



# National Deployment Plan for the Distribution of Pandemic Influenza A H1N1 Vaccine

# Suriname

**Technische Commissie Vaccinatiebeleid  
Ministerie van Volksgezondheid**

Paramaribo  
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## Foreword

It is with great pleasure that we present the National Deployment Plan for the Distribution of Pandemic Influenza A H1N1 Vaccine in Suriname.

Never in our recent history have we experienced such a global influenza pandemic nor have we ever been more prepared to face the challenges ahead in dealing with this event. This vaccine deployment plan is specific for the deployment of the *Influenza A H1N1 2009* Vaccine and forms an annex to the National influenza Pandemic Preparedness and Response Plan.

The people in Suriname are very fortunate to receive, soon after the declaration of the global pandemic by the World Health Organization in April 2009, a donation through a collaboration of the WHO, of estimated 50,000 vaccine doses. Suriname acknowledges and thanks the involved countries, organizations and institutions for their generous contribution. These vaccines will be administered to the priority groups identified.

The first batch of 50,000 doses of the *Influenza A H1N1 2009* Vaccine, as donated by the WHO, will be made available to those dedicated staff who work in our health care workforce, as one of the priority groups. Ensuring the health care workforce is operational during an influenza pandemic is essential in protecting the health of our communities. Recent studies show our pregnant women are at greater risk of serious disease and have high mortality rates after infection with *Influenza A H1N1*. In acknowledgement of these studies, pregnant women in any trimester will form the next group who will receive the *Influenza A H1N1 2009* Vaccine. Remaining doses of vaccine will be distributed to the next most vulnerable groups that will be identified by the "Technische Commissie Vaccinatiebeleid" (the technical committee appointed by the Ministry of Health, responsible for the vaccination policy) (TECHCOM).

### Technische Commissie Vaccinatiebeleid

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## Acronyms

AZP	Academic Hospital Paramaribo
BOG	Bureau of Public Health
EPI	Expanded Program on Immunization
ESAVI	Events Supposedly Attributable to Vaccine or Immunization
MOH	Ministry of Health
MZ	Medische Zending (Medical Mission)
RGD	Regionale Gezondheids Dienst (Regional Health Services)
SIA	Supplementary Immunization Activity
SZN	Streek Ziekenhuis Nickerie (Regional Hospital Nickerie)
UNICEF	United Nations Children's Fund
WHO	World Health Organization

## 1. Executive Summary

The main objective of the pandemic Influenza A H1N1 2009 - 2010 vaccination campaign in Suriname is to:

- Protect the integrity of the health system and the essential infrastructure of the country
- Reduce severe morbidity and mortality associated with the pandemic influenza
- Reduce transmission of infection in the community

This vaccine will therefore be used first to protect all health care workers and support staff, to ensure there is no disruption to health care services in Suriname, in case of a second wave of the *Influenza A H1N1 2009* pandemic. All women who are pregnant, in any trimester during the planned campaign week in 2009-2010, will also be offered a dose of this vaccine. The remaining doses will be distributed to those who are at most risk of severe disease<sup>1</sup> i.e. all patients older than 6 months, with chronic disease such as diabetes, those with chronic respiratory, cardiac, renal, liver and neurological disease and morbid obese patients. Young adults aged between 15 years and 49 years of age will then be the following eligible group. The prioritization of the sub groups in these risk groups will be decided on by the TECHCOM.

In anticipation of the national campaign, Suriname will receive a donation, through the collaboration of the WHO, of 50,000 vaccine doses. This donation to Suriname will allow the Ministry of Health to initiate response to the global *Influenza A H1N1 2009* pandemic and protect those most vulnerable to infection. The order of priority/risk groups described above will guide the administration of this donated batch of vaccines.

The following document outlines the detailed vaccine deployment plan, including budgetary requirements, to ensure this is a well executed and well resourced campaign. The budget details specific activities (annex 2) and targets that more than 95% of the target populations are vaccinated. This plan of action was developed during the "Sub Regional Workshop for the Pandemic *Influenza* Vaccine Introduction" in St Kitts and Nevis, convened by the World Health Organization, in November 2009 and further finalized by the TECHCOM.

The vaccine deployment plan outlines the processes and activities involved, and include vaccination strategies, management and organization, communication and information, human resources and public information, pandemic vaccine deployment operations and collection of medical waste, required to execute a thorough and high quality vaccination campaign.

The total cost of the budget required is US\$ 118,540. A breakdown is provided in Table 1.

It must be noted that this *Influenza A H1N1 2009* vaccine supplementary immunization activity (SIA) was not budgeted for in the 2009 fiscal year and additional funding from within government and other major development partners will be required to undertake this campaign.

The government of Suriname recognizes this as a campaign of public health importance and will contribute to 55.6% of the total funding required to carry out this important vaccination campaign.

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<sup>1</sup> According to the SAGE and TAG recommendations of the PAHO/ WHO, technical guidelines for the vaccination against the Pandemic Influenza 2009

Table 1: Budget summary for the implementation of the vaccination campaign.

