Case Study: Checking vaccination status at entry to, or during, school

THAILAND

Law or policy	
What is the law or policy?	Vaccination history check at school entry is a "recommended" policy, i.e. it is not a mandatory policy.
Year first established?	2013
Who issued the law or policy?	The policy was supported by the Ministry of Public Health (MoPH) and the Ministry of Education (MoE) as part of Component 5 of the Health Promoting Schools Initiative (HPS).
Scope?	All schools under the MoE, Office of Basic Education Commission.
Implementation	
Funding	Although all hospitals and health centres provide immunization services free of charge, no additional funding is provided to schools to support school-based immunization activities nor for the checking of vaccination status. Resources are generated by a network of leaders, parents and students when needed.
Who checks?	The teachers of the children entering Grade 1 and Grade 7 collect the immunization history record from parents, and make a photocopy. The responsible health officer then checks the immunization histories for completeness.
Information used to check vaccination status	The immunization history of the child is contained in the Mother and Child Health Handbook or other vaccination card.
What is done if children are missing doses?	If a child is identified as un- or incompletely vaccinated, they are either referred to the local hospital or health centre to receive catch-up vaccines, or in some schools, health care staff may come to the school to deliver catch-up vaccines. An accelerated vaccination schedule is included in the national immunization programme schedule to provide guidance on how to vaccinate older children up to 7 years of age who have missed vaccines.
Guidance and enforcement	In 2013, the recommended policy was communicated to all schools by letter from the MoE which was accompanied by implementation guidelines. The vaccination screening policy is a recommendation only. It is not mandatory for schools to comply. There has been no active promotion of follow up on implementation by either the Ministry of Public Health or the Ministry of Education.
Monitoring and Evaluation	A monitoring and evaluation plan was considered in the design of the policy, but no system has been established to measure progress or effectiveness of this strategy.

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BACKGROUND:

Current estimates show a 2019 population in Thailand of 69.31 million, making it the 21st most populous country on earth. It is estimated that there are further 2.2 million unregistered illegal and legal migrants in Thailand increasing those numbers even further. Based on 2011 population figures, Thailand has a population density of 132.1 people per square kilometer (1).

The National Immunization Programme (NIP) was introduced in Thailand in 1977, and since 2005 the NIP has consistently achieved immunization coverage of around 96–99 % among Thai children. The antigens contained in the Thai national immunization schedule are shown in Table 1 below.

Thailand has a comprehensive multi-year plan for immunization for the period 2017-2021, and an annual workplan for immunization activities each year. Thailand is strongly committed to eradicate polio by 2018 and eliminate measles by 2020; however, a few challenges remain in the south of the country and among migrant communities.

Thailand has never benefitted from support from Gavi, the Vaccine Alliance, and an actual GNI per capita of $5,950 means that is still the case.

