Document of
**The World Bank**

Report No: ICR 89199-AR

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| IMPLEMENTATION COMPLETION AND RESULTS REPORT(IBRD-78430)ON ALOANIN THE AMOUNT OF US$229 MILLIONTO THEARGENTINE REPUBLICFOR ANEMERGENCY PROJECT FOR THE PREVENTION AND MANAGEMENT OF INFLUENZA-TYPE ILLNESS AND STRENGTHENING OF ARGENTINA’S EPIDEMIOLOGICAL SYSTEM June 25, 2014Human Development DepartmentArgentina, Paraguay and Uruguay Country Management UnitLatin America and the Caribbean Region |

**CURRENCY EQUIVALENTS**

(Exchange Rate Effective December 31, 2013)

Currency Unit = Argentine Peso (ARS)

ARS$6.4940 = US$1.00

US$1.00 = ARS$.1535

FISCAL YEAR

January 1 – December 31

**ABBREVIATIONS AND ACRONYMS**

ARI Acute Respiratory Infection

ARS Argentine Peso

CDC Centers for Disease Control and Prevention

COFESA Federal Health Council (*Consejo Federal de Salud)*

CONAIN National Immunization Commission *(Comisión Nacional de Inmunizaciones)*

CPS Country Partnership Strategy

EA Environmental Assessment

EPHF Essential Public Health Functions

ERL Emergency Recovery Loan

ETI Influenza type illness (E*nfermedad tipo influenza*)

FESP I Essential Public Health Functions and Programs Project I (*Funciones Esenciales y Programas Priorizados de Salud Publica*)

FESP II Essential Public Health Functions and Programs Project II *(Funciones Esenciales y Programas Priorizados de Salud Publica)*

EPI Expanded Program on Immunization

FHP Federal Health Plan

FM Financial Management

FY Fiscal Year

GDP Gross Domestic Product

GOA Government of Argentina

HSR Health Situation Room

ICB International Competitive Bidding

ICR Implementation Completion Report

ICU Intensive Care Unit

ILI Influenza-like Illness

IFR Interim Financial Reports

IP Indigenous People

IPP Indigenous People’s Plan

IRAG Severe Acute Respiratory Infection (*Infección Respiratoria Aguda Grave*)

ISR Implementation Status and Results Report

ITA Independent Technical Audit *(Auditoria Técnica Independiente*)

LAC Latin American and Caribbean Region

M&E Monitoring and Evaluation

MEFP Ministry of Economy and Public Finance

MOCS Operational Modules of Social Communication (*Módulos Operativos de Comunicación Social*)

MSN National Ministry of Health (*Ministerio de Salud de la Nación*)

OPRC Operations Procurement Review Committee

PAD Project Appraisal Document

PDI Project Development Indicators

PDO Project Development Objective

PPHP Priority Public Health Programs

PRONACEI National Program for the Control of Immunopreventable Diseases (*Programa Nacional de Control de Enfermedades Inmunoprevenibles)*

RBF Result-Based Financing

SARS Severe Acute Respiratory Syndrome

SIVILA Laboratory Surveillance System (*Sistema de Vigilancia de Laboratorios*)

SNVS National Health Surveillance System (*Sistema Nacional de Vigilancia de Salud*)

UFI-S International Health Financing Unit *(Unidad de Financiamiento Internacional de Salud)*

US United States

WHO World Health Organization

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| --- | --- |
| Vice President: | Jorge Familiar Calderón |
| Country Director: | Jesko Hentschel |
| Sector Manager: | Joana Godinho |
| Project Team Leader: | Vanina Camporeale |
| ICR Team Leader: | Claudia Macias |
| ICR Primary Author: | Natasha Zamecnik |

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| **ARGENTINA** |
| **Emergency Project for the Prevention and Management of Influenza Type Illness and Strengthening of Argentina’s Epidemiological System** |
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# Data Sheet

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| **A. Basic Information**  |

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| Country: | Argentina | Project Name: | Prevention and Management of Influenza Type Illness and Strengthening of Argentina's Epidemiological System Project  |
| Project ID: | P117377 | L/C/TF Number(s): | IBRD-78430 |
| ICR Date: | 06/25/2014 | ICR Type: | Core ICR |
| Lending Instrument: | ERL | Borrower: | REPUBLIC OF ARGENTINA |
| Original Total Commitment: | USD 229.00M | Disbursed Amount: | USD 141.00M |
| Revised Amount: | USD 141.00M |  |  |
| **Environmental Category:** **B** |
| **Implementing Agencies:**  National Ministry of Health  |
| **Cofinanciers and Other External Partners:**  |

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| B. Key Dates  |
| **Process** | **Date** | **Process** | **Original Date** | **Revised / Actual Date(s)** |
|  Concept Review: | 10/20/2009 | Effectiveness: | 04/30/2010 | 04/14/2010 |
|  Appraisal: | 10/21/2009 | Restructuring(s): |  | 05/12/201103/19/201203/01/2013 |
|  Approval: | 02/23/2010 | Mid-term Review: | 11/21/2011 | 11/21/2011 |
|   |  | Closing: | 03/31/2012 | 12/31/2013 |

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| C. Ratings Summary  |
| **C.1 Performance Rating by ICR** |
|  Outcomes: | Satisfactory |
|  Risk to Development Outcome: | Moderate |
|  Bank Performance: | Moderately Satisfactory |
|  Borrower Performance: | Satisfactory |

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| **C.2 Detailed Ratings of Bank and Borrower Performance (by ICR)** |
| **Bank** | **Ratings** | **Borrower** | **Ratings** |
| Quality at Entry: | Satisfactory | Government: | Satisfactory |
| Quality of Supervision: | Moderately Satisfactory | Implementing Agency/Agencies: | Satisfactory |
| **Overall Bank Performance:** | Moderately Satisfactory | **Overall Borrower Performance:** | Satisfactory |

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| **C.3 Quality at Entry and Implementation Performance Indicators** |
| **Implementation Performance** | **Indicators** | **QAG Assessments (if any)** | **Rating**  |
|  Potential Problem Project at any time (Yes/No): | No | Quality at Entry (QEA): | None |
|  Problem Project at any time (Yes/No): | No | Quality of Supervision (QSA): | None |
|  DO rating before Closing/Inactive status: | Satisfactory |  |  |

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| D. Sector and Theme Codes  |
|  | **Original** | **Actual** |
| **Sector Code (as % of total Bank financing)** |  |  |
|  Health | 100 | 100 |

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| **Theme Code (as % of total Bank financing)** |  |  |
|  Health system performance | 81 | 90 |
|  Other communicable diseases | 19 | 10 |

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| E. Bank Staff  |
| **Positions** | **At ICR** | **At Approval** |
|  Vice President: | Jorge Familiar Calderon | Pamela Cox |
|  Country Director: | Jesko S. Hentschel | Pedro Alba |
|  Sector Manager: | Joana Godinho | Keith E. Hansen |
|  Project Team Leader: | Vanina Camporeale | Fernando Lavadenz |
|  ICR Team Leader: | Claudia Macias |  |
|  ICR Primary Author: | Natasha Zamecnik |  |

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| F. Results Framework Analysis  |
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| **Project Development Objectives (from Project Appraisal Document)** |

The objective of the Project is to strengthen the capacity of the Borrower's epidemiological health surveillance system: (a) to prevent, monitor and evaluate influenza activity; and (b) to control epidemic waves of the A/H1N1 influenza.