Activity Area	Estimated total cost of activity	National financing	External financing to be sought	
			Source A	Source B
Organization and management	14,800	7,800	6,500	500
Human resources and security	5,740	1,040	2,700	2,000
Vaccine Distribution Plan	24,000	19,000	5,000	0
Cold chain	24,700	8,450	11,250	5,000
Waste Management	7,500	5,800	1,200	500
Communication and Information	5,000	1,500	3,500	0
Risk communication and social mobilization	9,800	4,800	5,000	0
ESAVI Surveillance	14,000	,000	1,000	4,000
Evaluation	13,000	8,500	3,500	1,000
<b>Total</b>	<b>118,540</b>	<b>65,890</b>	<b>39,650</b>	<b>13,000</b>

## 2. Introduction

Pandemic influenza outbreaks in the past have killed millions. Since the first human infections caused in 1997 by the A/H5N1 influenza virus, health authorities have been increasingly concerned that this virus might cause the next pandemic. This has not happened but concern has increased subsequent to the novel A/H1N1 outbreak in 2009 in Mexico and its steady spread around the world, eventually resulting in WHO calling a global pandemic in April 2009. Until a universal influenza vaccine against all strains exists, pandemics will continue to be a threat.

During the Influenza A H1N1 2009 pandemic, Suriname reported over 100 confirmed cases till November 2009, and the death of two women.

This vaccine deployment plan outlines the actions that should be taken to assure the safe delivery of vaccine and ancillary items to protect its vulnerable populations during the Influenza A H1N1 2009 pandemic and an expected second wave. It details what needs to be done once the vaccine arrives in the country and the strategies involved in vaccinating the target populations, and further elaborates on the following important key steps: vaccination strategies, management and organization, communication and information, human resources, public information, pandemic vaccine deployment operations (supply chain processes) and collection of medical waste.

The main objective of the pandemic Influenza A H1N1 2009 campaign and the planned 2010 vaccination campaign in Suriname is to reduce morbidity and mortality and maintain operation of the health infrastructure. The previously mentioned donation of the *Influenza A H1N1 2009* vaccine will assist the Ministry of health in achieving this objective.

Suriname has 10 administrative districts, with a total population of around 500.000. Vaccines will be deployed to all vaccine points within 7 days and within the existing limited resources. It is estimated however, that reaching more than 80% of vaccine points is a more achievable objective.

The following groups of persons have been identified as the priority groups who will receive the *Influenza A H1N1 2009* vaccine in a national campaign; the decision with regard to the priority groups is based on the published evidence and available epidemiology information, highlighting those most at risk of severe disease<sup>2</sup>.

<sup>2</sup> WHO Epidemiology Working Group; Paper for Discussion 29 September 2009

Table 2: Priority Groups to Receive Influenza A H1N1 Vaccine.

Priority group	Total Population	Estimated Doses of Vaccine Required†
1. Health Care Workforce <sup>^</sup>	10,000	10,000
2. Pregnant Women*	15,000	15,000
3. Population > 6 months with underlying chronic disease: Diabetics <sup>^</sup> > 6 months included (50,000)	75,000	75,000
4. Healthy population 6 months to 4 years	45,000	90,000
5. Healthy population 5 to 9 years	50,000	100,000
6. Healthy populations 10 to 19 years	100,000	100,000
7. Indigenous & Maroon populations #	20,000	20,000
8. Port & essential public service workers	10,000	10,000
9. Health populations 20 to 49 years	-	-
TOTAL	325,000	420,000

<sup>^</sup> Ministry of Health = an estimated 2 % of the population

\*Reproductive Health Data = 10,000 life births per year, miscarriages and still births not included

# Children up to 19 years already included

† Children 6 months up to 10 years of age require 2 dosages

Table 3 outlines the populations prioritized to receive the first doses of donated vaccine and those most at risk of severe disease and includes the approximate number of doses required to protect these groups.

Table 3: Priority groups to receive Influenza A H1N1 Vaccine

Priority group	Total Population
1. Health Care Workforce	10,000
2. Pregnant Women	15,000
3. Chronic Respiratory, Cardiac , Renal, Liver and Neurological Disease < 60 years	25,000
TOTAL	50,000

Costs associated with these activities are described in detail in Annex 2, and are identified under the following headings.

1. Organization and management
2. Total personnel needs identified
3. Transport
4. Cold chain
5. Waste Management
6. Vaccination and Logistics training
7. Risk communication and social mobilization
8. ESAVI Surveillance
9. Evaluation

The overall goal of the *Influenza A H1N1 2009* Vaccine campaign is to distribute, within 7 days, 50,000 doses of vaccine along with all ancillary items within to at least 80% of the populations outlined in table 3.

The total budget required to ensure a well planned and thorough *Influenza A H1N1 2009* vaccine campaign can be undertaken in Suriname is US\$ 118,540. Table 4 highlights the break down for each major activity. Detailed explanations of budgets including cost break downs can be identified in Annex 2.

Table 4: Breakdown of each major activity with cost for Influenza A H1N1 2009 Vaccine Campaign.

Activity Area	Estimated total cost of activity	National financing	External financing to be sought	
			Source A	Source B
Organization and management	14,800	7,800	6,500	500
Human resources and security	5,740	1,040	2,700	2,000
Vaccine Distribution Plan	24,000	19,000	5,000	0
Cold chain	24,700	8,450	11,250	5,000
Waste Management	7,500	5,800	1,200	500
Communication and Information	5,000	1,500	3,500	0
Risk communication and social mobilization	9,800	4,800	5,000	0
ESAVI Surveillance	14,000	9,000	1,000	4,000
Evaluation	13,000	8,500	3,500	1,000
Total	118,540	65,890	39,650	13,000

### 3. Legal bases or resolutions

As outlined in the National Influenza Pandemic Preparedness & Response Plan the decision to vaccinate the community or parts of the community with *Influenza A H1N1 2009* vaccine rests with the Minister of Health and may even require endorsement by Cabinet.