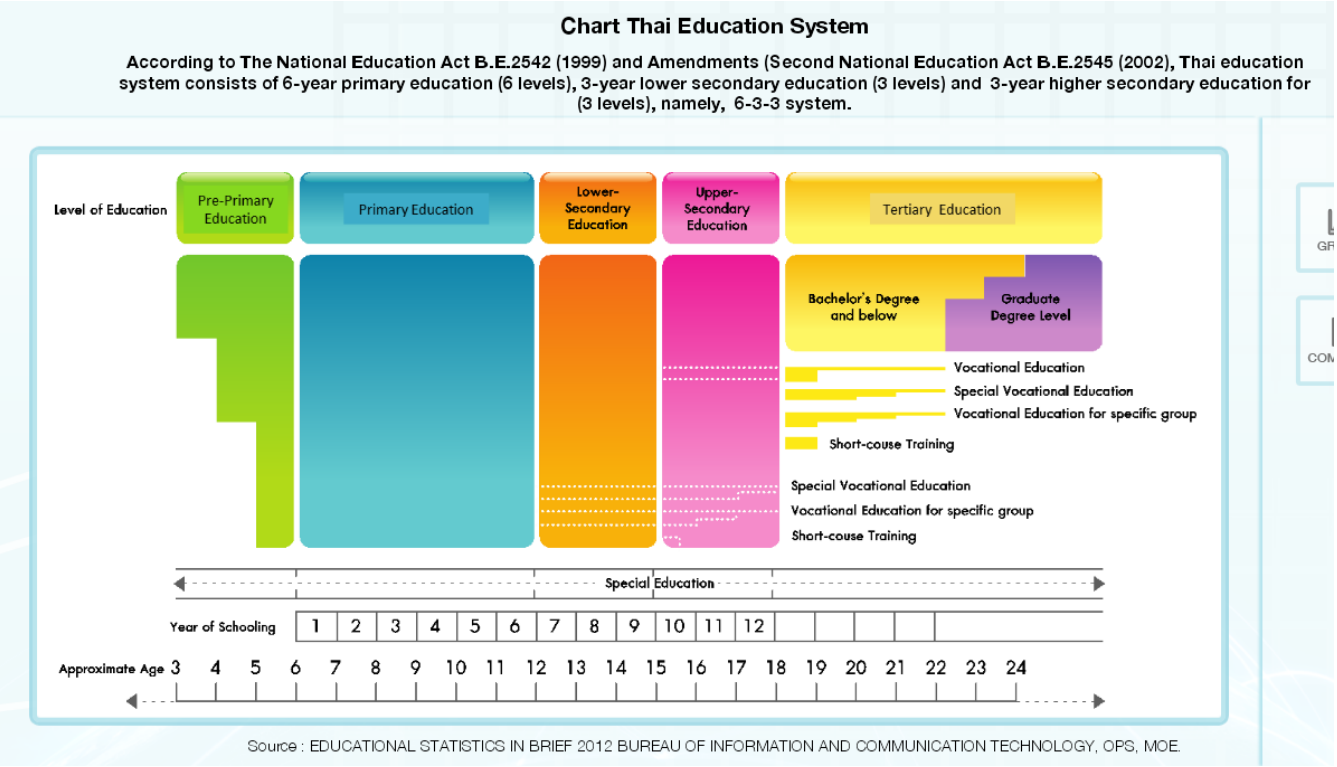
Universal health care (UHC) for Thai citizens, introduced in 2002, extended the scope of coverage to 18 million people who were uninsured and to a further 29 million who were previously covered by less comprehensive schemes. A Migrant Health Insurance Scheme has also been added. Since UHC introduction, public expenditure on health steadily increased from 56% in 2000 to 86% in 2011, while out-of-pocket expenditures decreased from 27.2% to 12.4% of total health spending. However, significant challenges remain (2).

The Education system

The education system in Thailand consists of the following (see chart below):

- Pre-primary from ages 3-6
- Primary (Grades 1-6) from ages 6-12
- Secondary (Grades 7-12) from ages 12-18

The law entitles all children within Thailand to enroll in school, regardless of their background or nationality. According to UNESCO's 2017/18 Global Education Monitoring (GEM) Report, 99% of children complete primary education in Thailand (3).



The Health and Immunization System

The administrative system in Thailand is made up of 76 provinces plus the Bangkok Metropolitan Area, which has its own administration system.

The health system in Thailand consists of 3 levels:

<u>For the 76 provinces:</u>
There are 9,770 health promoting hospitals or health centres delivering health services at primary care level. They provide holistic health services including health promotion and prevention, primary treatment and rehabilitation at sub-district level. There are a further 771 community hospitals providing secondary health service at district level.

<u>For the Bangkok Metropolitan Area:</u>
There are 68 public health centers responsible for primary care similar to the health promoting hospitals in the provinces. There are a further 39 public hospitals and 92 private hospitals in the metropolitan area of Bangkok.

The immunization service is integrated in the primary care units of all public health facilities in Thailand.

Private hospitals and clinics also play an important role in providing vaccination service in Thailand. Unofficial data from the vaccination coverage survey conducted in Thailand in 2018 revealed that the private sector was responsible for 30% of all immunizations provided to children in Bangkok. However, the figure for private sector involvement in other provinces is lower at around 10-15%.

The National Immunization Programme (NIP) was introduced in Thailand in 1977, and since 2005 the NIP has consistently achieved immunization coverage of around 96–99 % among Thai children. Schools provide routine immunization for HPV (Human Papilloma Virus) for girls in Grade 5 (11 years of age), and Td (tetanus and diphtheria) for both boys and girls in Grade 6 (12 years of age).

However, vaccination rates among children along the Thailand-Myanmar border are notably lower (4). This is a region with many highly mobile and migratory people for whom receiving age-appropriate vaccines can be extremely difficult.

The Ministry of Public Health is responsible for the pre-school health programme and the school health programme in close collaboration with the Ministry of Interior (pre- school) and the Ministry of Education (school).

In Thailand, the WHO-recommended Health Promoting Schools Initiative (HPS) has been supported by the Ministry of Public Health to support health promotion in schools. According to the MoPH in 2017, over 88% of schools in Thailand were participating in the HPS Initiative (5). HPS consists of 10 elements for assessment and implementation: 1) school policy, 2) management in the school, 3) collaboration of school and community, 4) creating environments supportive of health, 5) school health services, 6) health education in school, 7) nutrition and safety of food at school, 8) exercise through sport and recreation, 9) provision of counseling and social support, and 10) health promotion for school staff. The fifth component is of direct relevance to this case study.

