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 **BASICS**

IMPROVING CHILD HEALTH IN INDONESIA

**Millennium Challenge Corporation
Indonesia Immunization Project**

BASICS III

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Abbreviations, Acronyms, and Indonesian Terms

'Aisyiyah	National faith-based women's organization associated with Muhammadiyah
Bapelkes	<i>Balai Pelatihan Kesehatan</i> , Health Training Institute
BCG	Bacillus Calmette-Guérin (vaccine against tuberculosis)
<i>Bidan</i>	Midwife
<i>Bidan di desa</i>	Village midwife
<i>Bidan Koordinator</i>	Midwife coordinator (<i>Puskesmas</i> position)
BPP	Better performing <i>Puskesmas</i>
<i>Buku KIA</i>	MCH Book (family-retained health information and records booklet)
<i>Bupati</i>	District head
<i>Camat</i>	Sub-district head (head of <i>Kecamatan</i>)
CDC	Communicable Disease Control (Directorate General)
DHO	District Health Office
DKI	<i>Daerah Khusus IbuKota</i> , Capital city area
DPT	Diphtheria, Pertussis, Tetanus (trivalent vaccine)
DTPS	District team problem solving
EOP	End-of-Project
EPI	Expanded Program on Immunization
EVSM	Effective vaccine and stores management
HepB	Hepatitis B (vaccine)
IBI	<i>Ikatan Bidan Indonesia</i> , Indonesian Midwifery Association
IEC	Information, education, and communications
GOI	Government of Indonesia
JICA	Japan International Cooperation Agency
<i>Kader</i>	Community level volunteer
KMS	<i>Kartu Menuju Sehat</i> , Growth monitoring card
LAM	Local Area Monitoring
L-I-L	<i>Lima Imunisasi dasar Lengkap</i> , Five basic Immunizations Complete
LPP	Low performing <i>Puskesmas</i>
MCC	Millennium Challenge Corporation
MCC/IIP	Millennium Challenge Corporation Indonesia Immunization Program
MCH	Maternal and Child Health
MOH	Ministry of Health
Muslimat NU	<i>Muslimat Nahdatul Ulama</i> (faith-based women's organization)
NU	<i>Nahdatul Ulama</i>
OJT	On-the-job training
PKK	<i>Pemberdayaan Kesejahteraan Keluarga</i> - Family Welfare Movement (national organization of government officials' wives)
PMP	Performance Monitoring Plan
<i>Posyandu</i>	<i>Pos Pelayanan Terpadu</i> Integrated Services Post
<i>Puskesmas</i>	<i>Pusat Kesehatan Masyarakat</i> , Community Health Center
UCI	Universal Childhood Immunization
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Overview, 2007 - 2009

In 2007 the Millennium Challenge Corporation (MCC) awarded a 24-month “Threshold Grant” to BASICS to increase Indonesia’s immunization coverage of children reaching one year of age to at least 80.5% and thereby assist Indonesia to qualify for MCC “Compact” status. A complementary BASICS goal was to strengthen the immunization program to sustain and extend the gains realized. BASICS implementation began on April 1, 2007 and ended on March 31, 2009. On December 12, 2008, the MCC declared Indonesia eligible for Compact Status.

The BASICS team’s final “best estimate” of national coverage achieved (DPT3 and measles coverage averaged) is 81% as explained in Attachment 1. By the close of the BASICS Project, the national EPI had been provided with considerable staff training and improved tools, assured of new local government support, and joined by prominent community, faith-based, and professional partners that had expressed their continuing commitment to sustaining advocacy and community mobilization efforts for immunization.

Immunization coverage at BASICS start-up

In the late 1980s Indonesia’s Expanded Program on Immunization (EPI) recorded high levels of childhood immunization coverage, and in 1990 Indonesia exceeded the international “Universal Child Immunization” (UCI) target, protecting at least 80% of its children with basic EPI vaccines before their first birthday. During the Asian financial crisis that began in 1997, however, Indonesia entered a period of turbulence which included the decentralization in 2001 of most government social services to the district and city governments that number nearly 500 today. Unlike most of Indonesia’s maternal and child health services, however, the Communicable Disease Control and Environmental Health Directorate General (CDC) that houses the national immunization program was not fully decentralized. Responsibility for vaccines, cold chain, and supplies was retained by Jakarta. Differing local priorities, transfers of senior staff, and uncertain program ownership contributed to a stagnation of EPI coverage. Meanwhile, reports from service providers – driven by targets, reduced supervision, and a need to show positive results to superiors – continued to show coverage rates of 90% or more.

In 2003 WHO/UNICEF estimated DPT3 and measles coverage at 70% and 72% respectively, estimates that remained unchanged through 2006. Actual coverage at BASICS start-up remained uncertain until the 2007 National Coverage Survey¹ carried out with WHO, UNICEF, and BASICS support provided adequate data for WHO and UNICEF to revise their estimates. As revised, national DPT3 coverage at BASICS start averaged 75%, measles coverage 80%. Only four percent of children were completely unvaccinated, but the “dropout” percentage of incompletely vaccinated children was significant in most areas.

BASICS resources

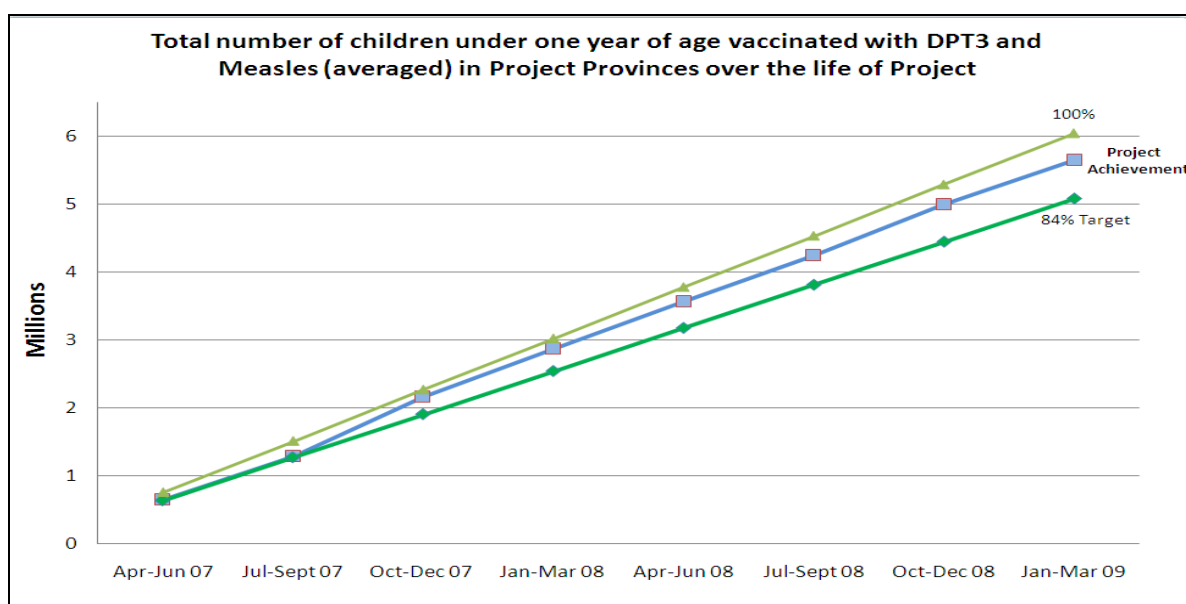
BASICS offices were established in the capital cities of six BASICS provinces and Jakarta, with each office headed by an experienced health professional team leader assisted by EPI technical officers, an advocacy and communications officer, and administrative and financial staff. At its maximum in August 2008, the BASICS employed six expatriates and about 75 full-time Indonesian staff. A small number of expert consultants assisted with coverage surveys and assessments. The in-country team was supported by a small PCHC headquarters team who made several support visits to Indonesia. Of the \$20 million

¹ National Coverage Survey, 2007-2008, unpublished.

budgeted and obligated for the BASICS, approximately 95% was spent by the end of BASICS implementation.

BASICS focus and strategies

The MCC Indonesia Immunization BASICS (MCC/IIP) focused its efforts in areas where maximum impact could be realized – 68 districts with large populations and low coverage in the seven most populous provinces that are home to nearly 62% of Indonesia’s population: DKI Jakarta, Banten, West Java, Central Java, East Java, South Sulawesi, and North Sumatra. The BASICS estimated that if it was to increase national coverage to 80.5%, it must achieve at least 84% coverage – reaching 2,540,000 children per year – in the BASICS-targeted provinces. The graph below shows the cumulative number of immunizations (DPT3 and measles averaged) reported in the BASICS provinces over 24 months towards the 84% goal.



Source: Provincial Health Office summaries of vaccinations reported by health facilities in the BASICS project

Performance has consistently exceeded the 84% trend line target, and by the end of BASICS support in March 2009, over five million six hundred thousand children in the BASICS seven provinces had been reported immunized with DPT3 and measles (averaged). This represents about 92% immunization coverage of the estimated population of children under one year of age in BASICS provinces during the BASICS project period. Even after correcting for over-reporting in the meta-analysis described in Attachment 1, the trends and consistency of available data convincingly demonstrate that the BASICS coverage goal has been achieved.

BASICS components and achievements

The overall approach adopted by BASICS was to build on Indonesia’s extensive health system network and its demonstrated know-how in the area of immunization. BASICS carefully coordinated its priorities with the CDC/EPI comprehensive Multi-Year Plan (cMYP) for 2007-2011 and with Indonesia’s National Health System Framework.