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| **Revised Project Development Objectives (as approved by original approving authority)** |

N/A

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|  **(a) PDO Indicator(s)** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Indicator** | **Baseline Value** | **Original Target Values (from approval documents)** | **Formally Revised Target Values** | **Actual Value Achieved at Completion or Target Years** |
| **Indicator** **1 :**  | Health Situation Rooms (HSR) Certified. |
| Value quantitative or Qualitative)  | 0 | 40 | 38 | 36 |
| Date achieved | 01/26/2010 | 03/31/2012 | 03/31/2013 | 11/14/2013 |
| Comments (incl. % achievement)  | The PAD did not differentiate between PDO indicators and intermediate results indicators. Project results are measured by 14 intermediate indicators, out of which five were selected to measure the PDO. This indicator is one and is included here for system purposes. |

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| **(b) Intermediate Outcome Indicator(s)** |

| **Indicator** | **Baseline Value** | **Original Target Values (from approval documents)** | **Formally Revised Target Values** | **Actual Value Achieved at Completion or Target Years** |
| --- | --- | --- | --- | --- |
| **Indicator 1 :**  | Health Situation Rooms (HSR) Certified. |
| Value (quantitative or Qualitative)  | 0 | 40 | 38 | 36 |
| Date achieved | 01/26/2010 | 03/31/2012 | 03/31/2013 | 11/14/2013 |
| Comments (incl. % achievement)  | Target partially achieved. |
| **Indicator 2 :**  | Health Situation Rooms – Level II accredited. |
| Value (quantitative or Qualitative)  | 0 | 16 |   | 28 |
| Date achieved | 03/19/2012 | 12/31/2013 |  | 11/14/2013 |
| Comments (incl. % achievement)  | Target surpassed. New indicator and target included through 2nd restructuring. |
| **Indicator 3 :**  | Operational Modules of Social Communication (MOCS) implemented (excluding indigenous people MOCS). |
| Value (quantitative or Qualitative)  | 1% | 90% |   | 90% |
| Date achieved | 01/26/2010 | 03/31/2012 |  | 11/14/2013 |
| Comments (incl. % achievement)  | Target achieved as reported by MSN. This is one of the five key indicators for purposes of measuring the PDO. |
| **Indicator 4 :**  | Operational modules of Social Communication (MOCS) for indigenous people implemented. |
| Value (quantitative or Qualitative)  | 1% | 90% |   | 90% |
| Date achieved | 01/26/2010 | 03/31/2012 |  | 11/14/2013 |
| Comments (incl. % achievement)  | Target achieved as reported by MSN. |
| **Indicator 5 :**  | Dose of A/H1N1 vaccine applied. |
| Value (quantitative or Qualitative)  | 1% | 90% |   | 107.8% |
| Date achieved | 01/26/2010 | 03/31/2012 |  | 11/14/2012 |
| Comments (incl. % achievement)  | Target surpassed for 2011 vaccination campaign as reported to the National Health Surveillance System (SNVS) as 4.5 million doses were applied (above the 4.2 million anticipated). Source: EPI This is one of the five key indicators for measuring PDO. |
| **Indicator 6 :**  | Dose of Pneumococcal vaccine applied. |
| Value (quantitative or Qualitative)  | 0% | 90% | 85% | 99.3% |
| Date achieved | 01/26/2010 | 03/31/2012 | 03/31/2012 | 11/14/2013 |
| Comments (incl. % achievement)  | Target surpassed in 2011 vaccination campaign. Source: EPIThis is one of the five key indicators for purposes of measuring the PDO. |
| **Indicator 7 :**  | Dose of A/H1N1 vaccine included in National Calendar applied. |
| Value (quantitative or Qualitative)  | 0% | 80% |   | 87.6% |
| Date achieved | 03/19/2012 | 12/31/2013 |  | 11/14/2013 |
| Comments (incl. % achievement)  | Target surpassed. Source: PRONACEI. New indicator and target included through 2nd restructuring. |
| **Indicator 8 :**  | Dose of Pneumococcal vaccine included in National Calendar applied. |
| Value (quantitative or Qualitative)  | 52% | 80% |   | 85% |
| Date achieved | 03/19/2012 | 12/31/2013 |  | 11/14/2013 |
| Comments (incl. % achievement)  | Target surpassed. Source: PRONACEI. New indicator and target included through 2nd restructuring. |
| **Indicator 9 :**  | Outpatient treatment provided. |
| Value (quantitative or Qualitative)  | 0% | 90% |   | 99% |
| Date achieved | 01/26/2010 | 03/31/2012 |  | 11/14/2013 |
| Comments (incl. % achievement)  | Indicator achieved and target surpassed. Source: EPI |
| **Indicator 10 :**  | Inpatient treatment provided in hospitalization. |
| Value (quantitative or Qualitative)  | 0 | 10,000 |   | Not measured |
| Date achieved | 01/26/2010 | 03/31/2012 |  | 11/14/2013 |
| Comments (incl. % achievement)  | Indicator not measured due to pandemic control. |
| **Indicator 11 :**  | Inpatient treatment provided in hospital due to Acute Respiratory Infection. |
| Value (quantitative or Qualitative)  | 27,284 | 30,000 |   | 40,936 |
| Date achieved | 01/26/2010 | 03/31/2012 |  | 11/14/2013 |
| Comments (incl. % achievement)  | Target surpassed. Source: EPI |
| **Indicator 12 :**  | Inpatient treatment provided in ICU. |
| Value (quantitative or Qualitative)  | 0 | 1000 |   | Not measured |
| Date achieved | 01/26/2010 | 03/31/2012 |  | 11/14/2013 |
| Comments (incl. % achievement)  | Indicator not measured due to pandemic control. |
| **Indicator 13 :**  | Influenza diagnostic laboratory test carried out in 2010 and 2011. |
| Value (quantitative or Qualitative)  | 0 | 24,000 | 54,000 | 65,341 |
| Date achieved | 01/26/2010 | 03/31/2012 | 03/31/2012 | 12/31/2013 |
| Comments (incl. % achievement)  | Target surpassed. This is one of the five key indicators for purposes of measuring the PDO. |
| **Indicator** **14 :**  | Independent technical audits (ITA) performed. |
| Value (quantitative or Qualitative)  | 0 | 8 |   | 8 |
| Date achieved | 01/26/2010 | 03/31/2012 |  | 11/14/2013 |
| Comments (incl. % achievement)  | Target achieved. |

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| G. Ratings of Project Performance in ISRs |
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| --- | --- | --- | --- | --- |
| **No.** | **Date ISR** **Archived** | **DO** | **IP** | **Actual Disbursements****(USD millions)** |
|  1 | 06/28/2010 | Satisfactory | Satisfactory | 90.00 |
|  2 | 02/23/2011 | Satisfactory | Satisfactory | 129.81 |
|  3 | 09/07/2011 | Satisfactory | Satisfactory | 130.57 |
|  4 | 03/21/2012 | Satisfactory | Satisfactory | 132.15 |
|  5 | 11/17/2012 | Satisfactory | Satisfactory | 136.15 |
|  6 | 07/09/2013 | Satisfactory | Satisfactory | 139.70 |
|  7 | 12/30/2013 | Satisfactory | Satisfactory | 140.43 |

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| H. Restructuring (if any)  |

| **Restructuring Date(s)** | **Board Approved PDO Change** | **ISR Ratings at Restructuring** | **Amount Disbursed at Restructuring in USD millions** | **Reason for Restructuring & Key Changes Made** |
| --- | --- | --- | --- | --- |
| **DO** | **IP** |
|  05/12/2011 | N | S | S | 129.81 | Cancelation of US$88 million of the Loan amount and reallocation of Loan proceeds. |
|  03/19/2012 |  | S | S | 132.15 | First extension of the Project’s closing date by 12 months, modification of Project indicators and reallocation of loan proceeds. |
|  03/01/2013 |  | S | S | 138.98 | Second extension of the closing date. |