Recent evaluations of the HPS Initiative (6, 7) identified the following two main factors for its success: (1) The role and engagement of school directors; and (2) the degree of collaboration between all parties, i.e. parents, students and teachers. The main obstacles identified were the lack of compliance by parents – which was overcome by education from subject matter experts - lack of a clear implementation policy, lack of staff time, poor cooperation between the main parties and shortage of resources.

LAW OR POLICY

Establishment of law or policy for checking of vaccination upon school entry

In 2013, the Government of Thailand introduced a recommended policy for a vaccination history check of children at entry to Grade 1 (primary school) and Grade 7 (secondary school). The intent was as part of pillar 5 of the HPS Initiative, to increase the immunity of individuals, to prevent outbreaks of vaccine-preventable diseases in schools, and to improve school health programme management.

This policy was communicated nationwide to all schools under the Ministry of Education (MoE) as part of Component 5 of the School Health Promotion Programme (SHPP) by a letter from the Ministry of Education, accompanied by guidelines to implement the vaccination history check. Both the letter and the guidelines were developed in collaboration with the Department of Disease Control (DDC), Division of Vaccine Preventable Diseases (DVPD) in the Ministry of Public Health (MoPH).

The letter details that the vaccination history check performed by schools at entry to Grade 1 (children 7 years of age) should include all vaccines recommended on the Thailand National Immunization Schedule (shown in Table 1 above) from birth to four years of age. For those children identified as un- or incompletely vaccinated, the Thailand National Immunization Schedule includes an accelerated schedule to help children receive catch-up vaccination that includes: BCG, OPV, MMR, HepB, live attenuated JE, IPV (for children aged 1-6 years), DTP (for children aged 1-6 years), and Td (for children aged 7 and older). The un- or incompletely vaccinated child is either referred to the local hospital or health centre to receive the catch-up vaccines, or, in some schools, health care staff may come to the school to deliver the catch-up vaccines.

It is interesting to note that some schools have been conducting vaccination history check for many years, even before the letter and guidelines were sent in 2013. Vaccination history checks are also regularly conducted at pre-schools due to a policy implemented by the Ministry of Interior. This illustrates that the checking of vaccination history at school, or pre-school entry, is an acceptable and valued strategy in the country.

	Status checked	Vaccines checked
Pre-school	✓	All infant vaccines (BCG, OPV, DTwPHepB, IPV, JE, MMR)
Primary school [(a)]	✓	All infant vaccines (BCG, OPV, DTwPHepB, IPV, JE, MMR)
Secondary school [(b)]	✓	All infant vaccines plus Td and HPV

[(a)] Grade 1 (6 years of age) [(b)] Grade 7 (12 years of age)

IMPLEMENTATION

This recommended policy has been implemented since 2013 in all schools under the Ministry of Education. Although all hospitals and health centres provide immunization services free of charge, no additional funding is provided to schools to support school-based immunization activities nor for the checking of vaccination status. Resources are generated by a network of leaders, parents and students when needed.

As part of an assessment of EPI services conducted by the MoPH in 2017, 45 schools in nine provinces were reviewed to establish the reach of the screening strategy. Results show that the policy had been implemented in approximately half of the schools surveyed. Reported barriers to implementation included lack of awareness about the strategy mainly due to staff turnover, difficulty obtaining the vaccination history from children moving from other provinces, and increased workload for school and health staff.

The checking process

Upon entry to Grade 1, as advised by the school, parents provide the “Pink Book” (Mother and Child Health Handbook), or equivalent, to the teacher. If no vaccination card is available, parents ask the healthcare provider to explore the child’s immunization history, or local health staff ask the parents to recall the child’s immunization history. The teacher in charge of health makes a copy of the vaccination record page of each child and checks this against the names of the children enrolling in school that year. The school then coordinates with staff of the local hospital or health center to come to the school to review the vaccination records and identify those children who are un- or incompletely vaccinated and notify the teacher in charge of health.

The teacher in charge of health informs the parents that their child's vaccination status is incomplete and requests them to provide consent for their child to be vaccinated at school (by the health center staff) or requests them to take the child to the health center, hospital or private provider for vaccination. After the vaccination, the original Pink Book and the photocopy of the Pink Book at the school is updated with the vaccines received by the child.