### 4. Timeline

It is anticipated that from the arrival of the *Influenza A H1N1 2009* vaccine in Suriname, the deployment of vaccine and ancillary items to at least 80% of vaccine sites will occur within 7 days. The vaccination campaign to reach the target populations outlined in table 3 will run for a period of 14 days. Data entry, analysis and presentation of final report will occur within 30 days of completion of the immunization campaign.

### 5. Vaccination strategies

The target populations outlined in table 3 will again be prioritized to ensure health care workers and pregnant women receive the first doses of the *Influenza A H1N1 2009* vaccine. Strategies to reach these target populations are outlined under each category below. Annex 2 outlines the detailed budget breakdown and a description of each activity.

## **A. Health Care Workers**

Health care workers (HCW) including (but not limited to) all categories of staff of the Ministry of Health, all health facilities, both private and public, and other health workers and supporting staff in other settings than in a hospital or clinic, including administrative and management staff, auxiliary staff, teaching institutions in the health care setting, will all be offered one dose of the *Influenza A H1N1 2009 vaccine*.

The institutions involved will be responsible for the vaccination for their health workers and includes, the Bureau of Public Health (BOG), Medical Mission (MZ), the Regional Health Services (RGD) and the respective hospitals.

## **B. Pregnant Women**

All women who are currently pregnant at the time of the campaign in 2009- 2010, regardless of their trimester will be offered a doses of the *Influenza A H1N1 2009 vaccine*. Many of these women will need to be reached via routine antenatal clinics from the RGD and MZ and in hospitals reproductive health clinics. All other pregnant women who cannot be reached through these institutions will need to be vaccinated at the BOG.

## **C. Chronic Respiratory, Chronic Respiratory, Cardiac (excluding hypertension), Renal, Liver and Neurological Disease**

Persons with chronic conditions outlined above who attend regular clinics will be offered *Influenza A H1N1 2009 vaccine* at their routine clinics or when they attend outpatient or emergency departments. *Influenza A H1N1 2009 vaccine* will be offered in this setting.

## **D. Diabetes**

Persons with diabetes in Suriname attend clinics and health centers on a regular basis for routine checks. These regular clinic visits will offer an excellent opportunity to vaccinate these individuals with the *Influenza A H1N1 2009 vaccine*. Awareness will be conducted with this group of patients and vaccine will be given by clinic nurses.

## **E. Aged between 10 years and 19 years**

Young adults, aged between 10 and 19 years will be offered *Influenza A H1N1 2009 vaccine* through the school immunization programs. The school based campaign will take approximately 30 days to reach the target populations.

## **6. Target populations for each district in Suriname**

Table 5 provides an overview of the target population to be vaccinated by the institutions, per district. It is noted that the institutions providing vaccination are limited to the RGD, MMM and hospital clinics. For reasons of cold chain security and other administrative matters, other providers such as private physicians, will not participate in the vaccination activities. Clients qualifying for vaccination will be referred to the closest RGD or MM clinic, or the BOG.

Table 5: Total target population in each district

District	PMB	Wan	Para	Com	Sar	Nick	Cor	Mar	Brok	Sip	Total
<b>Health Care Workforce</b>											
RGD	210	130	50	70	40	60	10	30			600
MZ	102								47	153	302
Hospitals	5,500					700					6,200
BOG	300										300
MOH HQ	150										150
Other (GPs)	1250										1250
<b>Pregnant Women</b>											
RGD	1,000	2,700	900	450	150	400	50	450	-	-	6,100
MZ			48						352	1,191	1,591
Hospitals/ GPs	7,852					45					7,897
BOG											
Other											
<b>Diabetes &amp; Chronic respiratory, cardiac, renal, liver &amp; neurological disease</b>											
RGD	9,021	9,827	1,010	1,117	645	2,574	109	952			25,255
MZ			13						140	277	430
Hospitals / GPs	9,000					2,000					11,000
BOG/ GPs	1,500										1,500
Other											
<b>Total</b>											
RGD	10,231	2,657	1,960	1,637	835	3,034	169	1,432			31,955
MZ	102		61						539	1,621	2,323
Hospitals /GPs	22,352					2,745					25,097
BOG	1,800										1,800
MOH HQ	150										150
Other (GPs)	1250										1250
Grand Total	35,885	12,657	2,021	1,637	835	5,779	169	1,432	539	1,621	62,575

## 7. Vaccination teams required for each district in Suriname

It is anticipated that there will be a number of vaccination teams operating in each district highlighted in table 5. The following table 6 is a summary of the vaccination teams required for each district and per institution.