## I. Disbursement Profile



## 1. Project Context, Development Objectives and Design

### 1.1 Context at Appraisal

1. **Following the detection of A/H1N1 Influenza virus in Mexico in April 2009, the disease quickly spread and was declared a worldwide pandemic.** By May, widespread infection had occurred in North America and by June 73 countries had reported over 25,000 laboratory confirmed cases.[[1]](#footnote-1) On June 11, 2009 the World Health Organization (WHO) declared the Influenza Outbreak a phase six pandemic, signaling that the virus had sustained community level outbreaks in at least one other country in a different WHO region and that a pandemic was underway.
2. **Argentina was strongly impacted, resulting in high mortality and morbidy rates.** [[2]](#footnote-2) On May 10, 2009 Argentina’s epidemiological surveillance system detected the first clinical case of A/H1N1 among passengers returning from Mexico. Following the initial case, the virus spread quickly throughout the country, with peak transmission occurring during the winter months. By January 2010, the death toll in Argentina had exceeded 600 people in 21 provinces, higher than in Mexico, while cases of influenza-like illness and hospitalizations numbered over 1.2 million and 12,000, respectively.[[3]](#footnote-3) [[4]](#footnote-4)
3. **Starting in 2009, Argentina followed an integrated Response Plan for Influenza Pandemic and Severe Acute Respiratory Syndrome (SARS).** A quick and harmonized response between national and provincial governments and an existing Response Plan regardingcoordination, surveillance, vaccines and antiviral treatment, health services planning and communication contributed to the detection and containment of the outbreak. The Government of Argentina (GOA) earmarked 1,000 million Argentine Pesos (about US$260 million) to fight the pandemic through the purchase of antiviral medication, equipment (respirators, oxygen equipment, and laboratory supplies) and to hire health staff to respond to increased health service demand.[[5]](#footnote-5) The National Ministry of Health (*Ministerio de Salud de la Nación* -- MSN) unified the country’s treatment and diagnostic criteria for epidemic control and distributed health resources to both public and private health facilities, allowing the population to receive free treatment for A/H1N1 in all hospitals. Through the Federal Health Council (*Consejo Federal de Salud* -- COFESA), the Ministers of Health of each province harmonized measures for confronting the pandemic and agreed that funds would be utilized according to strict health criteria and the jurisdictional needs. Five measures proved especially effective in the country’s initial response: (i) advancing school recess by four weeks to allow children to stay home during flu season; (ii) special leave at work for identified risk groups; (iii) ensuring availability of antiviral treatment to anyone who presented symptoms; (iv) intensifying a public awareness campaign; and (v) strengthening health care services for ambulatory and hospitalized patients. In addition, local governments implemented social distancing measures, temporarily closing mass public activities, such as entertainment events to reduce viral circulation of the epidemic.
4. **Despite the strengthening of Argentina’s primary health care (*Atención Primaria de Salud*) during the previous decade, the epidemic revealed weaknesses in the system.** An evaluation of the country’s influenza pandemic preparedness revealed strains on the surveillance and laboratory systems during peak transmission. The epidemiological surveillance and laboratory systems needed capacity strengthening to quickly gather data, generate an accurate diagnosis and respond effectively during a pandemic.
5. **The World Bank collaborated with Argentina during the 2009 A/H1N1 outbreak through the rapid processing of approximately US$7.5 million from the emergency component of the Essential Public Health Functions I Project** **(FESP- P090993, Loan 7412), which was specifically designed to address emergencies and epidemic outbreaks.** Initial technical evaluation of loan proceeds used for A/H1N1 showed the impact that timely funds had mitigating risks, with Argentina allocating the resources based on a pre-approved plan for Avian Flu. The World Bank had extensive experience in supporting governments worldwide in preparing for and responding to influenza epidemics, controlling infectious diseases, and in strengthening national epidemiological surveillance systems. This experience included that acquired through the Global Program on Avian Influenza, response to the SARS epidemic, HIV/AIDS pandemic and dengue epidemic.[[6]](#footnote-6)
6. **Following up on the emergency component under the FESP I operation, the GOA asked the World Bank for a new project to prepare for a possible second A/H1N1 wave.[[7]](#footnote-7)** Scientific studies and epidemiologists had predicted a second A/H1N1 wave in 2010 and Argentina’s National Immunization Commission (*Comisión Nacional de Inmunizaciones* -- CONAIN) recommended the strategic stockpiling of the vaccine as an element of the seasonal flu vaccine strategy (improving coverage). The Project was aligned with the World Bank Group’s Country Partnership Strategy (CPS) 2010-2012 (Report # 48476) discussed by the Executive Directors on May 6, 2009, in which one of the principal objectives was to consolidate improvements made to the health sector and complement ongoing activities of the FESP I Project, the Provincial Maternal-Child Health Investment Project (P071025, Loan 7225) and the Provincial Maternal-Child Health Investment Project Second Phase (P095515, Loan 7409) or *Plan Nacer*.[[8]](#footnote-8) The Project was closely aligned with three pillars of the CPS: sustainable growth with equity, social inclusion and improved governance, in which one of the principal objectives was to consolidate health improvements.
7. **The Project adopted a Results-Based Financing (RBF) mechanism, considering the successful experience of this scheme in previous World Bank financed health operations and existing local RBF capacity**.

### 1.2 Original Project Development Objectives (PDO) and Key Indicators

1. **The PDO was to strengthen the capacity of Argentina’s epidemiological health surveillance system: (a) to prevent, monitor and evaluate influenza activity; and (b) to control epidemic waves of the A/H1N1 influenza.** The Project’s results, as presented in the Project Appraisal Document (PAD), were to be measured through 14 intermediate outcome indicators. The PAD indicates five out of the 14 intermediate outcome indicators to serve as key indicators for purposes of measuring the PDO, although not labeled as PDO-level indicators in the PAD results framework.[[9]](#footnote-9) Nine of the intermediate outcome indicators were also output indicators for purposes of disbursement under the RBF scheme.[[10]](#footnote-10) The Project’s key indicators were:
* Key Indicator 1: Health Situation Rooms (HSR) Certified
* Key Indicator 3: Operational Modules of Social Communication (MOCS) implemented
* Key Indicator 5: Dose of A/H1N1 vaccine applied
* Key Indicator 6: Dose of Pneumococcal vaccine applied
* Key Indicator 13: Influenza diagnostic laboratory test carried out in 2010 and 2011

### 1.3 Revised PDO (as approved by original approving authority) and Key Indicators, and reasons/justification

1. **The original PDO remained valid and unchanged throughout Project implementation.** Two of the key indicators were revisedto improve Project performance monitoring:
* **Key Indicator 1: The target for “HSRs Certified”[[11]](#footnote-11) was revised from 40 to 38.** The target for this indicator was mistakenly stated at appraisal. Instead of 40 situation rooms, the target should have been 38.
* **Key Indicator 6: The target for the “Dose of Pneumococcal vaccine applied” indicator was revised downward from 90 percent to 85 percent.** According to theGovernment, an under-reporting of doses applied in the health facilities was the main reason the indicator remained below its target following the 2010 vaccination campaign.The Government anticipated an improvement of results in 2011 by adding the vaccine to theAnnual Calendar but nonetheless requested a target reduction given the recent introduction of the vaccine in the country.

### 1.4 Main Beneficiaries

1. **The Project’s direct beneficiaries included the over 13 million people that received vaccines, laboratory tests, and ambulatory and intensive care treatment.** A/H1N1 vaccines targeted those most vulnerable to the virus (7.5 million in 2010 and 4.6 million in 2011),[[12]](#footnote-12) and pneumococcal vaccines 830,801 high-risk individuals (135,308 in 2010 and 695,493 in 2011). Further, 65,341 (12,432 in 2010 and 52,909 in 2011) individuals exposed to influenza-like symptoms benefitted from early treatment through loan-financed lab tests, over two million received ambulatory treatment (2010 and 2011) and over 100,000 (2010-2012) were treated in hospitals, including those in intensive health care units. Approximately 200 individuals received training in an epidemiology postgraduate course.

### 1.5 Original Components

1. **The Project consisted of the following three components (Annex 2):**
* **Component 1: Strengthening the capacity of the Borrower’s epidemiological health system for surveillance and influenza case-finding (US$10.2 million).** The component included: (i) expansion and quality improvement of the epidemiological surveillance, (ii) activities aimed at coordinating human and animal health surveillance, (iii) carrying out of joint research with agencies, (iv) carrying out of prevention and vaccination promotion media campaigns at the provincial level, and (v) provision of training to health care service providers on the management of A/H1N1 influenza pandemic surveillance, hospital infections and control, promotion and prevention related aspects.
* **Component 2: Strengthening the Borrower’s health system response capacity to reduce the communicability of the influenza virus and improve medical care of those affected by influenza (US$217.2 million).** The component financed the application of A/H1N1 and pneumococcal vaccines, provision of outpatient treatment to symptomatic populations with respiratory conditions and treatment of patients with a respiratory condition.
* **Component 3: Project Management and Monitoring, and Technical Audits (US$1.6 million).**

### 1.6 Revised Components:

1. **The components were not revised during implementation.**

###

### 1.7 Other significant changes

1. **The Project had three level II restructurings:**
* **The first restructuring, approved on May 12, 2011, processed a partial cancellation of US$88 million in retroactive financing, reducing the financed amount to US$141 million, and reallocating loan proceeds.** The cancellation did not impact the achievement of the Project’s indicators, since the vaccines, which were not recognized as eligible expenditures by the World Bank’s Operations Procurement Review Committee (OPRC), were financed by the national budget. The restructuring reducedCategory of disbursement 2 (goods) from US$181.8 million to US$82.8 million and increased Category 4 (outputs) from US$37.5 million to US$50.13 million.[[13]](#footnote-13)
* **The second restructuring, approved on March 19, 2012, supported the attainment of Project targets by (i) extending the closing date by 12 months from March 31, 2012, to March 31, 2013, (ii) adjusting Project indicators, and (iii) reallocating loan proceeds.**[[14]](#footnote-14) The following indicators were added to the results framework:
* The Borrower requested the introduction of more complex certification criteria for the HSR’s given that 19 out of 38 HSRs had in the first year of Project implementation achieved 100 percent accreditation according to key indicator 1 criteria. Indicator 2 - Level II HSR accreditation was added to the results framework.
* The following indicators were added once key indicators 4 and 5 had been achieved and the A/H1N1 and pneumococcal vaccines were incorporated into the National Vaccine Calendar: “Dose of A/H1N1 vaccine included in National Calendar applied” (indicator 7) and “Dose of Pneumococcal vaccine included in National Calendar applied” (indicator 8).
* **The third restructuring, approved on March 1, 2013, extended for a second time the Project closing date from March 31, 2013 to December 31, 2013 to conclude Project activities.** The extension provided additional time to complete the third and last independent certification for the Level II HSR accreditation and complete operational research activities at the provincial level, the epidemiology postgraduate course, and the purchase of ambulances.