BASICS organized a two-pronged strategy. The first comprised a set of **technical** efforts to revitalize the existing EPI service delivery system in collaboration with the Ministry of Health and donors at the central level and with province and district government health services at decentralized levels. The second was to develop a comprehensive set of complementary **advocacy and communications** efforts to strengthen community level understanding and demand for immunization along with expanded commitment to its support from prominent, strategically located non-governmental partners.

Because immunization requires a multi-sector approach, and because of limits imposed by its two-year timeframe, BASICS carefully focused its activities on:

- targeting those provinces and districts with the largest numbers of under-immunized children to achieve maximum results for the effort applied;
- emphasizing program decisions based on monthly data from Local Area Monitoring (LAM);
- training key health personnel in skills that are critical for program management, service delivery, cold chain management, and vaccine forecasting;
- focusing on rapid increase in immunization coverage while identifying strategies to strengthen the EPI system for sustainability;
- coordinated, simultaneous efforts at national, province, and district/municipality levels to rapidly scale up immunization coverage while leveraging dedicated continued funding and programming support for immunization from local government;
- advocacy and social mobilization initiatives to engage key public and private stakeholders and build multi-sector support at all levels.

BASICS teams were established in each of the targeted provinces for collaboration with province, district, and subdistrict officials. National level working relationships with CDC/EPI, UNICEF, WHO, and USAID were augmented with agreements with prominent local partner organizations – the Indonesian Midwives Association (IBI), the Indonesian Association of Pediatricians (IDAI), the Scouts (Pramuka), the ‘Aisyiyah and Muslimat NU women’s arms of Indonesia’s two largest faith-based social organizations, and the Family Welfare Movement (PKK) organization headed by government officials’ wives that reaches every community and organizes the monthly *Posyandu* outreach sessions where most immunization are provided. These partner organizations improved community level awareness, provided support in specific local areas, and contributed actively to the revitalization of the immunization program

Intermediate results framework

Seven intermediate results were defined for BASICS implementation. The following section describes specific objectives and key strategies used by BASICS to achieve those objectives.

Intermediate Result 1: Increased awareness and commitment from policy makers at all levels to support routine immunization

Specific objectives
<ul style="list-style-type: none"> • There is political support for achieving MCC immunization indicator targets at the very highest level of Government at each level – province, district, subdistrict, and village. • Strong commitment to the accelerated national immunization program is achieved among province/district leaders, health workers, civil society, private sector, and the public.
Key strategies
<ul style="list-style-type: none"> • Develop advocacy plans by stakeholder groups. • Identify and co-opt “champions” from government, political, media, civil society, and other

relevant sectors to advocate for the immunization program.
<ul style="list-style-type: none"> • Include immunization as a priority in on-going health and related government programs.
<ul style="list-style-type: none"> • Increase allocation of resources for immunization at province and district levels.
<ul style="list-style-type: none"> • Secure resource commitment for immunization from the private sector.

Major BASICS achievements during the first year included the establishment of working relations with the organizations responsible for immunization, the introduction of periodic technical and “partner” meetings at province and district levels, widespread training of service delivery personnel, formative research to plan mass media promotion and complementary printed materials, and the quarterly review of monitoring data with local government leaders to guide management decisions. At the national level, regular monthly “Technical Working Group” meetings with CDC/EPI, WHO, UNICEF, GAVI, and NGOs active in immunization ensured close collaboration between all major EPI players in the country.

At the provincial and district levels, MCC/IIP increased local ownership of immunization services among both health personnel and local government officials. Strategies employed by BASICS for advocacy included engaging decision makers in regular LAM review as part of meetings with the non-governmental partner organizations, whose leaders became the “champions” promoting immunization in their areas. BASICS promoted involvement of *Camat* (sub-district government head) in these meetings to secure local government commitment and support at the *Kecamatan* (sub-district) level. The *Camat* were provided training to interpret LAM data and to use data findings for decision-making, thereby enabling them to oversee immunization in their sub-districts. Journalist associations covered the district level advocacy meetings, and their news reports provided repeated reminders of EPI to local government decision makers. These strategies improved appreciation and demand for immunization, improved the ability of district health officials to track immunization coverage, increased district funds allocated for immunization, increased the quality of service delivery points, and established commitment to the provision of routine immunization services.

BASICS’s local teams of partners made special efforts to obtain local government decrees (*Surat Keputusan PemDa*, or SK) issued by the *Bupati* district head), *Walikota* (mayor), or head of the Provincial/District Health Office (PHO) that committed support for *Forum Komunikasi* meetings in the future. As of March 31, 2009 SK had been issued in 56 of the 68 BASICS districts.

Many local administrations have developed new initiatives or replicated BASICS strategies in support of immunization. Districts in West Java created and released for public distribution songs to promote immunization. Districts in Banten, Central Java, and DKI Jakarta aired radio talk shows featuring local health officials and leaders of BASICS partner organizations. Jakarta and Central Java awarded certificates for children completing the full immunization schedule before their first birthday, and districts in East Java posted stickers on house walls to recognize fully immunized children. The private sector showed interest in adopting the training and other BASICS-developed tools for their private clinics, and firms in North Sumatra and Jakarta provided materials and promotional support to the local programs. Efforts to secure significant corporate social responsibility support foundered in the face of the global recession.

Intermediate Result 2: Strengthen partnerships committed to supporting and encouraging demand for immunization services.

Specific objectives
<ul style="list-style-type: none"> • Families value immunization, know the time and location of immunization services, and are motivated to achieve full immunization coverage.
<ul style="list-style-type: none"> • Families are mobilized to use immunization services through partners including faith-

and community-based organizations, professional associations, and large employers.
Key strategies
<ul style="list-style-type: none"> • Create <i>Forum Komunikasi Imunisasi</i> at district level to permit partner organization leaders to meet regularly with immunization and local government officials to assess program progress and plan collaborative strategies. • Increase the number of groups (government, NGOs, faith-based organizations, other associations, and the corporate sector) that <ul style="list-style-type: none"> a. add immunization to their on-going activities, b. develop and/or reproduce and/or distribute/disseminate/sponsor materials about immunization, c. sponsor immunization activities, d. disseminate information about immunization, e. endorse, make commitment to, and contribute to immunization activities, f. advocate for and succeed in increasing resources and/or visibility for immunization.

BASICS developed partnerships with prominent, well-respected civil society, community, and faith-based networks committed to community development to improve community mobilization as well as local advocacy. The major nationwide partners selected were the PKK (*Pemberdayaan Kesejahteraan Keluarga / Family Welfare Movement*) national women's organization, faith-based organizations Muslimat NU and 'Aisyiyah, IBI (Indonesian Midwives Association), IDAI (Indonesian Pediatrics Association), and Pramuka scouting organization. PKK focused on *kader* (community level volunteer) training and mobilizing communities through formal community meetings. 'Aisyiyah and Muslimat NU communicated messages via family gatherings, group prayers, and sermons. IBI emphasized counseling and interpersonal communications by its midwife members.

Beginning in 2007, the MOH and MCC/IIP assisted Pramuka to develop a comprehensive training program on childhood immunization for its 22 million members. Master trainers trained local Pramuka trainers throughout the country to train scouts of four different age groups. Those passing an examination are now honored with a new 'merit badge' certifying them as immunization volunteers. When millions of scouts have earned a merit badge, the next generation of parents will be better prepared to ensure that all children in their communities are promptly and fully immunized.

Forum Komunikasi Imunisasi (immunization communications forum) meetings, usually held quarterly, provided a venue to bring together partner organizations supporting immunization. These meetings, organized by local health officials and the partner organizations, shared and reviewed on-going strategies to increase immunization coverage and reach the unreached families.

In several areas BASICS also worked through local community and faith-based networks to expand the scope of immunization advocates. In Madura Island of East Java, for example, BASICS and DHOs collaborated with community groups to launch *Gebyar Imunisasi Madura* (Madura promotes immunization) an initiative integrating capacity building training, supportive supervision, sweeping and catch up campaigns, outreach activities at grass root level, seminars among Muslim community leaders, advocacy to District Government, and wide mass media coverage for near simultaneous implementation. BASICS districts throughout Central Java, North Sumatra, and South Sulawesi oriented religious leaders to communicate the importance of immunization during Friday prayers during Ramadan and in Sunday church sermons.

The community mobilization efforts of the partner organizations were reinforced by mass media messages developed through formative research. Four key messages were selected:

1. Completely immunize every child with five vaccines: BCG, HepB, DPT, measles, and polio.

2. Complete the series of all five vaccines by one year of age.
3. Obtain immunization at government health facilities that receive them free of charge.
4. Use the *Buku KIA* (MCH book) or *KMS (Kartu Menuju Sehat /Road to Health card)* to record and monitor the child's immunization status.

Analysis of the media habits identified TV, followed by local radio, as the most effective media to reach BASICS's target population because of their news and entertainment value. Although newspapers are read by policy makers, their reach among BASICS's primary lower socio-economic group target market is almost negligible. BASICS therefore focused on creating radio and TV messages. USAID vetted the materials, CDC-MOH ultimately approved them, and the TV and radio announcements ran from September 2008 through March 2009. In addition, TV talk shows with local leaders targeted specific populations and increased local commitment. Attachment 3 presents details from the assessment of the effectiveness of the mass media campaign.

MCC/IIP printed leaflets showing the immunization schedule, the benefits of each vaccine, and other simple messages for distribution by *kader* as part of community outreach activities. For low performance areas, BASICS distributed posters for *Puskesmas* (health centers) and standing banners for *Posyandu* (outreach service posts) with the same message for the community. The distribution, placement, and use of printed materials were monitored by *Puskesmas* staff and the partner organizations. Templates for all the IEC materials developed were given to UNICEF to permit continued reproduction and use.