Table 6: Number of Vaccination teams required to meet the target populations in each institution, by district

District	PBM	Wan	Para	Com	Sar	Nic	Cor	Mar	Brok	Sip	TOTAL
Institution											
<b>Health Care Workforce</b>											
RGD	8	1	1	1	1	1	1	1			15
MZ	1*		1*						2*	10*	14
Hospitals	6					1					7
BOG	1										1
Others	1										1
<b>Pregnant Women</b>											
RGD	*	*		*	*	*	*	*			
MZ			*						*	*	
Hospitals											
BOG											
Others											
<b>Diabetes &amp; Chronic respiratory, cardiac, renal, liver &amp; neurologic disease</b>											
RGD	*	*	*	*	*	*	*	*			
MZ	*		*						*	*	
Hospitals	1	*	*	*	*	*	*	*			1
BOG											
Others											
<b>Summary table</b>											
RGD	8	1	1	1	1	1	1	1			15
MZ	1		1						2	10	14
Hospitals	4					1					8
- BOG	1										1
- Others											1
<b>Total</b>	<b>18</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>10</b>	<b>39</b>

\* One team will be required for all target groups

RGD: 8 teams for all the target groups for Paramaribo and 1 per rayon.

In the districts, 1 team per rayon, for all target groups

BOG : 1 team for all target groups

## 8. Equipment required to vaccinate each target population in each district

Tables 7 - 16 below highlight the cold chain requirements, syringes, doses of vaccine, and safety boxes for each institution, and for each target population.

Table 17 is the summary of equipment required to vaccinate each target population by district

Table 7: Equipment required to vaccinate each target population in **Paramaribo**

	Carriers	Cold box	Syringe	Needles	Needles	Safety	Vials
<b>Health Care Workforce</b>							
RGD	8	8	212	21	212	2	23
MZ	1	1	103	10	103	1	11
Hospitals	6	6	5,555	556	5,555	56	605
BOG	1	1	303	30	303	3	33
Other	-	14	253	25	253	3	28
<b>Pregnant Women</b>							
RGD			1,010	101	1,010	10	110
MZ			-	-	-	-	-
Hospitals			7,931	793	7,931	79	864
BOG							
Other							
<b>Diabetes &amp; Chronic respiratory, cardiac, renal, liver &amp; neurologic disease</b>							
RGD			9,111	911	9,111	91	992
MZ			-	-	-	-	-
Hospitals			9,090	909	9,090	91	990
BOG			1,515	152	1,515	15	165
Other							
<b>Total</b>	<b>15</b>	<b>15</b>	<b>34,527</b>	<b>3,453</b>	<b>34,527</b>	<b>345</b>	<b>3,760</b>

\*One Vaccine carrier per rayon/region to do all target groups

One cold box per vaccination team

Syringes + 1%

Vials +12%

1 safety box per 100 syringes

Table 8: Equipment required to vaccinate each target population in **Wanica**

Health Care Workforce	Carriers	Cold box	Syringe	Needles	Needles	Safety	Vials
RGD	1	1	131	13	131		
MZ	-	-	-	-	-	-	-
Hospitals	-	-	-	-	-	-	-
BOG							
Other							
<b>Pregnant Women</b>							
RGD			2,727	273	2,727	27	297
MZ			-	-	-	-	-
Hospitals			-	-	-	-	-
BOG							
Other							
<b>Diabetes &amp; Chronic respiratory, cardiac, renal, liver &amp; neurologic disease</b>							
RGD			9,925	993	9,925	99	1,081
MZ			-	-	-	-	-
Hospitals			-	-	-	-	-
BOG	-	-	-	-	-	-	-
Other							
<b>Total</b>	<b>1</b>	<b>1</b>	<b>12,784</b>	<b>1,278</b>	<b>12,784</b>	<b>128</b>	<b>1,392</b>

Table 9: Equipment required to vaccinate each target population in **Para**

Health Care Workforce	Carriers	Cold box	Syringe	Needles	Needles	Safety	Vials
RGD	1	1	51	5	51	1	6
MZ	1	1	1	-	1	0	-
Hospitals	-	-	-	-	-	-	-
BOG							
Other							
<b>Pregnant Women</b>							
RGD			909	91	909	9	99
MZ			48	5	48	0	5
Hospitals			-	-	-	-	-
BOG							
Other							
<b>Diabetes &amp; Chronic respiratory, cardiac, renal, liver &amp; neurologic disease</b>							
RGD	-	-	1,020	102	1,020	10	111
MZ			13	1	13	0	1
Hospitals			-	-	-	-	-
BOG	-	-	-	-	-	-	-
Other							
<b>Total</b>	<b>2</b>	<b>2</b>	<b>2,042</b>	<b>204</b>	<b>2,042</b>	<b>20</b>	<b>222</b>

Table 10: Equipment required to vaccinate each target population in **Commewijne**

Health Care Workforce	Carriers	Cold box	Syringe	Needles	Needles	Safety	Vials
RGD	1	1	71	7	71	1	8
MZ	-	-	-	-	-	-	-
Hospitals	-	-	-	-	-	-	-
BOG	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-
Pregnant Women							
RGD			455	45	455	5	50
MZ			-	-	-	-	-
Hospitals			-	-	-	-	-
BOG							
Other							
Diabetes & Chronic respiratory, cardiac, renal, liver & neurologic disease							
RGD			1,128	113	1,128	11	123
MZ			-	-	-	-	-
Hospitals			-	-	-	-	-
BOG	-	-	-	-	-	-	-
Other							
Total	1	1	1,653	165	1,653	17	180

Table 11: Equipment required to vaccinate each target population in **Saramacca**