If the parents do not provide their consent for vaccination of their child and would still like their child to attend school, the health care worker or teacher in charge of health follows up with the parents to explain the benefits of vaccination and the risks to their child and the community of their child not being vaccinated to persuade them to have their child vaccinated. However, in the case of persistent objection, the child is still allowed to attend school, as there is no law in Thailand requiring children to be fully immunized to attend school.

All vaccines administered to children in the school setting, including catch up vaccines, are recorded in the copy of the immunization history page and school health record, both of which are kept at school until the child finishes primary school. Children are also given an individual vaccination card for those vaccines administered at school. The school gives the immunization history page to parents when their child finishes primary school at the end of Grade 6, and this is then presented when the child enters secondary school – Grade 7. In the case of children who move to another school before finishing Grade 6, the school gives the immunization history page to children to present to the new school. For those children entering Grade 7 who are un- or incompletely vaccinated, health staff will take steps to provide the appropriate catch-up immunizations.

Guidance and enforcement

In 2013, the recommended policy was communicated to all schools by letter from the MoE which was accompanied by implementation guidelines. However, the vaccination screening policy is a recommendation only. It is not mandatory for schools to comply, nor is it mandatory (law) for children to be vaccinated, so enforcement is difficult to implement. Additionally, there has been no active promotion of follow up on implementation by either the Ministry of Public Health or the Ministry of Education.

Monitoring and Evaluation

A monitoring and evaluation plan was considered in the initial design of the policy but no system has been established to measure progress or the effectiveness of this strategy, and no feedback is given to schools.

In 2017, as part of an annual assessment of EPI services, a convenience sample of 45 schools in nine provinces asked if the schools conducted a vaccination history check at school entry. Of the 45 schools surveyed: 47% collected vaccination history upon school entry (Grade 1); 76% recorded Td booster doses given at school in the vaccination card (Grade 6); and 35% collected information from the vaccination card upon entry to secondary school (Grade 7).

No data are routinely collected on the numbers of un- or incompletely vaccinated children entering school. Schools are often anecdotally aware of the number of children who are not fully vaccinated but do not keep aggregate records of this.

LESSONS LEARNED

Law or policy

Currently in Thailand both the requirement for children to be vaccinated and for schools to perform vaccination history checks at school entry remain voluntary. For a country to move from a recommended to a mandatory policy by enacting a law is a large task and takes time and very careful consideration and stakeholder consultation. However, it may be possible for the Thai Government to identify and consider the advantages and disadvantages of making the checking of vaccination history at school entry mandatory as a first step towards being able to more easily enforce this policy (8)[1]. Note however that this is distinct from a law that makes *vaccination* a mandatory requirement for school entry, which would involve a very different set of considerations and may not be necessary for a country like Thailand which is already attaining very high vaccination coverage in the absence of such laws.

Another factor that makes enforcement of this voluntary policy in Thailand less effective is the lack of clarity over which Ministry – that of Public Health or Education – should be responsible for enforcing or advocating for the policy at the sub-national (province/district) or local level (e.g. school or health centre).

For such a health initiative to work through the education system, a strong connection and close collaboration between the Ministry of Public Health (MoPH) and the Ministry of Education (MoE) at all levels, from national through to local level is essential. To note, the letter and guidelines sent by the Ministry of Education in 2013 to initiate this policy was only sent to the schools and was not sent to the relevant hospital or health centre staff. Ensuring that all parties in the two Ministries have received the same instructions would foster improved coordination between the two.

Given that it is important to have school leadership, staff, health care workers, students and the community be aware of vaccine preventable diseases and importance of vaccination, one of the positive aspects of this initiative has been the result of bringing potentially otherwise missed members of the community to access health services. However, there is concern by some in the education field that this initiative is potentially problematic as it may be perceived as creating a barrier to access to education.

Implementation, monitoring and evaluation

High retention of Home-Based Records (referred to as the "Pink Book") facilitates a quick and easy assessment of vaccination status. In areas where the parents do not have the immunization record, the verification is more complicated and potentially less reliable.

Furthermore, school staff reported that the variety of vaccination records in use made it challenging to know whether the history was a legitimate and correct record of vaccination. For example, secondary schools keep a school health record (referred to as the 'yellow card') but vaccination histories were frequently incomplete as often only the vaccines given in primary school were recorded.

Staff in secondary schools also appeared confused about which vaccination records to check, what to do with incomplete vaccination records or the small green vaccination cards from primary schools. As no vaccines are routinely delivered in secondary schools, staff are less familiar with dealing with vaccination history.