Local governments and BASICS partners also funded, produced and distributed locally printed leaflets, posters, and banners for distribution, often adapted to local culture and dialects for stronger appeal to local target audiences. School-based materials developed by Pramuka and promotional materials used by Muslimat NU and 'Aisyiyah initiatives such as *Alim Ulama* endorsement and Qur'an readings in mosques reinforced the messages. Finally, in early 2009, billboards were erected in all BASICS district and provincial capitals with messages that would recall to mind the TV and printed messages.

National and provincial close-out workshops provided a final opportunity to share program activities and recognize the newly expanded role of EPI partner organizations to increase and maintain immunization coverage. Colorful, readable booklets were prepared for each partner organization to sustain their partnership with the immunization program when no longer motivated by BASICS support.

Intermediate Result 3: Un-reached children in high risk areas contacted at least four times per year and immunized as necessary.

Specific objectives
<ul style="list-style-type: none"> • Vaccination sessions are conducted regularly in all <i>Puskesmas</i> areas as per their monthly activity/micro-plans so that immunization coverage levels (especially DPT3 and measles) can increase rapidly.
<ul style="list-style-type: none"> • Sufficient vaccines and immunization supplies are available at all planned immunization sessions.
<ul style="list-style-type: none"> • Dropout rate is reduced by timely completion of all vaccinations so that immunization coverage is significantly increased.
<ul style="list-style-type: none"> • Data quality is improved and coverage trends and other indicators actively monitored.
Key strategies
<ul style="list-style-type: none"> • Strengthen and selectively support supervision, LAM, and periodic review meetings by health center, district, and provincial EPI managers to monitor progress, solve problems, and strengthen overall management.

<ul style="list-style-type: none"> Support the development and implementation of area specific plans to rapidly increase immunization coverage levels in low-coverage <i>Puskesmas</i> areas.
<ul style="list-style-type: none"> Support carefully targeted supplementary outreach sessions and sweeps, where these are warranted, to reach children who are consistently missed by fixed and outreach services.
<ul style="list-style-type: none"> Improve screening and counseling by the health workers and <i>kader</i>. Promote the availability and retention of immunization records (<i>Buku KIA</i>) by parents and its use as an information and communications tool.
<ul style="list-style-type: none"> Promote the availability and effective use of name-based infant registers by <i>kader</i> for ownership by the community.

The MCC/IIP service delivery component focused on developing the technical and management skills of *Puskesmas* staff to deliver immunization services, monitor coverage locally, and manage the logistics of service delivery at *Puskesmas* and *Posyandu*. BASICS also enhanced the immunization skills of private service providers. To ensure sustainability BASICS helped update and refine existing EPI approaches.

In the early/mid 1980s the Indonesian Ministry of Health developed a Local Area Monitoring (LAM) system by which each *Puskesmas* is expected to compile immunization coverage data every month in a standard format, carry out simple analysis (e.g., rates of complete coverage, dropout rates), and prepare standard graphs and charts for the *Puskesmas* catchment area or even by village or *Posyandu* area. Following the 2001 decentralization, with diminished technical supervision from Jakarta and transfer to district level of responsibility to fund and manage most health programs, the use of LAM declined.

At the request of the CDC Director General and the National EPI Manager, BASICS helped to revitalize LAM by developing simple, Excel-based software to enter monthly immunization totals and generate data that can be reviewed just as if using the existing manual entry system. To engage local decision-makers, local teams also met with *Camat* throughout BASICS's target districts to explain immunization and encourage their sense of responsibility to oversee immunization in their sub-district. Most *Camat* in BASICS's target districts now assist to manage and support the immunization program. The following graph shows the progress of LAM use at the *Puskesmas* level over the course of BASICS in the districts targeted.

Province	Number of <i>Puskesmas</i> in BASICS districts	Percent of <i>Puskesmas</i> in BASICS districts using LAM, by quarter							
		Apr- Jun 2007	July-Sept 2007	Oct-Dec 2007	Jan-Mar 2008	Apr- Jun 2008	July-Sept 2008	Oct-Dec 2008	Jan-Mar 2009
West Java	741	57%	70%	62%	73%	79%	80%	98%	97%
Central Java	354	56%	55%	66%	83%	94%	98%	99%	100%
East Java	388	69%	76%	94%	95%	96%	97%	100%	98%
South Sulawesi	192	33%	38%	54%	71%	93%	94%	96%	88%
North Sumatra	246	31%	58%	60%	66%	77%	83%	85%	83%
DKI Jakarta	42	64%	85%	88%	86%	100%	100%	100%	100%
Banten	148	34%	31%	80%	80%	80%	78%	100%	100%
All BASICS districts	2111	49%	59%	69%	79%	86%	88%	97%	96%

Source: Quarterly reports to BASICS from DHO officials

The areas lagging behind in the use of LAM have generally resulted from districts splitting into two or three new districts with inexperienced teams and leadership.

Indonesia's National Immunization Program adopted the LAM software developed by BASICS as a national standard. At the request of the MOH BASICS shared the new software with personnel from all

33 provinces and distributed to all districts in Indonesia. Reports from around the archipelago indicate that the software – which is open-source, free of charge, and adaptable to district-specific needs – is being increasingly utilized by health centers outside BASICS’s target districts.

Tools were also developed, tested, approved by the national program, and widely disseminated to enable districts to monitor the quality of their own data using data quality self-assessment tools adapted from WHO and to carry out their own coverage surveys using the classic WHO methodology to survey 30 clusters of seven children each.

BASICS facilitated and supported, both technically and financially, quarterly EPI review meetings for district and provincial health officials and *Puskesmas* heads. The purpose of these meetings, often held back-to-back with quarterly *Forum Komunikasi* stakeholder meetings for efficiency and effective coordination with all partners, was to review immunization coverage levels, achievements, problems, and interventions needed. Such meetings also offered an excellent forum for providing updates and refresher training on specific topics such as LAM or Data Quality Self Assessment.

BASICS funded and provided technical assistance for supportive supervision. Using a check list already developed by the Indonesian EPI program, supportive supervision funding provided an incentive to EPI management teams to make supervisory visits to *Posyandu*, particularly the 30% of *Puskesmas* considered to be performing poorly as reflected by disappointing coverage rates, increased incidence of vaccine preventable disease, and problems identified through LAM. BASICS limited funding for this activity, however, to ensure that BASICS support did not take over routine operational costs that are the responsibility of local government.

Most DHO periodically identify chronic low coverage or high dropout rate areas for “sweeping” activities that target children who did not show up when expected as seen from the name-based infant registers maintained by local health workers and *kader*. BASICS supported sweeping with limited technical assistance, IEC materials, social mobilization, and local transport costs.

A main reason for incomplete vaccination, as explained by mothers, is failure to understand the need for return visits and additional doses for complete immunization. Information for mothers is included in the *Buku KIA* which it is current MOH policy to distribute at all *Posyandu* to provide such information and for family-retained vaccination records. The National Coverage Survey found fewer mothers than expected to have such family-retained immunization cards, however, so BASICS printed two million copies of the *Buku KIA* for BASICS areas after assisting the MOH nutrition division, the Japan International Cooperative Agency (JICA), and EPI to revise the immunization sections.

Additional area-specific activities focused on individual problems and opportunities in each district, relying on district-specific resources and solutions. Examples include carefully-targeted supplementary outreach sessions, sweeping, and improved screening and counseling by health workers and *kader*. Area-specific activities in BASICS districts included:

- on-the-job orientation of *kader* in North Sumatra and East Java;
- orientation on the importance of immunization to both Christian and Islamic religious leaders in South Sulawesi and North Sumatra;
- cascade training of midwives in Central Java so those who received BASICS-supported refresher training could share what they learned with other midwives;
- internet web-based infant registration in Jakarta to connect different service providers, some of them private, to facilitate follow up of families and their infants;

- collaboration with UNICEF's Maternal and Neonatal Tetanus Elimination initiative to vaccinate all women of childbearing age with tetanus toxoid (TT) in five districts of East Java and Banten Provinces where low TT coverage of mothers puts newborns at particular risk.

Intermediate Result 4: Increase EPI skills and capacity among public and private health personnel and managers at all levels, using innovative performance and expansion strategies; and Intermediate Result 5: Improve and strengthen immunization services training.

Specific objectives
<ul style="list-style-type: none"> • MOH and its partners, public and private immunization providers (especially <i>Bidan di desa</i>), and community <i>kader</i> have the knowledge and skills to carry out rapid coverage improvement activities in their catchment areas and communities.
<ul style="list-style-type: none"> • District health and <i>Puskesmas</i> staff are able to plan, organize, monitor, support and evaluate the accelerated activities necessary to achieve the MCC coverage goal.
<ul style="list-style-type: none"> • Cost-effective alternatives to the cascade training approach traditionally used by EPI have been developed.
<ul style="list-style-type: none"> • EPI training capacity in BASICS supported provinces and at the national level has improved through the involvement of Government and private sector partners (e.g., IBI).
Key strategies
<ul style="list-style-type: none"> • Develop the technical and managerial skill base and competency of public and private immunization providers, prioritizing <i>Bidan di desa</i>, <i>kader</i>, <i>Puskesmas</i> EPI managers, and <i>Bidan Koordinator</i> in rural areas and private midwives (<i>Bidan Swasta</i>) in urban areas.
<ul style="list-style-type: none"> • Engage key professional associations and their member networks as partners, identifying and utilizing high-performer practitioners to provide on-site teaching and model vaccination delivery and outreach to local peers.
<ul style="list-style-type: none"> • Use innovative, competency-focused learning methodologies rather than traditional training approaches. Monitor training implementation through follow up supervision visits and on the job support.
<ul style="list-style-type: none"> • Facilitate and support refresher training of <i>Bidan di desa</i> and district and selected <i>Puskesmas</i> vaccine management and cold chain technicians and on-the-job orientation of <i>kader</i>.