Health Care Workforce	Carriers	Cold box	Syringe	Needles	Needles	Safety	Vials
RGD	1	1	40	4	40	0	4
MZ	-	-	-	-	-	-	-
Hospitals	-	-	-	-	-	-	-
BOG							
Other							
Pregnant Women							
RGD			152	15	152	2	17
MZ			-	-	-	-	-
Hospitals			-	-	-	-	-
BOG							
Other							
Diabetes & Chronic respiratory, cardiac, renal, liver & neurologic disease							
RGD			651	65	651	7	71
MZ			-	-	-	-	-
Hospitals			-	-	-	-	-
BOG	-	-	-	-	-	-	-
Other							
Total	1	1	843	84	843	8	92

Table 12: Equipment required to vaccinate each target population in **Nickerie**

Health Care Workforce	Carriers	Cold box	Syringe	Needles	Needles	Safety	Vials
RGD	1	1	61	6	61	1	7
MZ	-	-	-	-	-	-	-
Hospitals	1	1	707	71	707	7	77
BOG							
Other							
Pregnant Women							
RGD			404	40	404	4	44
MZ			-	-	-	-	-
Hospitals			45	5	45	0	5
BOG							
Other							
Diabetes & Chronic respiratory, cardiac, renal, liver & neurologic disease							
RGD			2,600	260	2,600	26	283
MZ			-	-	-	-	-
Hospitals			2,020	202	2,020	20	220
BOG	-	-	-	-	-	-	-
Other							
Total	2	2	5,837	584	5,837	58	636

Table 13: Equipment required to vaccinate each target population in **Coronie**

Health Care Workforce	Carriers	Cold box	Syringe	Needles	Needles	Safety	Vials
RGD	1	1	10	1	10	0	1
MZ	-	-	-	-	-	-	-
Hospitals	-	-	-	-	-	-	-
BOG							
Other							
Pregnant Women							
RGD			51	5	51	1	6
MZ			-	-	-	-	-
Hospitals			-	-	-	-	-
BOG							
Other							
Diabetes & Chronic respiratory, cardiac, renal, liver & neurologic disease							
RGD			110	11	110	1	12
MZ			-	-	-	-	-
Hospitals			-	-	-	-	-
BOG	-	-	-	-	-	-	-
Other							
Total	1	1	171	17	171	2	19

Table 14: Equipment required to vaccinate each target population in **Marowijne**

Health Care Workforce	Carriers	Cold box	Syringe	Needles	Needles	Safety	Vials
RGD	1	1	30	3	30	0	3
MZ	-	-	-	-	-	-	-
Hospitals	-	-	-	-	-	-	-
BOG							
Other							
<b>Pregnant Women</b>							
RGD			455	45	455	5	50
MZ			-	-	-	-	-
Hospitals			-	-	-	-	-
BOG							
Other							
<b>Diabetes &amp; Chronic respiratory, cardiac, renal, liver &amp; neurologic disease</b>							
RGD			962	96	962	10	105
MZ			-	-	-	-	-
Hospitals			-	-	-	-	-
BOG	-	-	-	-	-	-	-
Other							
<b>Total</b>	<b>1</b>	<b>1</b>	<b>1,446</b>	<b>145</b>	<b>1,446</b>	<b>14</b>	<b>158</b>

Table 15: Amount of equipment required to vaccinate each target population in **Brokopondo**

Health Care Workforce	Carriers	Cold box	Syringe	Needles	Needles	Safety	Vials
RGD	-	-	-	-	-	-	-
MZ	2	2	47	5	47	0	5
Hospitals	-	-	-	-	-	-	-
BOG							
Other							
<b>Pregnant Women</b>							
RGD			-	-	-	-	-
MZ			356	36	356	4	39
Hospitals			-	-	-	-	-
BOG							
Other							
<b>Diabetes &amp; Chronic respiratory, cardiac, renal, liver &amp; neurologic disease</b>							
RGD			-	-	-	-	-
MZ			141	14	141	1	15
Hospitals			-	-	-	-	-
BOG	-	-	-	-	-	-	-
Other							
<b>Total</b>	<b>2</b>	<b>2</b>	<b>544</b>	<b>54</b>	<b>544</b>	<b>5</b>	<b>59</b>

\* For all target groups

Table 16: Amount of equipment required to vaccinate each target population in **Sipaliwini**

Health Care Workforce	Carriers	Cold box	Syringe	Needles	Needles	Safety	Vials
RGD	-	-	-	-	-	-	-

MZ	10	10	155	15	155	2	17
Hospitals	-	-	-	-	-	-	-
BOG							
Other							
<b>Pregnant Women</b>							
RGD			-	-	-	-	-
MZ			1,203	120	1,203	12	131
Hospitals			-	-	-	-	-
BOG							
Other							
<b>Diabetes &amp; Chronic respiratory, cardiac, renal, liver &amp; neurologic disease</b>							
RGD			-	-	-	-	-
MZ			280	28	280	3	30
Hospitals			-	-	-	-	-
BOG	-	-	-	-	-	-	-
Other							
<b>Total</b>	<b>10</b>	<b>10</b>	<b>1,637</b>	<b>164</b>	<b>1,637</b>	<b>16</b>	<b>178</b>

\* For all target groups

Table 17: Summary of equipment required to vaccinate each target population by district