[1] A recommendation from the Midterm review of the Strategic plan for measles elimination and rubella and congenital rubella syndrome control in the South-East Asia Region: 2014-2020 is that "all Member States should be encouraged to introduce legislation with regard to school entry-/school-level checks for immunization". (WHO, 2018)

Checking vaccination history appeared to identify migrant children (a hard to reach group) as those who are frequently not fully vaccinated due to their transitory lifestyles. However, they were reported to have good records of vaccination which helps health staff determine the catch-up vaccination schedule to follow for them.

The accelerated vaccination schedule is included in the national immunization schedule poster, which is revised each year and sent in both hardcopy and electronically to all hospitals and health centers. Health staff appeared to be familiar with this and know how to use it to vaccinate older children who were missing doses. Having this clearly available to schools and health staff is another crucial factor in easing implementation of the vaccination catch-up activities.

Since the original letter was circulated in 2013 until the time of the country visit in September 2017, there had been no active promotion or follow up of the vaccination history checking strategy, neither by the health nor by the education sector, which may have reduced awareness amongst some schools and staff and limited uptake of the strategy. Regular formal and opportunistic communications both through the health sector and the education sector are important to keep implementation of this policy working optimally – especially given the voluntary nature of this policy.

Data collection on the vaccines provided to children through this system remains a challenge: hospital and/or health center staff report that they are too busy to enter data into the electronic Health Data Center. The MoPH and the MoE could advocate for the involvement of the school nurse (where one already exists) in checking the vaccination histories which may help reduce workload for health care staff and lead to strengthened data recording and reporting, including completion of school health record (yellow card) and entering the vaccination history into the Health Data Center.

It should be noted that no specific funding for implementation of this strategy has been made available. Implementation relies strictly on the resources available within the schools or health centres responsible. In resource-poor settings, the high cost of making the photocopies of the immunization records of all children entering school could threaten the sustainability and implementation of this initiative. In areas where there are large numbers of un- or incompletely vaccinated children entering schools, e.g. in border areas, the Thai Government could consider allocating resources to enhance compliance with and implementation of the policy, in particular for the efforts needed to ensure the children complete the schedule and also as the cost of the yellow card may be prohibitive for some families.

There is currently no monitoring and evaluation plan for this strategy. The short, medium and long term outcomes are not clear and no data is collected about the reach or effectiveness of the strategy. It would be beneficial for the Thai Government to develop an M&E plan that includes clear outcomes, measurable indicators, the process for data collection, analysis and use. This would facilitate the review of results from monitoring data regularly and be used to inform the direction of the vaccination history check strategy in the future. As a way of increasing uptake of this voluntary policy, the Thai Government could also explore the potential for linking this with the monitoring and evaluation framework and indicators used in the Health Promoting Schools and, for example, including implementation of the vaccination history check upon school entry as an indicator for a bronze level school.

Lastly, there is no understanding of the extent of implementation of the policy in Bangkok where the health system operates under a separate government structure that is not within the Ministry of Public Health.

ACKNOWLEDGEMENTS

The information and observations contained in this case study come from the report of a visit by the U.S Centers for Disease Control and Prevention and World Health Organization in September 2017 to conduct a landscape analysis of current policy, practice and evidence of effectiveness of vaccination history checking at childcare or school entry in low- and middle-income countries. Representatives from the Ministry of Public Health and the Ministry of Education in Thailand were consulted. Their names are available on request.

Additional information has been obtained through a literature search, the references for which are provided in the "References" section below.

Suggested citation:
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https://www.who.int/immunization/programmes_systems/policies_strategies/school_vaccination_checks/en/

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APPENDICES

Table 1. Childhood EPI vaccination schedule in Thailand

Schedule	Vaccine
At birth	HepB0 BCG (before discharge or within 7 days after birth)
2 months	DTP-HepB1, OPV1 Rota1 only in pilot provinces (Sukothai and Phetchabun Provinces)
4 months	DTP-HepB2, OPV2, IPV 1 Rota2 only in pilot provinces (Sukothai and Phetchabun Provinces)
6 months	DTP-HepB3, OPV3 Rota 3 only in pilot provinces (Sukothai and Phetchabun Provinces)
9 months	MMR1
1 year (12 month)	JE_LiveAtd 1
18 months	DTP4, OPV4
30 months	MMR2, JE_LiveAtd 2
4 years (48 months)	DTP5, OPV5
Grade 1 students	MMR2/MR2 to all students who have no records of MMR2 Td in case DTP received is less than 5 doses OPV in cases OPV received is less than 5 doses
Grade 5	HPV1, HPV 2
Grade 6	Td