BASICS invested significant resources during the first year to train *Puskesmas* and district staff in EPI management, supportive supervision, and LAM. EPI managers (Head of *Puskesmas*, *Bidan Koordinator*, and immunization managers (*pengelola imunisasi*)) from all 2,100 *Puskesmas* of the 68 priority districts were trained. This critical step to accelerate coverage was accomplished in only four months and exceeded the level of effort planned. Training implemented by accredited province level trainers using competency-based methods rather than the traditional “cascade” approach was particularly well received: BASICS was asked repeatedly to train additional personnel. The use of trainers from the MOH and Provincial Health Offices ensured that these skills remain with the governmental system. The numbers of health personnel trained during BASICS can be seen below.

Province	Persons trained, by type of training				Totals
	<i>Puskesmas</i> EPI management	EPI Basics for Midwives	Cold chain maintenance	Effective Vaccine and Stores Management	
West Java	2,266	1,310	304	52	3,932
Central Java	1,112	518	180	71	1,881
East Java	1,194	767	271	26	2,258

South Sulawesi	602	711	433	46	1,792
North Sumatra	755	663	97	55	1,570
DKI Jakarta	321	159	74	14	568
Banten	562	662	149	17	1,390
TOTAL	6,812	4,790	1,508	281	13,391

Source: BASICS training records

In low performing areas, refresher training for *Bidan di desa* used a CDC/EPI module updated in consultation with the MOH and partners. After training, the participants demonstrated improved competence in immunization service delivery, use of the cold chain, interpretation of the Vaccine Vial Monitors, injection safety, screening, counseling, follow-up of dropouts, recognizing and reducing missed opportunities, self motivation, reporting/recording, and orienting and motivating *kader* for community mobilization. Training was also held for the *Bidan Koordinator* of BASICS-supported districts to improve their ability to follow the newly trained understanding *Bidan* with on-the-job supervision and support. Because many cold chain and vaccine management technicians had not been adequately trained, BASICS provided refresher training in Cold Chain Management to selected *Puskesmas* and Effective Vaccine Stores Management (EVSM) to staff of priority districts.

The training modules used to train *Bidan di desa* were also adapted to train private sector midwives who provide immunizations in their private practices and for vaccinators in private clinics and hospitals. Representatives from IBI, 'Aisyiyah, and Muslimat NU also used these modules for training in their own clinics using their own resources. BASICS-trained *Bidan* in Central Java provided peer-to-peer training to *Bidan* who did not receive BASICS-supported training.

BASICS worked with PKK trainers to reorient *kader* in BASICS districts to raise awareness, mobilize community support, and assist to organize *Posyandu* sessions. Muslimat NU and 'Aisyiyah motivators participated in this program to ensure consistent implementation of community mobilization activities and approaches. In addition to 37,000 *kader* reoriented with BASICS support, PKK field trainers will continue to train thousands of *kader* in village-level community mobilization and one-on-one household visit counseling. In East Java PKK has extended *kader* reorientation to all *Puskesmas* areas not covered by BASICS, and Save the Children has adopted the orientation module for use in its BASICS areas.

By the end of BASICS, numerous training modules, updated in collaboration with the national program, IBI, and relevant experts, had been reproduced in hard and soft copy with BASICS support for use throughout Indonesia's EPI. Experienced trainers at national and province level were prepared to use them widely for accredited on-the-job training. On-the-job supervision support began to follow up the training, especially in the provinces of Java, but it is too early to monitor its effectiveness.

Intermediate Result 6: Strengthened and improved health surveillance system at all levels.

Specific objective
<ul style="list-style-type: none"> The health surveillance system in BASICS provinces and districts has the capacity to report vaccine preventable disease incidence as needed for program management.
Key strategies
<ul style="list-style-type: none"> Monitor the timeliness of regular surveillance reports from district to province health officials. Monitor the completeness of regular surveillance reports from district to province health officials. Assist health officials in BASICS areas to analyze and respond to any outbreaks recognized

through the surveillance system.

BASICS limited its surveillance focus to monitoring the timeliness and completeness of reports received and recognizing disease outbreaks in BASICS areas that might require intervention. In North Sumatra, for example, technical and operational support was provided in late 2007 and early 2008 to the local health services efforts to respond to a measles outbreak in South Tapanuli District where local communities were resisting immunization. The outbreaks also presented opportunities for advocacy with local government to provide adequate resources and commitment.

Elsewhere, BASICS involvement with surveillance of cases of measles, acute flaccid paralysis (possible polio), diphtheria, and tetanus was limited largely to quarterly monitoring of the completeness and timely receipt of surveillance reports from district to province. In general, reporting was found to be complete but delayed. The reporting deadlines may be becoming less critical than in the past, however, as widespread availability of cellular phones facilitates reporting.

Intermediate Result 7: Adequate supplies of vaccines and immunization materials are available from the national level.

Specific objective
<ul style="list-style-type: none"> The vaccine logistics system is able to reliably provide adequate and timely quantities of vaccine and other immunization materials to BASICS districts.
Key strategies
<ul style="list-style-type: none"> Assist in strengthening provincial and district vaccine logistics capacity. Assist MOH in improving the forecasting and procurement policies and strategies to avoid vaccine stock outs.

BASICS monitored the occurrence of vaccine stock-outs at district and *Puskesmas* level as part of its quarterly PMP reporting, and review of stock levels by program managers and stakeholders became a routine part of periodic EPI program review at district and province levels. Local managers are more aware of approaching stock-outs in time to take appropriate action.

In its first year MCC/IIP contracted an international vaccine management expert to assess vaccine forecasting, procurement, and management. He found inaccuracy, incompleteness, and poor organization of records to be reasons for concern, with systematic over-reporting in most areas that can cause vaccine shortages if underestimates of vaccine wastage result in underestimates of doses needed. He recommended serious efforts to avoid procurement delays and recommended using realistic *indeks pemakaian* (utilization index) values to estimate vaccine needs. EVSM training, revision of LAM, monitoring of vaccine doses used, and procurement of reserve stocks were also suggested. Some of the recommendations were used by BASICS to guide EVSM training.

BASICS monitoring and evaluation

BASICS Monitoring Plan

Five immunization program indicators were selected as core BASICS Monitoring Plan (PMP) indicators to be monitored on a quarterly basis:

1. Percentage of *Puskesmas* using Local Area Monitoring (LAM) to improve immunization coverage during the quarter;

2. Total number of children under one year of age immunized (measles and DPT3 averaged) in the seven provinces during the quarter;
3. Number of BASICS priority district annual EPI action plans launched, implemented, and updated quarterly;
4. Percent of districts experiencing a vaccine stock-out (DPT or measles) of more than one week during the reporting quarter;
5. Number of personnel in the provinces who received refresher training during the quarter in immunization, supportive supervision, and vaccine management.

In addition, 15 additional indicators were used to monitor progress and guide management decisions, and DHO personnel surveyed by telephone the 764 “poorly-performing *Puskesmas*”² targeted for special BASICS attention. Details of advocacy and communications activities were obtained from a standard questionnaire of BASICS partners. The data collected helped BASICS identify for targeted interventions and provided an agenda for advocacy to district governments. The first PMP data collection in August 2007 established baseline values and benchmarks. Additional rounds followed conducted on a quarterly basis. The final full PMP report of March 31, 2009 was supplemented by an abbreviated report at the end of April to summarize in particular the total numbers of children immunized in BASICS provinces during the full 24 months of BASICS.

Assessments

At BASICS start-up the actual baseline coverage was unknown. Administrative reports continued to show coverage of 90% or more, but the vaccine forecasting consultant and others suspected over-reporting and the annual WHO/UNICEF coverage estimate had not been revised for several years for lack of convincing data. To clarify the situation, the national EPI asked BASICS to collaborate with WHO and UNICEF to finance a national coverage evaluation survey of each of Indonesia’s 33 provinces. BASICS provided funding, a short-term expert consultant, support for all phases of the survey, and a report format that set the standards for all 33 provinces. Data for the seven BASICS provinces were used by health officials and BASICS to plan 2008 activities.

The 2007 National Coverage Survey which found DPT3 coverage to average 75% and measles 80% served as a baseline against which to measure BASICS achievement. Availability of the family-retained *Buku KIA* or *KMS* in BASICS provinces ranged from 15% in North Sumatra to 68% in Central Java. In BASICS areas the survey found fairly good access to EPI services everywhere except for Banten and North Sumatra. Significant levels of dropout were found in Banten (46%) and South Sulawesi (20%), and many doses recorded were considered invalid because they were administered too young or at too short an interval. The main reasons cited by parents for incomplete vaccination of their children were lack of understanding of the need for repeat visits and hesitancy of service providers to vaccinate sick children.

National Immunization Coverage Survey, 2007

Vaccine / dose	Crude coverage, %	Valid coverage, %	Valid by 12 months of age
BCG	91	91	91
HepB 0	21	21	21
DPT 1	87	87	87
DPT 3	75	55	54
OPV 3	83	74	73

² Poorly-performing *Puskesmas* are those reporting poor access (proportion of estimated infant population receiving at least one vaccine) or high drop-out (DPT3 lower than DPT1 coverage by at least 10%).

HepB 3	74	57	55
Measles	80	56	49
“Complete” *	65	43	25
No immunization	4	-	-

* BCG + 3xDPT + 3xOPV + 3xHepB + Measles

A mid-term review by external experts in February 2008 found “good progress in a short time period” and “genuine consensus between partners of the importance of improving immunization coverage and the strategies and methods by which that can be achieved.” Among the 92 recommendations in their report, the review team emphasized strengthening existing mechanisms while focusing on a limited set of interventions including use of immunization recording cards, improved supervision (including on-the-job training and *Puskesmas* staff follow up), and greater analysis and use of data, particularly at district level.