## 2. Key Factors Affecting Implementation and Outcomes

### 2.1 Project Preparation, Design and Quality at Entry

1. **Project preparation and design were appropriately responsive to Government and health sector priorities.** The Project responded to the GOA’s request for assistance in the monitoring, prevention and control of the A/H1N1 influenza pandemic. The Government demonstrated a high level of commitment to the Project with prompt preparation and processing of all steps necessary to ensure Project readiness. The World Bank’s active and productive engagement with the GOA and long experience with Argentina’s health sector led to close cooperation in Project design and to a fast response through an Emergency Recovery Loan (ERL). An alternative instrument was not considered given the crisis nature of the situation and the fact that the Project met the criteria defined under emergency operations. Weaknesses in the results framework design slightly impacted the ability to evaluate Project achievements (See section 2.3).
2. **Project design was based on a detailed sector analysis, in line with the GOA’s Federal Health Plan (FHP), an economic analysis and incorporated lessons learned from other operations and international experience.** It also linked disbursements to the achievement of results (outputs), which has been shown to lead to improve performance and management.[[15]](#footnote-15) Project design relied on the existing Integral Plan for the Prevention of an Influenza Pandemic (*Unidad de Coordinación General del Plan Integral para la Prevención de Pandemia de Influenza),* developed jointly between the MSN and the Ministry of the Interior in 2007, adapted to existing health conditions and utilized in the implementation of GOA measures against the A/H1N1. An economic analysis conducted during preparation revealed that the benefit of strengthening epidemic mitigation capacity was greater than the (avoided) cost of an unmitigated A/H1N1 epidemic wave.

### 2.2 Implementation

1. **Overall Project implementation was satisfactory.** The Project had satisfactory ratings throughout implementation and achieved four out of the five key indicators and seven out of the remaining nine indicators. Of the three indicators that were not achieved, one achieved 95 percent of its target, and two were not measured due to pandemic control.
2. **The RBF mechanism facilitated relations between the MSN and the provinces and enhanced performance incentives.** The RBF mechanism was initiated under the FESP and Provincial Maternal-Child Health Investment projects to improve the functioning of the health system via incremental incentive-based payments. Since the RBF mechanism provided funds above those earmarked in the provincial budget, it generated an extra incentive for provincial and central government to comply with Project requirements. Nine of the 14 indicators operated as result-based indicators receiving disbursements once the results were achieved and certified by an Independent Technical Audit *(Auditoria Técnica Independiente*).
3. **Project implementation benefitted from existing World Bank-financed health sector projects and was executed using existing structures.** The Project was implemented by the MSN with the International Health Financing Unit (*Unidad de Financiamiento Internacional de Salud --* UFI-S) serving as coordinator of Project activities. The signing of Performance Agreements formalized the engagement between the MSN and 23 provincial governments for A/H1N1 Project implementation. Implementation was facilitated by the use of FESP’s existing social and environmental safeguard mechanisms.
4. **Problems in utilizing retroactive financing prevented the GOA from taking advantage of the emergency instrument.**In line with OP/BP 8.00, the Loan had provisions to reimburse the GOA for up to 40 percent of the loan amount (US$91.6 million) for eligible expenditures incurred since the outbreak of the 2009 A/H1N1 influenza virus, as long as after April 30, 2009, under expedited World Bank procurement procedures. The GOA obtained the first disbursement, an advance of US$90 million, on April 26 2011, 12 days after Project effectiveness. Nevertheless, the World Bank did not authorize the use of Project funds to retro-finance the vaccines purchased prior to Loan Agreement signing (See Section 2.4 Procurement).
5. **The GOA successfully realigned the Project focus.** With the denial of retroactive financing for the purchased vaccines (that represented such a large loan allocation), the GOA and the World Bank evaluated options for Project adjustments. As a result, in addition to the cancellation of US$88 million, Project activities were revised, and the public health intelligence system and the health network were strengthened through the upgrading of equipment and mobile and urgency systems.

### 2.3 Monitoring and Evaluation (M&E) Design, Implementation and Utilization

1. **Design of the M&E framework was appropriate considering the relevance and quality of indicators.** Due to the difficulty in attributing outcomes in emergency response projects for influenza outbreaks, the World Bank team responsible for Project preparation decided to focus on intermediate outcomes to measure Project achievements. The results framework did not formally differentiate between PDO-level indicators and intermediate-level indicators. The five indicators defined in the PAD to measure Project results were labeled as “key indicators” in this ICR. The Project’s first sub-objective - to prevent, monitor and evaluate influenza activity, was to be measured by two key indicators: (i) HSRs certified (key indicator 1), and (ii) Operational MOCS implemented (key indicator 3). The second sub-objective - to control epidemic waves of the A/H1N1 influenza, was measured by three key indicators: (i) dose of A/H1N1 vaccine applied (key indicator 5), (ii) dose of Pneumococcal vaccine applied (key indicator 6), and (iii) influenza diagnostic laboratory test carried out in 2010 and 2011 (key indicator 13).
2. **Despite some deficiencies, the M&E framework served to track progress towards the achievement of Project PDO and was used as an important management tool to inform decision making.** The PAD’s results framework and monitoring (Annex 2) had some inconsistencies regarding the roles and responsibilities for collecting, reporting, and analyzing data for some of the indicators. Further, since most Project indicators operated as result-based disbursements they were monitored by two different verification sources (i) MSN (including Expanded Program on Immunization (EPI) for vaccination and treatment, and the Laboratory Surveillance System (*Sistema de Vigilancia de Laboratorios* – SIVILA) for the laboratory testing for the achievement of targets), and (ii) the ITA for the verification of outputs for disbursement purposes. Project indicators linked to disbursements included: (i) HSR Certified (key indicator 1), (ii) operational MOCS implemented (key indicator 3), operational MOCS for indigenous people implemented (indicator 4), (iv) dose of A/H1N1 vaccine applied (key indicator 5), (v) dose of Pneumococcal vaccine applied (key indicator 6), (vi) outpatient treatment provided (indicator 9), (vii) inpatient treatment provided in hospitalization (indicator 10), (viii) inpatient treatment provided in ICU (indicator 12), and (ix) influenza diagnostic laboratory test carried out in 2010 and 2011 (key indicator 13). The dichotomy was not an issue except for key indicator 2, for which results differ by source – MSN or ITA. The World Bank and GOA teams used ITA as the source of verification only for disbursement purposes.
3. **The certification and compliance validation of results strengthened the MSN’s M&E capability at the national and provincial level.** The Project financed eight technical audits, which provided evidence for the reimbursement of expenses. Since the Project was executed by different technical units at the provincial and national levels, the know-how involved in providing the information requested by the auditors as well as more general M&E knowledge was strengthened and sustained within each unit. This was particularly true at the provincial level.