	<b>PMB</b>	<b>Wan</b>	<b>Para</b>	<b>Comm</b>	<b>Sar</b>	<b>Nick</b>	<b>Cor</b>	<b>MAR</b>	<b>Bro</b>	<b>SIP</b>	<b>Total</b>
<b>Population</b>	<b>34,485</b>	<b>12,657</b>	<b>2,021</b>	<b>1,637</b>	<b>835</b>	<b>5,779</b>	<b>169</b>	<b>1,432</b>	<b>539</b>	<b>1,621</b>	<b>61,175</b>
<b>Carriers</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>10</b>	<b>36</b>
<b>Cold box</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>10</b>	<b>36</b>
<b>Syringe</b>	<b>34,527</b>	<b>12,784</b>	<b>2,042</b>	<b>1,653</b>	<b>843</b>	<b>5,837</b>	<b>171</b>	<b>1,446</b>	<b>544</b>	<b>1,637</b>	<b>61,485</b>
<b>Needles</b>	<b>3,453</b>	<b>1,278</b>	<b>204</b>	<b>165</b>	<b>84</b>	<b>584</b>	<b>17</b>	<b>145</b>	<b>54</b>	<b>164</b>	<b>6,148</b>
<b>Needles</b>	<b>34,527</b>	<b>12,784</b>	<b>2,042</b>	<b>1,653</b>	<b>843</b>	<b>5,837</b>	<b>171</b>	<b>1,446</b>	<b>544</b>	<b>1,637</b>	<b>61,485</b>
<b>Safety</b>	<b>345</b>	<b>128</b>	<b>20</b>	<b>17</b>	<b>8</b>	<b>58</b>	<b>2</b>	<b>14</b>	<b>5</b>	<b>16</b>	<b>615</b>
<b>Vials</b>	<b>3,760</b>	<b>1,392</b>	<b>222</b>	<b>180</b>	<b>92</b>	<b>636</b>	<b>19</b>	<b>158</b>	<b>59</b>	<b>178</b>	<b>6,696</b>

## 9. Costs

There will be considerable costs in reaching the target populations and the distribution of vaccine to those outlined in table 3. The estimated costs incurred in vaccinating the target populations are summarized in detail in annex 2.

Table 18: Budget summary for the implementation of the vaccination campaign.

Activity Area	Estimated total cost of activity	National financing	External financing to be sought	
			Source A	Source B
Organization and management	14,800	7,800	6,500	500
Human resources and security	5,740	1,040	2,700	2,000
Vaccine Distribution Plan	24,000	19,000	5,000	0
Cold chain	24,700	8,450	11,250	5,000
Waste Management	7,500	5,800	1,200	500
Communication and Information	5,000	1,500	3,500	0
Risk communication and social mobilization	9,800	4,800	5,000	0
ESAVI Surveillance	14,000	9,000	1,000	4,000
Evaluation	13,000	8,500	3,500	1,000
<b>Total</b>	<b>118,540</b>	<b>65,890</b>	<b>39,650</b>	<b>13,000</b>

Following is a detailed breakdown of activities and costs per area of activity.

### 9.1. Management and Organization

The overall management of the deployment of Influenza A H1N1 2009 vaccine and the subsequent campaigns will be conducted under the direction of the TECHCOM who will report directly to the Director of Health, Ministry of Health, National Disaster Committee and International and Regional Organizations. This TECHCOM will ensure high level support of the Influenza A H1N1 2009 vaccine campaign.

Several sub committees will be assigned with specific tasks, i.e.:

- Implementation committee
- Political committee
- ESAVI Committee
- Social Mobilization and Communication committee
- Distribution committee
- Data information and reporting committee

The TechCom, in collaboration with the Implementation Committee and other committees mentioned, will decide on campaign commencement date, the prioritization of Influenza A H1N1 2009 vaccine doses after HCW & pregnant women have been vaccinated, and the development of a communication strategy. Following is an overview of the priority activities to be addressed, prior to implementation:

- Existence of a functional National Committee for Pandemic Response (Rampencommissie)
- Appointment of a Political Committee
- Appointment of an Operational Committee
- Appointment of a Logistics Manager

- Appointment of groups or sub commissions for vaccination, logistics, mass & targeted communication, security
- Coordination between the National Vaccination Committee/Commission/counsel and the National Committee for Pandemic Response
- Training in logistics management for all involved organizations
- Working communication system for exchange of information among levels of distribution
- Consolidation of needs and available resources, calculation of the current resource gap and preparation of an estimated budget
- Plan for Pandemic Influenza Vaccine introduction
- Security personnel to protect personnel that distribute or administer the vaccine at the BOG
- Supervisory plan and training of supervisors
- Plan of action and budget to higher authorities for funding

Table 19: Total funding Requested for Management and Organization

Activity	Total Budget Required	Government Funding requested	Funding Still Required
Organization and Management	US\$ 14,800	US\$ 8,300	US\$6,500

## 9.2. Human Resources and Security

The current existing health workforce is well resourced at current staffing levels to deal with the deployment and vaccination with the Influenza A H1N1 2009 vaccine. However, there will be some need for overtime and allowances to ensure all those in the target population are reached with vaccine. Medical students can be added to the workforce. The health care worker priority group will be reached within 7 days, as a priority, before the other community members are vaccinated.

An additional ½ day training course for supervisors will be conducted (after the micro planning workshop) to train supervisors to troubleshoot with any problems experienced in the field. These supervisors will also be responsible for data reporting, ESAVI and concerns from the field. Results of supervisory visits will be documented in a supervisory checklist tool that will be developed which will also be used to beyond this SIA to supervise routine EPI.