In early 2009 BASICS’s provincial teams organized “self-assessment” meetings with local health officials, government, and partner organization colleagues to consider their collective experience over the course of BASICS. The findings were used for their discussion. Although labeled an assessment, the real objective was to raise local awareness of the need for continued commitment by the participants to their fellow team members. It is too early to determine whether this will occur.

In response to a request from the national immunization program, BASICS contracted the *Jaringan Nasional Pelatihan Klinik* (National Clinical Training Network) to assist CDC/EPI to assess the appropriateness and effectiveness of the training modules developed and widely used to train *Bidan di desa* and vaccinators. The rapid assessment of the basic immunization training provided to midwives found that many had never received specific EPI training. The assessment found that BASICS-supported training significantly increased midwife skills in safe injection practices, screening, and counseling. Future training should give increased attention to practical training and on-the-job follow-up support. A national meeting of trainers in March 2009 reviewed the results and assisted the EPI program to improve and standardize its system of human resources development. Additional details of the training assessment can be found in Attachment 2.

MCC/IIP commissioned a household survey of 838 mothers and 834 fathers with children aged 0-18 months to assess the reach and levels of awareness, understanding, and behavior change realized through BASICS’s TV and radio mass media strategy. Seventy percent of these parents recalled seeing BASICS-sponsored TV messages. Attitude and reported readiness to respond to the messages were positive; the large majority claim to be ready to immunize their children fully and to recommend it to neighbors. The immunization coverage of the respondents’ children will also contribute to the meta-analysis of overall BASICS coverage performance. Additional details from the mass media survey can be found in Attachment 3.

With technical guidance from a senior Indonesian field researcher, a rapid survey by BASICS provincial staff of 68 randomly selected *Puskesmas* in 32 of BASICS-targeted districts was carried out to determine quantitatively whether BASICS interventions had had the differential impact expected: relatively greater coverage and program improvement in the areas served by the poorly-performing *Puskesmas* that were given greater BASICS intention and support than in the better-forming area. The survey found that all areas shared generally adequate staffing and supplies, wide participation in LAM and coordination meetings, sweeping activities by three-fourths of the *Puskesmas* in the last quarter of 2008, and partner involvement through *Forum Komunikasi* in all but one district. Poorly-performing *Puskesmas* areas had improved more than others, however, and even exceeded the formerly better-performing areas by the end of 2008. Supervision of the poorly performing *Puskesmas* group was found to have been relatively more frequent, and more likely to have used the supervision checklist. Additional details are found in

Attachment 4. The survey results are consistent with PMP data and confirm that BASICS-supported strategies and interventions had a significant positive impact on coverage levels.

Lessons learned: effective practices to accelerate immunization coverage

In the course of its operations, BASICS refined its approaches to adapt to the realities of the field. Thus, the focus for training was changed from nurses to midwives when it was found that they provide the majority of immunizations, and three times as many as planned were trained. The outreach immunization service delivery network was not expanded because access to the extensive *Posyandu* network was found to be good. District-level review meetings were supported on a quarterly not monthly basis. Training modules were not created because existing GOI modules were satisfactory if revised where needed. A national external advisory committee was not developed partly because of difficulties bringing such high-profile individuals together, but also because advocacy at decentralized levels was recognized to be more critical. Organizations with widespread grassroots membership and access to local public policy makers were found to be the most effective partners for advocacy and communications.

At the end of BASICS, the following conclusions and recommendations have emerged:

- Indonesia has the critical systems in place for a good national immunization program, but the roles and responsibilities of decentralized levels are still being worked out to take best advantage of the decentralization introduced in 2001. Sustaining them will require advocacy, at district level in particular, to secure adequate human and financial resources, operational funds for supportive supervision, and effective technical direction.
- A project of this duration this does well to build on established foundations, and two years proved to be sufficient to revitalize the best practices of the existing system and achieve a rapid increase in immunization coverage. The short time period necessitated intense partner involvement that grew into continued commitment of partner organizations by the end of the two-year period.
- Given the size of Indonesia and the complexity of its public service systems, a project such as this should include a “start-up” time of 3-4 months to complete initial assessments, design work plans in collaboration with EPI managers at key levels, and set up and staff provincial offices. A similar period of 1-2 months is needed at the end of BASICS for proper closing and finalizing of reports, etc. These periods should be in addition to a two-year implementation period.
- Respected and widely established community, religious, and professional organizations can be recruited to be effective “demand side” partners for social mobilization, local program monitoring, and advocacy. PKK, IBI, and Pramuka are problem the most critical of these on a continuing basis. The traditional immunization system will need to be reminded to take care to sustain its partnership with each organization at key levels, however, lest they shift their interest to where they receive greater attention.
- Strategically recruited local partners can succeed in overcoming resistance to the desired action and outcomes in particular area. Local religious and ethnic groups were important partners in several MCC/IIP areas – Muslim leaders in Madura and parts of West Java, Chinese in Medan City. Public health services should not hesitate to partner with such groups for the welfare of their communities.
- In the era of decentralization in Indonesia, local champions may be more effective than national figures in advocating to local government for support. Projects must tailor their strategies to the

personalities of local areas. One size does not fit all areas of Indonesia anymore, even for a program as uniform in approach as immunization.

- Restricting BASICS funding to a limited number of districts and *Puskesmas* in a province was seen as a weakness by some of the Provincial team leaders. To avoid the possibility that unassisted areas will turn their backs to BASICS adaptations, efforts should be made to offer BASICS support to additional areas at different times depending on their needs.
- The key indicator used by this BASICS, DPT3 and measles coverage averaged, should have been paired from the beginning with the key immunization indicator recognized by the Indonesian Government – Universal Child Immunization at village level (“*UCI Desa*”). This would have led to better integration with the Government’s stated goals and clearer emphasis on the critical importance of full coverage even at local *Desa* level. It might also have helped to standardize the meaning in Indonesia for the ubiquitous term.
- Terms used by BASICS and EPI program that do not have clear operational definitions include the “use” of LAM, “effective” training, and “supportive” supervision, and UCI. Although qualitatively meaningful, they require operational definition if they are to serve as clearly understood and measurable indicators.
- Because of uncertain population figures defined centrally and continuing pressures to over-report to reach established targets, Indonesian EPI managers need more than administrative reports and LAM data to monitor coverage. Periodic district level coverage surveys are recommended, and they can be managed by local district teams with university support if required.
- When the local monitoring system becomes meaningful to local officials, it can serve for local advocacy and to leverage local government support as demonstrated by *Camat* participation in EPI monitoring meetings. It is important to maintain the local monitoring system transparent and understandable to a wider audience than just health officials if partner support is to be sustained.
- Focused use of mass media, particularly television, can establish a catchy phrase such as “L-I-L” that will continue to remind the public of the importance of complete vaccination of infants long after BASICS ends. Billboards, posters, banners, and leaflets will sustain the message. Partner organizations have incorporated L-I-L in their vocabulary. The immunization program should endeavor to help to keep the phrase alive.
- The kind of rapid, mass training that BASICS implemented requires follow up and on-the-job support afterwards. Organized evaluation, supervision, and follow-up refresher strategies should be incorporated in long-term training packages.
- *Bidan di desa* recruited and trained for midwifery have become the main providers of EPI services in Indonesia, and they are in demand for many other services as well because of their strategic position in the local community. The immunization program should be ready to use all available staff and local partners to avoid weakening the program by overloading the *Bidan*.
- Family-retained *Buku KIA* or KMS immunization records are not only essential for good quality coverage surveys: they also provide essential information to parents/caregivers about which vaccinations are due and when. They must be kept as intended by the family, not by the *Posyandu* or *Puskesmas*. Effort is needed to convince local health teams of this function.
- Indonesia’s vaccine stock managements system is not yet reliable. Stock-outs occur and are not always noticed centrally. Adequate buffer stocks are not in place. Procurement must be

consistent with true usage rates, not just expected needs. The vaccine management system needs systematic review, and the recommendations of BASICS's consultant and others deserve serious attention.

- The printing and distribution as BASICS ended of thousands of full-color booklets depicting the activities of the EPI teams in each of the seven BASICS provinces, and for each of the five key partner organizations, highlighted their combined effectiveness and motivated them to continue. The filmed and multimedia promotion documentation produced with BASICS support should be used to reinforce that shared commitment.
- The end-of-BASICS workshops held in each BASICS province and at national level provided an essential opportunity for interested stakeholders to learn more about ways to accelerate EPI using updated strategies and materials as well as a forum for public expression of their commitment to continue their collaboration and support. Opportunities to recognize and renew that commitment should be watched for and used to continue the local partnerships.

ATTACHMENT 1

2008 National Coverage Estimated

The MCC Indonesia Immunization Project's principal measurable goal, as defined by the contract, was to raise Indonesia's national immunization coverage as measured by the averaged DPT3 and measles immunization coverage levels by one year of age, to 80.5% or higher as estimated by WHO/UNICEF on a yearly basis. Inasmuch as WHO/UNICEF's estimates for 2008 will not be available until August 2009, however, BASICS contracted an Indonesian expert researcher to develop an estimate of 2008 national immunization coverage based on all available data as per WHO/UNICEF.

Data sources: Coverage data for the period 2005 to 2008 were obtained from two sources – (i) official MOH figures (numbers of children vaccinated) for all 33 provinces as reported annually by the Government of Indonesia to WHO/UNICEF on the Joint Reporting Form (JRF) for 2005-2008 and (ii) WHO/UNICEF coverage estimates for Indonesia through 2007 (as published in their August 2008 report). Figures from 2008 BASICS PMP data for BASICS provinces were used mainly to compare BASICS and non-BASICS districts and for cross validation. The results of the 2007 national coverage survey were not used in this meta-analysis because they have already been taken into account by WHO/UNICEF to revise upwards the national coverage estimates for 2005 through 2007.