### 2.4 Safeguard and Fiduciary Compliance

1. **The Environmental Safeguard was triggered (OP4.01) as a result of the increase in health care waste production due to the implementation of Component 2.** Environmental safeguards coincided with those within the FESP framework, generating synergies between both Projects. The safeguard was based on environmental diagnostics realized in Argentine hospitals via FESP, for the control of health care waste in health establishments, including the disposal of vaccines. Medical waste management demonstrated full compliance with environmental safeguard measures in participating hospitals, including bio-safety regulation compliance, use of disposable supplies, bio-contaminated product segregation, and use of approved medical waste containers. Furthermore, the Project contributed to the development of a National Guide for the management and disposal of vaccines and segregation of bio-contaminated products, and supervised 30 provincial hospitals, surpassing the 21 hospitals initially considered, proving a satisfactory outcome, as rated in the last Implementation Status and Results Report (ISR).
2. **The Indigenous People (IP) Safeguard was triggered in 15 out of the 23 provinces in accordance with the Indigenous Peoples Plan (IPP).** These provinces already counted with IPPs, prepared in consultation with the Indigenous Participation Council of the National Institute for Indigenous Affairs during FESP I Project preparation.[[16]](#footnote-16) IPPs contained activities designed to make the delivery of Priority Public Health Programs (PPHPs) more culturally relevant and sensitive. The Project disseminated locally-appropriate materials and in some cases indigenous language materials promoting vaccination against A/H1N1, and communication regarding self-care and early symptoms detection via the Social Communication Modules. Achievement of the IP safeguard was rated highly satisfactory in the last ISR.
3. **Financial Management (FM) arrangements in terms of accounting, budgeting, flow of funds; internal control, external audit and financial reporting were performed satisfactorily in accordance with the last ISR.** Overall Project FM ISR ratings ranged from moderately satisfactory to satisfactory during Project implementation.The Project team had a constructive engagement with the World Bank on FM aspects throughout implementation. FM advice was provided in a timely manner. Minor FM shortcomings identified during supervision missions were properly addressed by the Project team and FM agreed actions were fully complied with. As a result of this effort, the quality and timeliness of the Interim Financial Reports (IFRs) improved. Financial statements audit reports were submitted to the World Bank with some delay; were reviewed and found acceptable. The final audit report is expected to be submitted on June 30, 2014. In addition to financial audits, the Project had independent technical audits (ITA) carried out by the private firm "*Bértora y Asociados*", whose objective was to audit the veracity and reliability of health intervention results linked to disbursements (outputs). ITA reports were reviewed whenever outputs were documented with IFR submissions.
4. **In May 2012 an Independent Procurement Review was conducted, which included a review of UFI-S capacity to handle procurement, and of a sample of contracts.** The findings showed significant efforts undertaken by the UFI-S to maintain and comply with procurement regulations, good internal control mechanisms and adequate procurement performance, while highlighting some procurement management weaknesses.Despite risks and characteristics of the vaccine market included in the PAD, the World Bank decided not to finance (retroactively) the purchase of vaccines because the purchase process carried out by the GOA resulted in a single offer. According to the Operations Procurement Review Committee (OPRC), the GOA should have used an international competitive bidding (ICB) method to attract more suppliers and obtain the best available market price. According to the GOA, the use of an ICB could have compromised the ability of the country to obtain the necessary vaccines and/or to obtain them in a timely manner. In addition, there was a Government's understanding that supply conditions were limited due to the high demand for vaccines from USA and European countries. Procurement delays emerged with the purchase of other goods eligible under the Project, such as antiviral treatments (Oseltamivir and Zanamivir), oximeters and ambulances.[[17]](#footnote-17)

### 2.5 Post-completion Operation/Next Phase

1. **The current administration continues to prioritize a reduction in acute respiratory infections (ARI) and sustain the advances achieved in the A/H1N1 vaccination campaign.** In 2011 the A/H1N1 vaccine for high-risk individuals and on January 1, 2012 the pneumococcal vaccine for children under two years of age were introduced into the National Calendar schedule. According to the National Program for the Control of Inmunopreventable Diseases (*Programa Nacional de Control de Enfermedades Inmunoprevenibles* -- PRONACEI*)* reports, A/H1N1 and pneumococcal coverage remained high following Project completion, at 90 percent and 82.4 percent in 2013, respectively. The recent construction of an influenza vaccine plant in Buenos Aires province will allow the country to produce and export seasonal and pandemic influenza vaccines.
2. **The World Bank continues to have a strong presence in the Argentine health sector.** The Essential Public Health Functions and Programs II Project (FESP II, Loan. 7412-AR, P110599), in the amount of US$ 461 million was approved by the Board on December 20, 2010. The five-year project has two PDOs: (i) improve the stewardship role of the federal public health system, through the strengthening of Essential Public Health Functions (EPHFs), and (ii) increase the coverage and clinical governance of priority public health programs (PPHPs). In addition to FESP II and Provincial Maternal-Child Health Investment Project, the World Bank is currently assisting the GOA to prepare a project supporting the prevention and control of chronic conditions and illnesses, which would reproduce the Project’s execution mechanism.

## 3. Assessment of Outcomes

### 3.1 Relevance of Objectives, Design and Implementation

1. **Project objectives, design and implementation remain highly relevant.** The Project’s objectives are consistent with the GOA’s FHP 2011-2016 and with national health system strengthening. The emphasis on surveillance and laboratory systems is important since they provide crucial input on seasonal virus fluctuations and on possible health epidemics.[[18]](#footnote-18)
2. **The Project produced concrete strategic and operational advances in the monitoring and control of the A/H1N1 flu epidemic in Argentina, transforming the crisis into an opportunity and contributing significantly to improvements in public health using a RBF approach.** Currently, all hospitalized individuals have samples taken (for clinical and epidemiological surveillance reasons), while random samples taken in ambulatory centers serve for epidemiological surveillance purposes. Some of these samples are sent to the Centers for Disease Control and Prevention (CDC) in Atlanta, contributing to the formulation of the southern hemisphere’s flu vaccine. The use of Argentine samples for the formulation of the vaccine has clear benefits for the population since the vaccine will more closely resemble the virus strains circulating in the country the prior year.
3. **Strengthening the GOA’s health pandemic preparedness is a building block towards the establishment of a robust fiscal risk management strategy**. In addition to reducing morbidy and mortality, minimizing societal disruptions and therefore economic costs are worthwhile objectives of vaccination strategies.[[19]](#footnote-19) Support for zoonotic disease control within a comprehensive pandemic preparedness plan would bolster the risk management agenda, in particular due to the significant roleof agriculture in Argentina. This requires cooperation and coordination between animal and human health sectors, both at the strategic level and during pandemic preparedness implementation.

### 3.2 Achievement of Project Development Objective

1. **In general, the Project was successful in achieving expected results.** Four of the five key indicators were achieved. The remaining indicator (key indicator 1) was largely achieved, with results substantially higher than the baseline and with the actual level of accomplishment at 95 percent of the expected target. The following paragraphs analyze efficacy of each of the Project sub-objectives.
2. **The Project’s efficacy was substantial in its objective to strengthen Argentina’s epidemiological health surveillance system to prevent, monitor and evaluate influenza activity.** Achievement of **s**ub-objective 1 was to be evaluated through two key indicators, measuring the strengthening of epidemiological surveillance situation rooms in every province (key indicator 1), and implementation of social communication (MOCS) modules (key indicator 3). Although not included as part of the key indicators to measure this first sub-objective, indicator 2 – Health Situation Rooms (Level II accredited), is a natural continuation of key indicator 1 and even more complex, and as such could also be taken into account for that purpose.
3. **By Project completion, 36** **situation rooms in 22 national jurisdictions could generate health information at the provincial and departmental level in a systemic and timely manner.** Health related decision-making was strengthened and systematized by the situation rooms improved ability to collect and analyze information to describe health status and prioritize health problems.[[20]](#footnote-20) Surveillance capacity was strengthened through the reinforcement of human and capital resources in the HSRs. During Project implementation, it was decided to extend the certification process for two additional years, and apply a more in depth and complex certification process in the third year to promote institutionalization and improve the quality of generated information. Thirty-seven of the 38 HSRs were certified in 2010 and 2011 and 36 in 2012 by an ITA, almost achieving the target for key indicator 1.[[21]](#footnote-21) The HSR certification criteria was based on the following: (i) institutional mechanisms for the integration and diffusion of information, (ii) health quality improvements, (iii) improvements in the technical quality of the analysis, and (iv) HSR functioning. The target for the Level II accreditation (indicator 2) was surpassed, with 28 situation rooms (compared to a target of 16) reaching a very high level of certification.[[22]](#footnote-22) Financing of the situation rooms was related with disbursements and the annual certification process.
4. **Key indicator 3, implementation of the Operational Modules of Social Communication, was achieved.** The objective of the MOCS was to create local communication campaigns that increased public influenza awareness, encouraged prevention through vaccination, and promoted self-care against the transmission of infectious diseases, by focusing on prevention measures for respiratory diseases, and promotion of early doctor visits.[[23]](#footnote-23) Achievement of indicators was measured according to MOCS reports approved by the MSN, although ITA validation was required for disbursements. Ninety percent were implemented and approved by the MSN, and 83 percent were validated by ITA. Likewise, 90 percent of the 45 MOCS adapted for indigenous populations were implemented (indicator 4), and 80 percent were validated by ITA.[[24]](#footnote-24) A survey carried out in September 2011 to evaluate the experience of MOCS in terms of vaccine prevention promotion and improvement of inter institutional relations had positive results.[[25]](#footnote-25)
5. **The Project’s efficacy was high in its capacity to strengthen the response capacity of the health system to control** **epidemic waves of the A/H1N1 influenza.** This sub-objective was to be measured by three key indicators: Dose of A/H1N1 vaccine applied (key indicator 5), dose of pneumococcal vaccine applied (key indicator 6) and influenza diagnostic laboratory tests carried out in 2010 and 2011 (key indicator 13). Achievement of this sub-objective was high as reflected in high vaccination coverage rates and low mortality in 2010 and 2011. Coordination between the National Government and the provinces for the control and prevention of influenza-like illnesses was highly effective. The infection rate for all kinds of influenza was 49 percent lower in 2010 than in the same period in 2009, with only two deaths being attributed to A/H1N1 (neither a high-risk individual). Graph 1 displays the difference between 2009 and 2010 in weekly cases of individuals with influenza-like symptoms.[[26]](#footnote-26)
6. **Key indicator 5, dose of A/H1N1 vaccine applied was achieved.** The GOA began the A/H1N1 vaccination campaign in February 2010, and 14 days before the beginning of winter had reached 80 percent vaccination coverage. Coverage was aimed at those most at risk, and reached 93 percent and 108 percent coverage, respectively in 2010 and 2011, surpassing the 90 percent Project target for each year. This accounted for the highest eligible population coverage rate in Latin America for the winter season. The vaccination campaigns in 2010 and 2011 offered free vaccination in all hospitals and vaccination centers to high-risk individuals.[[27]](#footnote-27) Though the GOA covered the cost of the vaccines, the World Bank loan covered the costs associated with vaccine application, with the latter transferring to the provinces a set amount per vaccine applied. Due to the success of the vaccination campaign, the GOA decided to include the vaccine in the national calendar vaccination schedule starting in 2011. Indicator 7, dose of A/H1N1 vaccine included in the national calendar applied, surpassed the established target (80 percent) in 2011 and 2012.
7. **Key indicator 6, dose of pneumococcal vaccine applied** **successfully reached its target in 2011.** Insufficient coverage in 2010 (36 percent coverage) likely resulted from an initial focus on the influenza campaign due to the fear of a subsequent A/H1N1 wave, an initial overestimation of the target, lack of registration and notification by health personnel of applied doses, and ambiguousness regarding the target population. Once these factors were addressed, and information regarding applied doses was included in the National Health Surveillance System (*Sistema Nacional de Vigilancia de Salud* - SNVS), coverage climbed to 99.3 percent by 2011. Starting in January 2012, the vaccine was introduced in the national calendar vaccination schedule for children less than two years of age. Indicator 8, dose of pneumococcal vaccine included in the national calendar applied surpassed the target (80 percent) in 2012.
8. **Key indicator 13, influenza diagnostic laboratory tests carried out in 2010 and 2011, was surpassed.** Surveillance of ARI’s via laboratory tests provides information regarding the frequency and distribution of the main respiratory viruses, the virus subtypes and characteristics of the affected population in order to adopt prevention measures and policies to control and manage public health. The cumulative number of laboratory tests performed in 2010 and 2011 was 65,341, surpassing the 54,000 target. The number of influenza samples analyzed in 2013 increased 11.5 percent with respect to the average in 2010-2012, with all the provinces submitting samples for respiratory viruses that year, and 111 laboratories providing samples of hospitalized patients and 45 of ambulatory patients.
9. **In addition to prevention of influenza, the Project sought to improve health care in hospitals by financing the provision of antiviral treatments as well as hospital equipment and other inputs**. The targets for indicators 9 and 11 were achieved.The target for indicator 9, outpatient treatment provided, was surpassed in both 2010 and 2011 as revealed in the SNVS.Over 100 percent of the registered cases of influenza-type illnesses were treated in 2010, and 99 percent in 2011. In addition to improving virus registration, this result also contributed to the strengthening and legitimization of the SNVS system. Indicator 11, inpatient treatment provided in hospital due to ARI was achieved with 40,936 individuals receiving treatment (10,000 individuals over the target).