Following activities will need special attention prior to implementation:

- Identification of personnel needs to receive, repackage and dispatch supplies in the national and sub national warehouses.
- Identification of the personnel needed to ensure the security of personnel, facilities, equipment and supplies.
- Training of the closely involved health workers on the introduction of the pandemic vaccine.
- Request support from ministries, the armed forces, police, civil authorities, or NGOs for additional transportation as needed.
- Funding of overtime of implementation team and supervisory activities.

Approximately 1 week before commencement of the campaign a Vaccine Deployment Training Micro Planning Workshop will be held to ensure all vaccine providers fully understand the task at hand. Participants will be represented by all vaccine providers from all over Suriname including all institutions. The objectives of this workshop will be to:

- Place emphasis on the practical aspects of the campaign field activities.
- Ensure each district receives standardized information on all aspects of the campaign.

Table 20: Total funding Requested for Human Resources and Security

Activity	Total Budget Required	Government Funding requested	Funding Still Required
Human Resources and Security	US\$5,740	US\$1,040	US\$4,700

### 9.3. Vaccine Distribution Plan

It is anticipated that 80% of the Influenza A H1N1 2010 vaccine will be available at vaccination points in Suriname. Table 21 outlines the mode of travel and frequency of transport (fit to transport vaccines) to all vaccine points in Suriname from the institutions.

Table 21: Mode of travel and frequency of transport of vaccines to vaccination points

Institution	Mode of Travel	Frequency of Travel
BOG	Road	Daily
RGD	Road	Weekly- Daily
MZ	Boat, air & road	Weekly
Hospitals	Road	Daily

The costs and details of transporting vaccine to all vaccine points will require careful consideration. Vaccine will require air freighting or sent by boat in most areas of the Medical Mission. Costs of fuel and air freight are expensive and may require a number of deliveries depending on the cold chain.

Vaccine stock management systems in Suriname are fairly well developed for the routine childhood immunization program and the Influenza A H1N1 2009 vaccine will utilize these existing services.

Following activities, planning and budgeting will need attention prior to implementation:

- Transportation costs for distribution of vaccines and supplies in coastal area (8 districts) (by road) (fuel and transport rental)
- Transportation costs for distribution of vaccines and supplies in hinterland (by air, boat and road) (fuel and transport rental)
- Transportation costs for field personnel, vaccination teams, supervisors, etc. during campaign, in all 10 districts, during 1 week (road, air, boat)
- Transportation costs for training (35 health workers) and supervisory visits (10 districts)

Table 22: Total funding Requested for Vaccine distribution

Activity	Total Budget Required	Government Funding requested	Funding Still Required
Vaccine distribution	US\$ 24,000	US\$ 19,000	US\$ 5,000

### 9.4. Supply Chain & Cold Chain Processes

A brief information sheet for all health professionals covering all aspects of the Influenza A H1N1 2009 vaccine cold chain requirements is essential to ensure standardized information is available amongst health care workers at any time. This sheet would be quick and easy to produce with minimal cost.

The cold chain capacity will need to be increased in order to store this *Influenza A H1N1 2009* vaccine. Expansion of the storage capacity at national level and at peripheral level is requested in the cold chain budget.

Following activities will need priority attention before implementation:

- Estimation of the need for cold room storage for the pandemic vaccine at the national level
- Update of the current availability of cold room storage at the national level
- Expand cold chain capacity (5 refrigerators) for cold storage room
- Procurement of cold chain equipment (cold boxes, thermos, thermometers)
- Update of the availability of syringe storage for the campaign at the national level
- Secure sufficient supplies of vaccination needs (syringes, safety boxes, etc)

Table 23: Total funding Requested for supply chain & cold chain processes

Activity	Total Budget Required	Government Funding requested	Funding Still Required
Supply Chain & Cold Chain Processes	US\$ 17,500	US\$ 6,250	US\$ 11,250
Syringes and needles (60,000)	US\$ 6,000	US\$ 6,000	
Safety boxes (600)	US\$ 1,200	US\$ 1,200	
Total	US\$ 24,700	US \$ 13,450	US\$ 11,250

Note: If adjuvated vaccines: will need additional 5,000 syringes (5cc) and needles

## 9.5. Waste management

Currently there are 3 functioning incinerators in Suriname that deal with all medical waste. These incinerators are from private organizations, namely the SZN, AZ and Waspar. Agreements need to be drawn up and signed between MOH and these institutions for timely collection and incineration of waste resulting from the implementation.

Following activities will need to be addressed with priority, before implementation:

- Availability of biohazard boxes and bags for the vaccination campaign.
- Safety boxes to be used by each health facility (including disposal of used vials)
- Private entities contract for waste collection and disposal.
- Training of waste disposal handlers in safe handling of biohazard and sharps etc.
- Draft the plan to eliminate hazardous waste during the pandemic vaccination campaign

Table 24: Total funding requested for disposal of medical waste

Activity	Total Budget Required	Government Funding requested	Funding Still Required
Collection & disposal of medical waste	US\$ 7,500	US\$ 5,800	US\$ 1,200

## 9.6. Communication and Information

During any major immunization campaign communication and information management are critical to the success of the campaign. Sharing of accurate information about the vaccine, target groups, adverse events following immunization, vaccine arrival details and cold chain requirements, all require some kind of communication.