MOH figures updated as of April 22, 2009 have been used for 2008 provincial coverage. Of the 464 districts in the country, reports from 403 districts were 100% complete and from 49 districts were 75% complete, giving a 97% level of completeness overall. Many of the units yet to report are remote districts with very small populations. Hence it is safe to assume that the missing reports will account for less than 3% of the total number of children under one in Indonesia that serves as the denominator. The final MOH coverage can only be slightly higher than what has been used in this analysis.

Estimates were generated under two scenarios / assumptions:

- Scenario 1: Estimating 2008 coverage based on the 2005-08 trends (average rate of increase) of the coverage figures reported to WHO/UNICEF annually by the MOH.
- Scenario 2: Because over-reporting is a continuing concern, using correction factors for over-reporting estimating for 2008 coverage.

Scenario 1: Estimating 2008 coverage based on the 2005-2008 trend (average rate of increase) in coverage figures reported to WHO/UNICEF annually by MOH

TREND IN COVERAGE PERCENT

1A: Using the WHO 2007 coverage estimate as the baseline, use trends in coverage percentages reported annually for 2005-2008 to estimate 2008 coverage. It may be noteworthy that the WHO 2007 estimate remained unchanged from that of 2006 even though there was a marked increase in the number of children immunized.

1B: Using the WHO 2006 coverage estimate as the baseline, estimate 2008 coverage based on the trend in coverage percentage reported. This is arguably more appropriate inasmuch as the 2006 estimate was to serve as the baseline for BASICS.

TREND IN NUMBERS OF CHILDREN IMMUNIZED

Since there is often debate about the reliability of denominators, use the average annual rate of increase based on number of children immunized instead of the coverage percentages.

1-C: Using WHO 2007 coverage as the base, estimate 2008 coverage based on the trend in the number of children immunized.

1-D: Using WHO 2006 coverage as the base, estimate 2008 coverage based on the trend in the number of children immunized.

Table-1 below presents the results under this scenario.

Table - 1: Estimated 2008 coverage based on 2005-08 trend in MOH annual reports to WHO/UNICEF

	2005	2006	2007	2008			
Eligible children under the age of one	4,734,560	4,786,675	4,875,634	4,861,290			
MOH (JRF Report to WHO)							
DPT3 (absolute number vaccinated)	3,835,770	3,993,925	4,384,283	4,451,897			
DPT3 (percentage coverage)	81.02	83.44	89.92	91.58			
Measles (absolute number vaccinated)	4,065,934	4,088,485	4,348,485	4,413,396			
Measles (percentage coverage)	85.88	85.41	89.18	90.79			
WHO/UNICEF estimate				Trend in coverage percentage		Trend in absolute no. of children immunized	
				(A) WHO 2007 as base	(B) WHO 2006 as base	(C) WHO 2007 as base	(D) WHO 2006 as base
DPT3 (percentage coverage)	74	75	75	78.26	81.66	79.02	83.25
Measles (percentage coverage)	78	80	80	81.52	83.08	82.28	84.62
DPT3 + measles averaged	76	77.50	77.50	79.89	82.37	80.65	83.93

Except when the estimate is based on the trend in coverage percentage and WHO 2007 coverage is used as the base, all other estimates are over 80.5%. Further given the unreliability of denominators, it may be better to use the trend based on actual number of children immunized rather than coverage percentage. Since WHO 2006 estimate is to be used as the baseline for BASICS, under both these alternatives (B) and (D), the coverage is well over 82%.

Scenario 2: Estimating 2008 coverage adjusting for over reporting.

Since over reporting is a continuing concern, one approach to estimating the 2008 coverage would be to adjust for over reporting based on the relative difference between the MOH official estimates and what has been used by WHO/UNICEF in their JRF. The correction factor for each year and for each antigen was computed as (MOH estimate – WHO estimate) / MOH estimate. This over reporting rate was applied to reduce the MOH estimate for 2008 under three alternatives: (i) average of the over reporting rates for 2005 , 2006 and 2007; (ii) just using the worst alternative of 2007 over reporting rate as per WHO and (iii) over reporting rate based on 2006. Table-2 gives the summary results.

Table - 2: Estimation of 2008 coverage correcting for over-reporting

	2005	2006	2007	2008		
Eligible children under the age of one	4,734,560	4,786,675	4,875,634	4,861,290		
MOH (annual report to WHO)						
DPT3 (number of children immunized)	3,835,770	3,993,925	4,384,283	4,451,897		
DPT3 (percentage coverage)	81.02	83.44	89.92	91.58		
Measles (number of children vaccinated)	4,065,934	4,088,485	4,348,485	4,413,396		
Measles (percentage coverage)	85.88	85.41	89.18	90.79		
WHO/UNICEF estimate				2008 Estimate based on different correction factors		
				(a) 2005-08 Average	(B) 2007	(C) 2006
DPT3 (percentage coverage)	74	75	75	80.78	76.39	82.31
Measles (percentage coverage)	78	80	80	82.98	81.45	85.04
Relative over reporting rate for DPT3 (%)*	8.66	10.12	16.59	11.79	16.59	10.12
Relative over reporting rate for measles (%)*	9.18	6.33	10.29	8.60	10.29	6.33
DPT3 + measles average	76	77.50	77.50	81.88	78.92	83.68

Just as in the previous scenario, except when 2007 over reporting rate is used, the coverage estimate for 2008 is over 81%.

Achievement within BASICS provinces

As per BASICS strategy, it was estimated that reaching the goal of 80.5% nationally would require that BASICS increase the coverage level within the seven provinces to over 84% as per WHO/UNICEF estimate. However, WHO/UNICEF reports provide only national coverage estimates and not for any provinces. Nevertheless, applying the same over reporting correction factor that was applied to obtain national estimate, one could estimate the likely coverage for BASICS provinces. The table below gives the 2008 coverage data for the seven BASICS provinces:

Province	No. of live births	DPT/HB (3)	%	Measles	%	Averaged
MCC/IP						
North Sumatra	318,623	286,109	89.8	289,052	90.7	90.3
Banten	222,276	200,365	90.1	201,206	90.5	90.3
DKI Jakarta	192,563	206,427	107.2	200,861	104.3	105.8
West Java	939,620	825,534	87.9	825,984	87.9	87.9
Central Java	580,181	579,613	99.9	575,860	99.3	99.6
East Java	610,279	597,787	98.0	589,007	96.5	97.2
South Sulawesi	174,552	168,811	96.7	164,361	94.2	95.4
BASICS area	3,038,094	2,864,646	94.3	2,846,331	93.7	94.0
Other 26 provinces	1,823,196	1,587,251	87.1	1,567,065	86.0	86.5
National totals	4,861,290	4,451,897	91.6	4,413,396	90.8	91.2

First, one can notice that coverage levels within each province are consistently higher than national coverage except in West Java which traditionally tends to have relatively lower level of over reporting³. Overall it is 3% higher than the national level.

Assuming an average over reporting rate of 11.79% for DPT3 and 8.6% for measles, the likely estimate for BASICS provinces would be:

DPT3 coverage: $94.3 * (1 - 0.1179) = 83.18$

Measles coverage: $93.7 * (1 - 0.086) = 85.64$

Averages (DPT3-measles) = 84.40

If one applies the correction factor based on 2006 over reporting rate, then the 2008 estimate for BASICS provinces would be: 86.26%.

Thus BASICS has exceeded the stated target of vaccinating more than 84% of the children in BASICS provinces.

³ Gordon Larsen's 2007 analysis of vaccine usage versus the number of children vaccinated showed that West Java had relatively the lowest level of over reporting compared to the other six provinces.

CONCLUSION: Arriving at a single estimate for 2008 is probably neither possible nor appropriate. For that we need to wait for the next WHO/UNICEF report in August 2009. Hence several estimates have been presented in this meta-analysis under different assumptions. Since BASICS PMP data analysis clearly indicates that BASICS districts have consistently shown higher level of coverage increase compared to the non-BASICS districts it is safe to conclude that there has been a marked increase in the number of children immunized in 2008. It has exceeded the target it set for itself of 84% for BASICS provinces.

For a national estimate, using 2006 as the baseline, all analyses clearly indicate coverage levels ranging from 82.4% to 83.9%. The national coverage survey of 2007 pointed to an over reporting rate of about 10%. Thus if one uses the average over reporting rate of 11.79% for DPT3 and 8.6% for measles, then one could safely conclude that the 2008 coverage (DPT3 + measles average) is around 81%.

BASICS has achieved its goal nationally as well as within BASICS provinces.

ATTACHMENT 2

Rapid Assessment of Basic EPI Training for Midwives

BASICS facilitated updated training of over 4,700 village midwives (*Bidan di desa*) and vaccinators on basic concepts of immunization, safe injection practices, screening, counseling, and community mobilization. Because this training had thus been tried with a large number of health personnel, and MOH interest in extending it widely to other provinces, the national EPI manager requested a rapid assessment of the training's appropriateness and efficacy. The three person team assessment team was led by an expert in competency based health training from the National Clinical Training Network (*Jaringan Nasional Pelatihan Klinik* or JNPK) and included one representative each from the Indonesian Midwives Association (IBI) and the MOH/CDC/EPI.

Objective

The objective of this assessment was to evaluate qualitatively the appropriateness and effectiveness of the training strategy and methods as well as the relevance of the training materials and skills acquired to the essential immunization tasks of midwives and vaccinators.