### 3.3 Efficiency

1. **Project efficiency was substantial, with the social and economic benefits of the Project outweighing the costs.** Considering as a benefit the direct costs avoided (costs associated with the pandemic and infected people) one obtains a net cost benefit of US$ 535 million discounted at a rate of 3 percent and a reasonable cost benefit of 1.7.[[28]](#footnote-28) However, the economic benefits of the adopted measures are likely underestimated by not considering social distancing measure effects in key sectors of the economy and the positive impact of reducing epidemic risks past the initial year.

### 3.4 Justification of Overall Outcome Rating

1. **The overall outcome rating is Satisfactory.** The rating is based on the following considerations: (i) objectives, design and implementation highly relevant to the Argentine country context, (ii) substantial and high efficacy ratings in achieving intended outcomes, as measured by both sub-objectives, and (iii) substantial efficiency.

**3.5 Overarching Themes, Other Outcomes and Impacts**

**(a) Poverty Impacts, Gender Aspects, and Social Development**

1. **The strengthening of the epidemiological system and health system’s capacity to respond to emergencies as well as the implementation of social communication campaigns likely benefitted the lower population deciles.** The experience of prior epidemics (such as the 1918 Spanish Flu) and the first wave of the A/H1N1 in Argentina indicate that poverty-linked factors, such as the lack of basic sanitation, poor access to health services, and reduced access to information, often enable the spread and compound the severity of influenza infections.The Project addressed this challenge by strengthening the epidemiological surveillance system to better target interventions, improving the health system’s capacity to respond to emergencies, and implementing MOCS targeted toward the poorest populations.

**(b) Institutional Change/Strengthening**

1. **The Project strengthened the long-term capacity and institutional development of the Argentine MSN**. Project execution through the different technical units resulted in the buildup of in-house capability, which remained in the MSN after Project completion. This is especially relevant in a country with a relatively stable human resource capacity. The new Remediar and Redes Inter-American Development Bank-financed Project is being executed utilizing the same framework. This framework not only built up capacity but also facilitated relations between the provinces and the federal Government since the interlocutors remained the same. A strengthening of the communication departments within the provincial level MSN’s (as well as at the national level) improved the credibility of the health sector in general.

**(c) Other Unintended Outcomes and Impacts (positive or negative)**

N/A

### 3.6 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops

N/A

## 4. Assessment of Risk to Development Outcome

Rating: **Moderate**

1. **One of the main risks to the development outcome regards the sustainability of the situation rooms.** Approximately half the HSRs have an official document or administrative act that establishes their institutional jurisdiction, activities and structure. Though the HSRs will receive financing through the FESP II Project until 2015, their sustainability and institutionalization depends on their continued use and transformation into a strategic tool for the management of health decisions. A number of provinces had established situation rooms previously, however incentives to sustain the rooms diminished once national level financing was discontinued.[[29]](#footnote-29)
2. **Sustaining high influenza vaccination coverage rates remains a risk to the Development Outcome**. Though Argentina maintains high coverage rates and the population generally views vaccination as a right and a responsibility, the demand for the Influenza vaccine may wane as the fear of another pandemic decreases. The inclusion of the A/H1N1 vaccine for high-risk groups and pneumococcal vaccine for children into the National Vaccine Calendar mitigates this risk.

**5. Assessment of Bank and Borrower Performance**

### 5.1 Bank Performance

**(a) Bank Performance in Ensuring Quality at Entry**
Rating: **Satisfactory**

1. **World Bank performance on ensuring Quality of Entry is rated Satisfactory.** The World Bank responded swiftly within a three month Project preparation period. As noted in Section 2.1, Project design was based on a detailed sector analysis in line with the GOA’s FHP and the CPS, incorporated lessons learned from other operations and international experience, and introduced several innovative approaches. In addition, an economic analysis conducted during preparation showed that Project benefits exceeded costs of a possible second wave. Despite some deficiencies in the Project M&E framework, it was overall well designed, and allowed for the measurement of Project results. It focused on intermediate outcomes considering the inherent evaluation challenges for Influenza type epidemics, as recently recommended by the World Bank Report on Controlling Avian Influenza.[[30]](#footnote-30)

**(b) Quality of Supervision**
Rating: **Moderately** **Satisfactory**

1. **The Quality of Supervision is rated Moderately Satisfactory.** In addition to engaging in seven missions, the supervision team engaged in numerous video and audio discussions with the Project coordination unit and MSN officials over the Project life. The team was particularly helpful in accompanying the MSN staff in documentation provision and mechanisms required for the successful execution of the result-based financing aspect of the Project (information needed for the audits). The fact that some of the technical staff was based in Argentina greatly enhanced dialogue, and allowed for continuous coordination and swifter problem resolution. However, procurement difficulties did not support the use of the emergency instrument. In addition, deficiencies in the results framework could have been addressed and recorded during the Project restructuring processes.

**(c) Justification of Rating for Overall Bank Performance**

Rating: **Moderately Satisfactory**

1. Given the Satisfactory Bank performance at Quality at Entry and the Moderately Satisfactory performance during Project supervision, the overall rating for Bank performance is Moderately Satisfactory.

### 5.2 Borrower Performance

**(a) Government Performance**

Rating: **Satisfactory**

1. **Government performance is rated Satisfactory**. The Ministry of Economy and Public Finance gave its full support to the Project. The GOA moved forward with the World Bank during Project preparation and allocated funds to purchase the A/H1N1 vaccines. Strong government commitment, experience with World Bank-financed projects and existing technical MSN capability supported the achievement of Project objectives despite the cancellation of the retroactive portion of the loan.

