of drop out Increased registration of pregnant mothers and children

India	Expansion of health services in rural areas Financial protection measures Free care provided in public facilities for certain conditions Health insurance mechanisms in some States.	Universal coverage (free public health priority programs), Decentralised district action planning Social protection measures Additional resources allocated to remote areas	Innovative financing mechanisms for poor and vulnerable populations UHC measures	Disaggregation of data by social risk group and geography to measure progress on inequity reductions Risk analysis in low coverage districts Needs based immunisation strategy Alternative vaccine delivery systems Integration of polio risk mapping
Maldives	No separate Health Policy identified	Universal coverage for essential package of services Establishment of PHC at island level Social protection measures Social health insurance	No separate Immunisation Policy identified	Identification of the most deprived children and communities Approaches targeted to deprived communities Reducing OOP through strengthening of UHC Barriers Analysis, Use of disaggregated by region and socio economic grouping
Pakistan	Promotion of universal access to basic service package Improved financing of basic care Health outreach through Lady Health Workers Integration of vertical programs into devolved health system Delegation of services to NGOs and private providers	Decentralisation of provincial health management Expansion of priority health programmes and programmes for vulnerable populations Development of rural cadre of LHWS and community midwives Universal access to essential medicines and vaccines Social protection measures	Expanded immunisation service delivery through static centres Expansion of outreach services and mobile health services Improved micro-planning in high risk communities Dedicated strategies for marginalised groups	Improved programme performance management and accountability; Improved surveillance and reporting Strengthened supply and service delivery; expansion of delivery and needs-based supply Demand generation
Nepal	Improving universal access to free public services. Health system strengthening; Service expansion Intensifying service provision in rural areas and for urban poor. National Health Insurance and national Immunisation Fund.	Free public health services, health system strengthening for UHC, social protection, and gender and social inclusion strategy	No separate immunisation policy identified, but Immunisation law proposes establishment of national Immunisation Fund.	RED strategies National Immunisation Fund.
Sri Lanka	No separate Health Policy identified	UHC strategy, Targeted health programs for high risk groups, Gender training and disaggregation of data	Expanded immunisation services for high risk and vulnerable groups and during special situations (i.e. disease outbreaks and disasters).	Routine immunisation system strengthening and expansion Causality assessments in high risk districts

List of Figures and Tables

Acronyms

AEFI	Adverse events following immunization
BCC	Behaviour Change Communication
CDC	Centers for Disease Control and Prevention
CSO	Civil Society Organisation
cMYP	Comprehensive multi-year plan
DHS	Demographic and health survey
DoV	Decade of Vaccines
DTP	diphtheria-tetanus-pertussis vaccine
DTP3	third dose of diphtheria-tetanus-pertussis containing vaccine
EPI	Expanded Programme on Immunization
EVM	Effective Vaccine Management assessment
Gavi	Gavi, the Vaccine Alliance
GVAP	Global Vaccine Action Plan 2011-2020
HBR	Home-based records
KAP	Knowledge, attitude and practices
MICS	Multiple indicator cluster survey
M&E	Monitoring and evaluation
NGO	Non-governmental organisation
OOP	Out of pocket
REC	Reaching Every Community
RED	Reaching Every District
SAGE	Strategic Advisory Group of Experts
SDG	Sustainable Development Goals
SIA	Supplementary Immunization Activity
UHC	Universal health coverage
UNICEF	United Nations Children's Fund
VPD	Vaccine preventable disease
WHO	World Health Organization

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