Methodology

Data for this study were collected during February 2009 through interviews, focus group discussions, and direct observation of tasks as they were performed. Using standard checklists, over 100 recently trained staff (providers) from 24 *Puskesmas* areas of 12 districts selected from six of the seven BASICS provinces (all but DKI Jakarta) were interviewed. Wherever possible, the trainers and supervisors of the trainees were also consulted to obtain their impressions. The findings from the assessment were reviewed in a national meeting of the trainers who conducted the basic immunization training.

Findings

1. **Preparation:** Interviews revealed inadequate preparation in some places, probably due to an overloaded training schedule with very little time between batches. Training materials were not always copied, distributed, or received in time from Jakarta. In some areas selection criteria were not strictly followed, resulting in inappropriate candidates for training. Finally, the amount of time planned for hands on practice of tasks was found to be inadequate.
2. **Competence achieved:** Competence levels achieved by the trainees varied from place to place. Over 90% of the *Bidan* trained in West, Central, and East Java were found to be satisfactorily competent, compared with only 67% in North Sumatra, 57% in Banten, and 45% in South Sulawesi. This was likely due to differences in trainer experience, use of selection criteria, and learning methods. The better performing provinces were found to have followed the training with post-training supportive supervision and on-the-job (OJT) training by the local health office and trainers. Some districts in North Sumatra and South Sumatra conducted OJT as well, but the result was not the same, probably because of lower levels of technical support skills of trainers in those health centers. Competency based training requires qualified trainers who can not only teach but also provide on the job technical support.

3. ***Impact of support from local health authorities:*** The assessment tried to determine whether the availability of technically competent trained *Bidan* relates to better immunization coverage. In Garut and Subang Districts of West Java, however, it found a fairly high proportion of competent *Bidan* but dropout rates that are still quite high. The investigators concluded that the availability of competent *Bidan* must be complemented with effective leadership, adequate supplies, and management and logistic support from local health authorities.
4. ***Importance of continued on-the-job support:*** The assessment found that a single didactic training course does not impart all the skills needed by the trainees. *Bidan* in all provinces were found to have inadequate knowledge or skills in specific areas such as follow-up of drop-outs, handling of vaccine and cold chain, scheduling sessions, etc. This further emphasized the need for sustained on-the-job support and periodic refresher training.
5. The investigators found that competency based training, fairly new for the immunization program, was well accepted by the MOH and should be sustained. In addition, the use of independent professional groups for post training assessment will contribute significantly to its continued improvement and adaptation.

In conclusion, the assessment team felt that the training program helped to provide a large number of competent immunization providers within a very short period of time. For future training more emphasis should be given to (a) adequate emphasis on preparation, (b) increased time allocation, and (c) emphasis on on-the-job practical training. Such training should be complemented by management support from the local health authorities, periodic supportive supervision / on-the-job support, and periodic refresher training. Having a panel of accredited trainers in each province with a provincial training coordinator was also recommended. MOH/CDC/EPI should work closely these coordinators to adapt and improve future training programs.

ATTACHMENT 3

Assessment of Mass Media Strategies

Between February 21 and March 8, 2009 a random survey of mothers and fathers of children below 18 months of age in BASICS areas was carried out by Research International to assess whether the mass media messages developed and disseminated by BASICS had reached their intended audience and influenced their behavior in relation to the immunization of their children. The assessment was intended to provide guidance to future health promotion efforts and to determine the usefulness of those developed by BASICS.

MCC Indonesia Immunization BASICS strategies to increase public awareness and compliance with Indonesia's routine childhood immunization program employed a variety of media to communicate to the community that included posters, banners, leaflets, billboards, and radio and television messages. Organized around a central message developed through formative research that used the consistent phrase *Lima Imunisasi Dasar Lengkap* ("L-I-L") which translates roughly as "Five Basic Immunizations Complete" to reinforce messages families should understand, the centerpiece of the public information campaign consisted of two TV and radio advertising messages that ran on three national TV and 136 local radio stations between September 2008 and March 2009.

In a village neighborhood setting, one TV ad featured a father, the other a mother, to convey the importance of complete immunization with five vaccines by one year of age. The ads explaining that immunization is provided free at *Posyandu* and that a mild fever afterward is not a worry were reinforced by endorsement by the Indonesian Pediatrician Association and official logos of the Ministry of Health. These were the public service announcements that the study sought to assess.

Objective: Measure the reach and impact of BASICS's promotional messages in terms of level of understanding and effectiveness in influencing low and lower middle income families in BASICS's priority areas to have their children completely immunized.

Methodology: Face-to-face household interviews with randomly selected mothers or fathers of children below 18 months of age were conducted in 33 BASICS districts of all seven provinces. Interviews of 825 mothers and 825 fathers were expected to show any differences between mothers and fathers, urban and rural areas, and provinces. Photos of the TV ads were used with a structured questionnaire of both closed and open-ended questions to assess awareness of the ads, general impressions, key messages retained, and immunization-related attitude and behavior. The findings were reported in PowerPoint presentation format in both English and Indonesian.

Findings: A total of 838 mothers and 834 fathers were interviewed. The results, weighted by Province population and urban-rural balance, showed the following key findings:

Awareness and source: 70% of all respondents were aware of the L-I-L message; 30% were not. Awareness varied from 61% in Central Java to 85% in Jakarta.

- 95% of those who recalled the L-I-L message saw it on TV. About 20% recalled it from *Posyandu* or *Puskesmas*, only 3% from radio.
- 97% of the respondents have a TV; 47% have a radio.
- Of those who recalled the L-I-L message, 94% had had their children immunized.
- Of the 30% unaware of the message, 87% had had their children immunized.
- There were no important differences between urban and rural areas, or between mothers and fathers.

Message: When asked what message was recalled, “taking children to *Posyandu* for immunization” was most commonly recalled.

- The messages of complete immunization and the importance of immunization for the child’s health were less often mentioned.
- The ad featuring the father also conveyed the messages not to worry about mild fever after immunization and that immunization is free at *Posyandu*.
- The ads were judged easy to understand and not annoying.

Attitude: Both TV messages were rated enjoyable, the one featuring the father slightly more than the mother.

- More than half of respondents rated the message as “very” or “extremely” important.
- Asked why their child should be immunized, the most common response was to avoid disease and keep their child healthy. The recommendations of doctors and other health personnel were often mentioned.

Behavior: Parents were asked about the immunization of their children.

- 88% of respondents stated that they believe their child is fully immunized for his/her age.
- 95% of respondents whose children had been immunized stated that their child has a KMS or *Buku KIA*, 4% that it had been lost, 1% that they had never had one.
- Parents most commonly cited the KMS or *Buku KIA* as the source of information on which immunizations are needed for their child.
- Overall, 55% of their children were immunized at *Posyandu*, 22% at *Puskesmas*, 17% by midwives, and 3% each at private clinics and hospitals.
- Of the 76 parents whose child had never been vaccinated, half stated that their child is still too young and only about one in five that immunization is not useful or they don’t believe in it.

Conclusions: The assessment team concluded that the mass media campaign had been effective in reaching the population targeted with appropriate immunization messages. The TV ads had been most effective of the media used. The ads were likeable, understandable, with no negative reaction noted. They are suitable for continued or repeat use in the future.

ATTACHMENT 4

Assessing the Impact of BASICS Interventions on Coverage

A comparative cross sectional analysis of key BASICS activities was carried out in March 2009 in an attempt to determine their relative impact on increases in immunization coverage levels. For this purpose, additional cross sectional data on a few critical program variables was collected from a sample of *Puskesmas* from the 68 BASICS supported districts. A rapid survey approach was employed to collect the data.

Objective

The primary objective of the rapid survey was to obtain *quantitative* data on critical program variables for program impact review (analysis of BASICS input variables versus immunization coverage).

Methodology

Thirty-four clusters of two *Puskesmas* each from each of 32 BASICS-supported districts were selected for survey proportionate to the number of *Puskesmas* in the district. Within each cluster two *Puskesmas* were randomly selected – one of the “low-performing *Puskesmas*” (LPP) that had received additional BASICS assistance and one other “better-performing *Puskesmas*” (BPP). Two data collection questionnaires – one for district health office and one for *Puskesmas* - were used to obtain quantitative data on inputs (staffing, facilities, essential supplies, and budget), on process (LAM, other coordination meetings, supervisory visits, vaccine stock outs, ownership of local government, partners’ support), and on results (percent of villages achieving UCI desa and DPT and measles coverage levels over the past three years). The findings sought to determine whether the additional technical and funding support for the LPP had made any difference in *Puskesmas* performance.

Key Findings**Input/Process**

- **Staffing and resources:**
 - All *Puskesmas* in both categories (LPP and BPP) were found to have adequate staff, necessary facilities, and essential supplies including BASICS-printed IEC materials. No significant difference was observed between LPP and BPP.
 - Immunization services are the responsibility of a nurse in 36% of *Puskesmas*, of a midwife in 27%. The BPP are more likely to have a midwife as manager.
 - Most immunization staff have received relevant training such as management training for the *Puskesmas* staff, basic immunization training for midwives, or vaccine and cold chain maintenance training for immunization technicians.
 - No significant vaccine shortage was reported in 2008 except for chronic shortages of BCG vaccine (50% of *Puskesmas*).
- **LAM and periodic review meetings:** Participation by health staff and partners in both district and *Puskesmas* level LAM and coordination meetings was good in both LPPs and

BPPs. Participation of *Camat* (sub-district head) was relatively higher in sub-district level coordination meetings than *Puskesmas* level LAM meetings. The average LPP conducted six LAM meetings in 2008 compared with four by BPPs. All reported using relevant charts and graphs during the LAM meetings.