**(b) Implementing Agency or Agencies Performance**

Rating:  **Satisfactory**

1. **Performance of the implementation Agency is rated Satisfactory.** The MSN was the Project’s implementing agency. The UFI-S was responsible for general Project coordination, including fiduciary aspects, component implementation and M&E. Since the beginning of the Project, the MSN showed strong leadership and ownership of Project objectives. UFI-S effective coordination between the different MSN areas and programs and between national and provincial programs was a key element for the success of the Project. Project implementation was executed through the different technical units within the MSN, representing a new modus-operandi, which served to build up in-house capabilities. Despite a steep learning curve in some areas, which resulted in technical audit delays at the beginning of Project implementation, the different execution units successfully supported Project implementation and PDO achievement. Although the Project was designed in an emergency context, it shifted focus toward surveillance system strengthening through three restructuring processes and, in practice, became a regular operation. The Project closing date was extended twice to conclude activities that were not included in the PAD, but inserted during the first two restructurings.

**(c) Justification of Rating for Overall Borrower Performance**

Rating: **Satisfactory**

1. Given the minor shortcomings observed in the Borrower’s performance, its overall Performance is ratedSatisfactory.

## 6. Lessons Learned

1. **Argentina’s adoption of a high-risk targeted vaccination strategy against A/H1N1 influenza was effective in containing the epidemic.** Assessments on the effects of potential vaccination strategies against pandemic influenza in terms of reducing morbidity and mortality based on priority age groups, transmissibility, timing of vaccination efforts, and number of years of life lost have shown that even limited vaccine supplies, if used optimally, can have an impact on mitigating disease burden in middle-income countries (G. Chowell, C. Vibourd, X Wang, S Bertozzi and M. Miller).
2. **A comprehensive (human and animal) pandemic preparedness plan would benefit from moving from a response approach using emergency instruments to one that favors preventive risk reduction and risk management through regular country program and operations.** This would incorporate some of the objectives supported in the World Bank-financed avian flu portfolio, which generally ran into a number of obstacles due to the complicated inter-sectoral collaboration between health and agriculture. Pandemic risk reduction is even in more need of global donor support than natural disaster risk reduction, as pandemic preparedness in one country provides positive spillovers to other while the benefits of disaster risk reduction are primarily local.
3. **High-risk groups can only be reached through an intense communication effort**. A well-developed communication strategy in the country had a positive impact on social and behavior change, specifically among high risk population such as health workers, pregnant women, young children, etc.
4. **Despite a short preparation period, it is important to avoid having tunnel vision and think broadly when designing emergency loans.** Though the Project focused on A/H1N1, it served to build up Argentina’s long-term preparedness and capacity to confront any epidemic, not just A/H1N1. The strengthening of surveillance and laboratory systems, as well as health networks are often overlooked in favor of other priorities, however they are important components of national health systems.
5. **The execution of projects within existing technical/administrative structures has significant positive externalities.** The mechanism not only built in-house sustainable capacity but also fostered greater cooperation among different health units and broke the vertical implementation framework often resulting from the establishment of stand-alone project coordinating units for externally funded projects.

1. **A RBF model is a valuable strategy to influence subnational government policies in federal systems.** The effective implementation of the RBF financing scheme in Argentina enabled a successful reorientation of health care policies, as well as enhanced management capacity at the national and provincial level. The framework allowed the Federal Government to influence subnational policy while building up skills of provincial counterparts. Incremental financing incentives, even if they are small can be very powerful. Financing incentives as a startup measure have proven to contribute to the willingness to comply. On the other hand, the excessive costs involved with continuous audits raise the need to explore alternative auditing mechanisms.
2. **The World Bank should re-evaluate the objective of the emergency recovery loan instrument and its consistency with other fiduciary policies.** Even though OP/BP 8.0 operational guiding principles have been developed bearing in mind the need for a fast response, simplicity and flexibility in emergency situations, the policy is not fully aligned with other fiduciary policies and guidelines, such as procurement. Therefore, policies may benefit from reassessment in terms of their compatibility; and task teams will benefit from more explicit guidance on the application of emergency policies, especially when dealing with health emergencies. A previously streamlined or pre-approved set of guidelines for emergency situations or less rigid procurement rules for emergency situations could help borrowers and World Bank staff obtain a better notion about World Bank retroactive financing options.

## 7. Comments on Issues Raised by Borrower/Implementing Agencies/Partners

1. **Borrower/implementing agencies**
2. **Cofinanciers** N/A

**(c) Other partners and stakeholders** N/A

## Annex 1. Project Costs and Financing

### (a) Project Cost by Component (in USD Million equivalent)

|  |  |  |  |
| --- | --- | --- | --- |
| **Components** | **Appraisal Estimate (USD millions)** | **Actual/Latest Estimate (USD millions)** | **Percentage of Appraisal** |
| Component 1:Strengthening of the capacity of the Argentine Epidemiological health system for surveillance and influenza case-finding | 9.0 | 11.4 | 126.6 |
| Component 2: Strengthening the Response Capacity of the Argentine health system | 217.5 | 127.5 | 58.6 |
| Component 3: Project Management and Monitoring and Technical Audit of Components 1 and 2 | 2.0 | 1.6 | 80 |
| **Total Baseline Cost** | 228.5 | 140.5 | 61.5 |
| Physical Contingencies | 0 | 0 |  |
| Price Contingencies | 0 | 0 |  |
| **Total Project Costs** | 228.5 | 140.5 | 61.5 |
| Front-end fee PPF |  |  |  |
| Front-end fee IBRD | .5 | .5 | 100 |
| **Total Financing Required** | 229.0 | 141.0 | 61.6 |
|  |  |  |  |

###  (b) Financing

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Source of Funds** | **Type of Cofinancing** | **Appraisal Estimate****(USD millions)** | **Actual/Latest Estimate****(USD millions)** | **Percentage of Appraisal** |
| Borrower |  | 0.00 | 273.6[[31]](#footnote-31) | .00 |
| International Bank for Reconstruction and Development |  | 229 | 141 | 61.6% |

## Annex 2. Outputs by Component

1. **In general, the Project was successful in achieving expected results.** Four of the five key indicators were achieved. The remaining indicator (indicator 1) was largely achieved, with results substantially higher than the baseline and with the actual level of accomplishment 95 percent of the expected target. The following paragraphs analyze efficacy of each of the Project sub-objectives.
2. **The Project’s efficacy was substantial in its objective to strengthen Argentina’s epidemiological health surveillance system to prevent, monitor and evaluate influenza activity.** Achievement of **s**ub-objective 1 was to be evaluated through two key indicators, measuring the strengthening of epidemiological surveillance situation rooms in every province (key indicator 1), and implementation of social communication (MOCS) modules (key indicator 3). Although not included as part of the key indicators to measure this first sub-objective, indicator 2 – Health Situation Rooms – Level II accredited, is a natural continuation of indicator 1 and since even more complex should also be taken into account for that purpose.

**Table 1: Results Framework and Monitoring**

| **Indicators** | **Baseline Value** | **End Target** | **Final Value** | **Description of achievements with respect to end target** |
| --- | --- | --- | --- | --- |
| 1. Health Situation Rooms certified | 0 | 38 | 36 | Nearly achieved |
| 2. Health Situation Rooms Level II accreditation | 0 | 16 | 28 | Surpassed  |
| 3. Operational Modules of Social Communication (MOCS) implemented | 0% | 90% | 90% | Achieved |
| 4. Operational modules of social communication for indigenous peoples implemented | 0% | 90% | 90% | Achieved |
| 5. Dose of A/H1N1 vaccine applied | 1% | 90% | 100% | Surpassed |
| 6. Dose of pneumococcal vaccine applied | 1% | 85% | 99.3% | Surpassed |
| 7. Dose of A/H1N1 vaccine included in National Calendar applied | 0% | 80% | 91% | Surpassed |
| 8. Dose of pneumococcal vaccine included in National Calendar applied | 52% | 80% | 86% | Surpassed |
| 9. Outpatient treatment provided | 0% | 90% | 99% | Surpassed |
| 11. Inpatient treatment provided in ICU | 27,284 | 30,000 | 40,936 | Surpassed |
| 13. Influenza diagnostic laboratory test performed | 0 | 54,000 | 65,341 | Surpassed |
| 14. Independent technical audits performed | 8 | 8 |  | Achieved |