The most common form of communication in Suriname amongst vaccine providers is the use of land line phone and, in cases of emergency, cellular phones. Funding is required to ensure health workers in the community are able to communicate with the team leaders at all times. Funding has been allocated in the budget to ensure mobile phone communication can occur amongst vaccination teams.

Following is an overview of the priority activities to be addressed, prior to implementation:

- Develop H1N1 Immunization guidelines for immunization team and train the team.
- Develop a communication plan with all groups identified in it.
- Organize a 1-day workshop for communication, distribution, supervision, and other teams.
- Organize a workshop for information system management.

Table 25: Total funding requested for communication and information

Activity	Total Budget Required	Government Funding requested	Funding Still Required
Communication and information	US\$ 5,000	US\$ 1,500	US\$ 3,500

## 9.7. Risk Communication and social mobilization

Public awareness and information is key to the success of any public health campaign. It is essential to inform the public of the availability of vaccine, target populations and when & where the vaccine will be given. Pandemic influenza has in the past instilled a sense of fear in panic in the community and it is essential that with the availability of Influenza A H1N1 2009 vaccine the public is kept clearly informed of the facts. Funding will be needed for 1 media sensitization meeting with representatives from all media outlets, with the aim to provide clear and correct information to the press and public at large.

In addition to this, funding is needed for a public awareness campaign utilizing television, radio and print mediums, and will run for a total of 4 weeks during the vaccination campaign, in the relevant languages. The aim of the public awareness campaign is to effectively reach to targeted population groups.

Following activities will need special attention prior to and during the implementation phase:

- Develop a social communication and mobilization plan for the Pandemic influenza Vaccination.
- Plan and implement press briefings on regular basis.
- Appoint a spokesperson and mechanisms to ensure a timely response and the credibility of the information.
- Develop key messages in accordance with challenges and possible scenarios and target populations.
- Develop social mobilization plan for pregnant women.
- Appoint a Mass Communication Committee.
- Develop a webpage to provide information and answer the public's questions.
- Reactivate crisis phone line.
- Develop a crisis communication plan that includes a response to adverse events.

- Set up a system to monitor rumors and misinformation about the vaccine in order to adopt corrective measures.
- Develop and implement a public information strategy that provides timely information, as well as raises awareness and trains media workers on how to address the subject appropriately.

Table 26: Total funding requested for risk communication and social mobilization

Activity	Total Budget Required	Government Funding requested	Funding Still Required
Risk communication and social mobilization	US\$ 9,800	US\$ 4,800	US\$ 5,000

### 9.8. Events Supposedly Attributable to Vaccine or Immunization (ESAVI)

Suriname does not have a well functioning “Events Supposedly Attributable to Vaccine or Immunization” (ESAVI) system, as should be established as part of the childhood immunization program. Any ESAVI suspected by a doctor or a nurse has to be notified to the National Immunization Coordinator (EPI-manager) or National Epidemiologist.

It is anticipated that the existing system will be sufficient to detect any ESAVI from the Influenza A H1N1 2009 vaccine. This system will need to be functioning adequately prior to the roll out of the campaign. Training about ESAVI will also be included in the training course that will be conducted for the vaccine providers.

Following activities request special attention prior and during the implementation:

- Set up ESAVI crisis plan.
- Train multidisciplinary group to investigate cases (ESAVI-team).
- Set up system for collecting ESAVI reports.
- Set up system for investigation of all notified cases & follow up through ESAVI surveillance.
- Select the sentinel hospital to apply the protocol for determining causality.
- Set up and maintain needle stick injury reporting system.
- Provide training for health workers in safe injection practices.

Table 27: Total funding requested for post-marking surveillance

Activity	Total Budget Required	Government Funding requested	Funding Still Required
Post-Marking Surveillance	US\$ 14,000	US\$ 9,000	US\$ 5,000

### 9.9. Evaluation

Evaluation of the *Influenza A H1N1 2009* vaccine will take place at the completion with a written report submitted within 30 days to donors and regional agencies. The final report will include financial acquittals, coverage rates, reported ESAVI, and details of the major activities including;

1. Vaccination Strategies
2. Management and Organization
3. Communication and information
4. Human Resources
5. Public Information

6. Supply Chain Processes
7. Collection of medical waste resulting from a vaccination campaign using a pandemic influenza vaccine
8. Post-Marketing Surveillance
9. Evaluation

Finally, the collation and analysis of coverage data will be essential to make decisions about the impact the vaccine's had on the second wave of disease in Suriname. Entry of data, management of reports and follow up of missing reports from stations will require a person to focus on this task. This data will also satisfy reporting requirements for MOH and the donor community.

Following activities will need to be addressed before and during implementation:

- Design a flow chart of logistics & vaccination data at the local and national levels for daily information.
- Set up an information system to plan for vaccination and other supply distribution and needs at each level.
- Implement a program for rapid coverage monitoring.
- Set up a system for operational, epidemiological and economic evaluation during the vaccination campaign.
- Set up a system for documenting the conclusions and reporting on activities and lessons learned.
- Set up an information system to consolidate vaccination data by residence, age, and institution
- Implement meetings on closing out and concluding activities

Table 28: Total funding requested for evaluation

Activity	Total Budget Required	Government Funding requested	Funding Still Required
Evaluation	US\$ 13,000	US\$ 8,500	US\$ 4,500

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