- Supervision: Supervisory visits from DHO were relatively more frequent to LPP, but there was no difference in the frequency of visits from *Puskesmas* to *Posyandu*. The frequency of use of supervision checklists was much higher for LPP, however.
- Support from district governments and partners: District government participated actively in over two-thirds of periodic program review meetings. 55% allocated specific funds for immunization. Participation and support of stakeholder partners was evident everywhere. *Forum Komunikasi Imunisasi* was formed in all but one district visited.
- Sweeps: 76% of the *Puskesmas* surveyed conducted sweeps during October-December 2008. There was no difference between LPP and BPP. Low coverage was the main reasons for conducting sweeps in a village in both LPP and BPP areas, but the dropout rate was a reason cited more often in LPP areas.
- DHO perception of the MCC/IIP project: More than 90% of the districts and *Puskesmas* valued the support of BASICS.

Results

A. UCI desa

A variety of UCI desa definitions is being used by both districts and *Puskesmas*, and the definition sometimes changed from year to year. The table below describes different definitions found to have been used in 2008:

Type of UCI desa definition	% of <i>Puskesmas</i> using this definition in 2008
1 All antigens coverage > 80%	26%
2 All antigens coverage > 90%	7%
3 Specific antigens (e.g., DPT3 or Measles) > 80%	56%
4 Different antigens with diff. coverage	4%
5 Other definitions	8%

- According to DHOs, the proportion of villages achieving UCI as per their chosen definition increased from 63% in 2006 to 71% in 2008.
- During the period of BASICS operation, UCI desa in LPP receiving BASICS assistance increased from 36% in 2006 to 53%, but it was stagnant at 44% among BPP.

UCI desa is still a critical performance monitoring tool, but there is a need for all health units to use a common, standardized definition.

B. **Immunization Coverage**

Figures 1 and 2 below show trends in DPT1, DPT3, dropout rate, and measles coverage in LPP versus BPP over time. Weighted estimates were computed for BASICS area as a whole (under 'total'). These results are fairly consistent with those obtained using PMP data.

- Overall, coverage has increased in BASICS supported districts:
 - Access to services, as measured by DPT1 coverage, has increased by 15% (from 81% in 2006 to 93% in 2008).
 - Increase in program utilization as measured by DPT3 coverage increased by 19% (from 66% in 2006 to 85% in 2008).
 - The DPT1 to DPT3 dropout rate decreased from 13% to 6%
 - Measles as the last vaccination received increased only by 4% (from 80% in 2006 to 84% in 2008).
- As can be seen in the figures below, the increasing trend in immunization coverage levels was consistently higher in LPPs than BPPs. This suggests that BASICS strategies and inputs had a definite positive impact on increasing coverage levels:

Figure 1: Village UCI Achievement 2006-2008, EOP Rapid Survey 2009

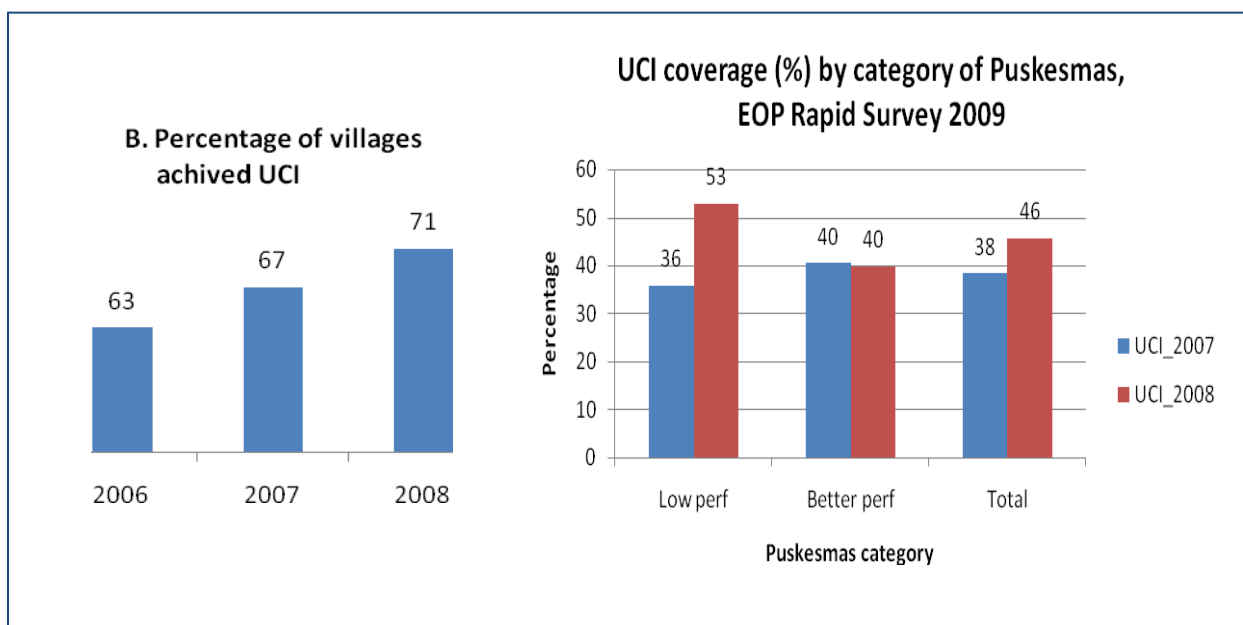
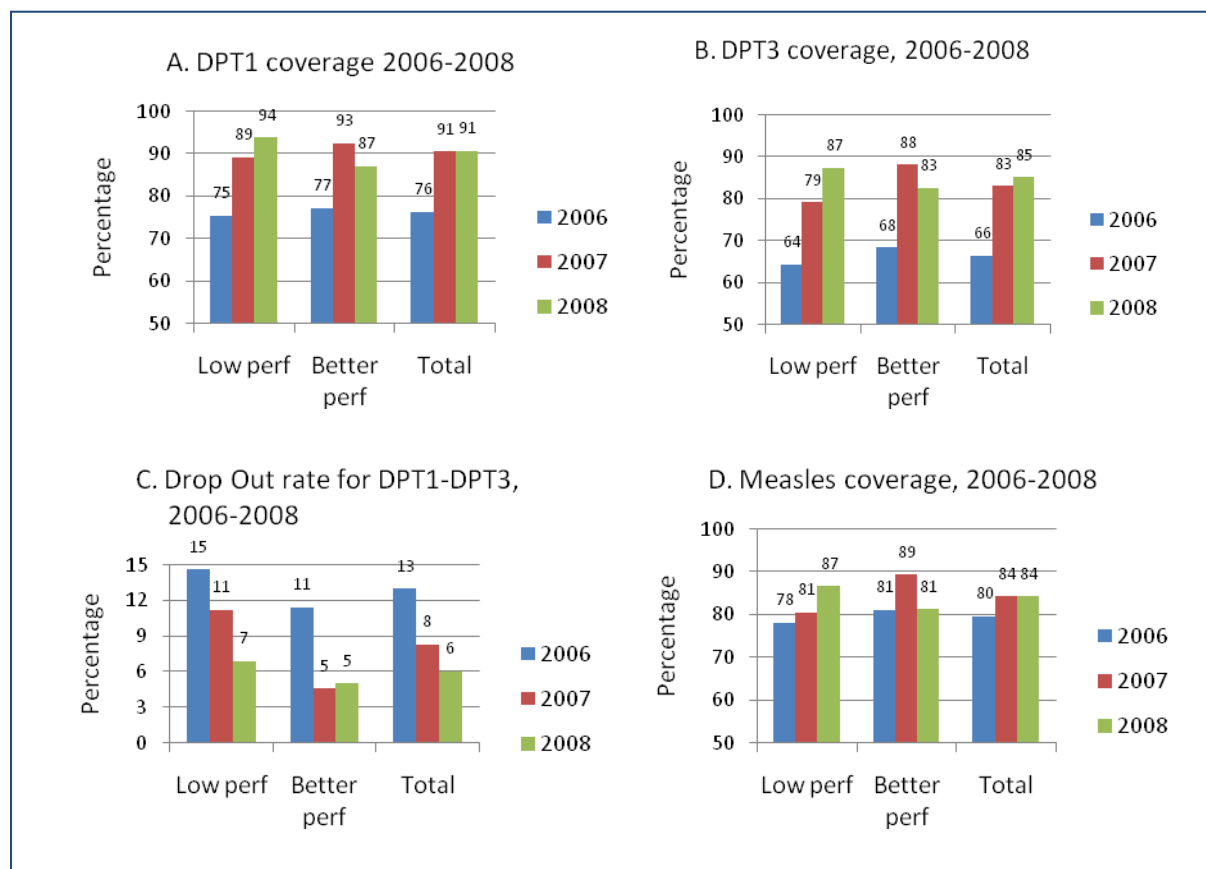


Figure 2: DPT1, DPT3 and Measles coverage 2006-2008, EOP Rapid Survey, 2009

Conclusions

The rapid survey provides additional information on the frequency of BASICS-supported interventions and their impact on coverage levels. The survey shows a steady increase in coverage and reduction in dropout rates during 2007 and 2008. Improvement is relatively higher in BASICS-supported LPPs. The survey results are consistent with PMP data and confirm that BASICS-supported strategies and interventions had a positive impact on coverage levels.

BASICS is almost universally viewed as having been helpful. Issues persisting as concerns for *Puskesmas* and Districts include materials and supplies, operational funding, worries about coverage, and support from local partners.

The essential immunization systems and management tools are already known and in practice in most areas. BASICS revitalized the use of those effective practices in terms of regularity, ownership by their managers, and qualitative improvement. Sustaining those practices after BASICS closure will depend on sustained resources from local government in particular, technical support and supervision from PHO and MOH/CDC/EPI, and continued monitoring.