1. **By Project completion, 36 situation rooms in 22 national jurisdictions could generate health information at the provincial and departmental level in a systemic and timely manner.** Health related decision-making was strengthened and systematized by the situation rooms improved ability to collect and analyze information to describe existing health situations and prioritize health problems.[[32]](#footnote-32) Surveillance capacity was strengthened through the reinforcement of human and capital resources in the HSRs. During Project implementation it was decided to extend the certification process for two additional years, and apply a more in depth and complex certification process in the third year to promote institutionalization and improve the quality of generated information. Thirty-seven of the 38 HSRs were certified in 2010 and 2011 and 36 in 2012 by an ITA, practically achieving the target (95 percent achieved) for key indicator 1.[[33]](#footnote-33) The HSR certification criteria were based on the following: (i) institutional mechanisms for the integration and diffusion of information, (ii) health quality improvements, (iii) improvements in the technical quality of the analysis, and (iv) HSR functioning. The target for the Level II accreditation (indicator 2) was surpassed, with 28 situation rooms (compared to a target of 16) reaching a very high level of certification.[[34]](#footnote-34) Financing of the situation rooms was related with disbursements and the annual certification process.
2. **The Project supported the reinforcement of human and capital resources in the HSRs to strengthen surveillance capacity.** Each situation room contracted a minimum of two epidemiologists and an assistant, installed an internet connection, and covered office costs and a training module specialized for the hired personnel. A shortage of epidemiologists, led the Project to finance a postgraduate course at the University of Cordoba specializing in epidemiology for more than 200 professionals in two cohorts, which were then staffed in the situation rooms or employed in the national and provincial Epidemiology offices. An evaluation of the first cohort found that most students were satisfied with the course. Fifty-eight percent of those surveyed stated that their expectations had been met, while 24 percent stated that their expectations had been surpassed. The component financed workshops and training events for the strengthening of epidemiological vigilance, and completed a number of studies tied to A/H1N1.
3. **Key indicator 3, implementation of the Operational Modules of Social Communication, was achieved.** The objective of the MOCS was to create local communication campaigns that increased public awareness of influenza, encouraged prevention through vaccination, and promoted self-care against the transmission of infectious diseases, by focusing on prevention measures for respiratory diseases, and promotion of early doctor visits.[[35]](#footnote-35) The MOCS designed, produced and disseminated audiovisual and graphic materials, to run integrated local culturally appropriate communication campaigns. Indicator achievement for evaluation purposes was measured according to reports on MOCS activities approved by the MSN, however ITA validation was needed to receive outcome disbursements. Ninety percent were implemented and approved by the MSN, and 83 percent were validated by ITA. Likewise, 90 percent of the 45 MOCS adapted for indigenous populations were implemented (indicator 4), and 80 percent were validated by ITA.[[36]](#footnote-36) A survey carried out in September 2011 to evaluate the experience of MOCS in terms of vaccine prevention promotion and improvement of inter institutional relations had positive results.[[37]](#footnote-37)
4. **The Project’s efficacy was high in its capacity to strengthen the response capacity of the health system to control** **a second A/H1N1 wave.** This sub-objective was measured by three key indicators: dose of A/H1N1 vaccine applied (key indicator 5), dose of pneumococcal vaccine applied (key indicator 6) and influenza diagnostic laboratory tests carried out in 2010 and 2011 (key indicator 13). Achievement of the sub-objective was substantial as reflected in high coverage levels and low mortality in 2010 and 2011. Coordination between the National Government and the provinces for the control and prevention of influenza-like illnesses was highly effective. The infection rate for all kinds of influenza was 49 percent lower in 2010 than in the same period in 2009, with only two deaths being attributed to A/H1N1 (neither a high-risk individual). Graph 1 displays the difference between 2009 and 2010 in weekly cases of individuals with Influenza-like symptoms.[[38]](#footnote-38)
5. **Key indicator 5, dose of A/H1N1 vaccine applied was achieved.** The GOA began the A/H1N1 vaccination campaign in February 2010 and 14 days before the beginning of winter had reached 80 percent coverage. Coverage was aimed at those most at risk, and reached 93 percent and 108 percent coverage, respectively in 2010 and 2011, surpassing the 90 percent Project target.[[39]](#footnote-39) Though the MSN covered the cost of the vaccines, the World Bank loan covered the costs associated with vaccine injection, with the latter transferring to the provinces a set amount per vaccine applied. During the first restructuring, funds allocated to category 4 (outputs) were increased to finance a second complimentary vaccination, namely the 2011 National Free Vaccination Campaign against Influenza. This Campaign was a result of the positive impact on reducing virus communicability of the 2010 campaign, and with the objective of guaranteeing free vaccination and maximum coverage in the whole country for the defined risk population groups. The Campaign also allowed the ministry to provide ambulatory attention to patients with symptoms compatible with Influenza. Indicator 7, dose of A/H1N1 vaccine included in the national calendar applied, surpassed the established target (80 percent) in 2011 and 2012.
6. **Positive externalities attributable to public health-related investments benefitted the whole population.** Vaccination of those most susceptible and vulnerable to the A/H1N1 virus reduced both mortality and communicability, while the reduction in transmission had national as well as international benefits. Lastly, by strengthening the Government’s capacity and capability to confront an influenza epidemic, the Project built the GOA’s capability to monitor and respond to a host of health priorities.
7. **Key indicator 6, dose of pneumococcal vaccine applied** **successfully reached its target in 2011.** Insufficient coverage in 2010 (36 percent coverage) likely resulted from an initial focus on the influenza campaign due to the fear of a subsequent A/H1N1 wave, an overestimation of the target, lack of registration and notification by health personnel of applied doses, and ambiguousness regarding the target population. Once these factors were addressed, and information regarding applied doses was included in the SNVS, coverage climbed to 99.3 percent by 2011. Starting in January 2012, the vaccine was introduced in the national calendar vaccination schedule for children less than two years of age. Indicator 8, dose of pneumococcal vaccine included in the national calendar applied surpassed the target (80 percent) in 2012.

|  |
| --- |
| *PRONACEI identified the following achievements from the 2010 and 2011 vaccination campaigns:* 1. *Adequate local demand for the vaccine*
2. *Coordinated and harmonized message by the relevant actors*
3. *Effective and safe vaccine*
4. *Distribution of technical norms before the campaign*
5. *Adequate marketing diffusion*
6. *Improvement in the registration of doses applied in the SNVS*
7. *Introduction of the flu vaccine into the National Vaccination Calendar*
8. *Execution of training workshops in the provinces*
 |

1. **Key indicator 13, influenza diagnostic laboratory tests carried out in 2010 and 2011, was surpassed.** Surveillance of ARI’s via laboratory tests provides information regarding the frequency and distribution of the main respiratory viruses, the virus subtypes and characteristics of the affected population to adopt prevention measures and policies to control and manage public health. Sixty-five thousand three hundred and forty one laboratory tests were performed in 2010 and 2011 surpassing the 54,000 target. The number of influenza samples analyzed also increased annually, with an 11.53 percent increase with respect to the average in 2010-2012. In 2013 all the provinces submitted samples for respiratory viruses, with 111 laboratories providing samples of hospitalized patients and 45 of ambulatory patients
2. **In addition to prevention, the Project sought to improve attention in hospitals by financing the provision of antiviral treatments and the realization of laboratory tests, as well as the provision of inputs and hospital equipment.** The targets for indicators 9 and 11 were achieved.The target for indicator 9, outpatient treatment provided, was surpassed in both 2010 and 2011 as revealed in the SNVS.Over 100 percent of the registered cases of Influenza-type illnesses were treated in 2010, and 99 percent in 2011. In addition to improving virus registration, this result also contributed to the strengthening and legitimization of the SNVS system. Intermediate health outcomeindicator 11, inpatient treatment provided in hospital due to ARI, was achieved with 40,936 individuals receiving treatment (10,000 individuals over the target).
3. **The purchase of medical equipment strengthened Argentina’s health care network**. In an effort to strengthen the quality of care and health network, 608 beds (37.33 percent of those available) were equipped with a multi-parametric monitor, while 164 ambulances were purchased, providing an important tool to reduce mortality, improve rapid attention and increase social inclusion. An additional 46 provincial neonatal ambulances improve the timely attention for neonates while they are transferred to hospitals, which in turn will likely reduce infant mortality, especially for those which travel long distances to specialized hospitals. The Project also contributed to the strengthening of epidemiological vigilance through the purchase and distribution of IT equipment intended for the SNVS.
4. **Project management was strengthened through the use of existing management units within the MSN at the national and provincial level for Project execution.** The use of existing units instead of the establishment of a Project coordinating unit meant that capacity was built within each unit and remained their once the Project was completed. This was particularly true for the improvement of monitoring capacities required for the output-linked ITA’s. Further, the RBF mechanism raised the provinces incentive to comply with Project requirements and strengthened the ability of the national Government to influence provincial health policy.

**Table 2: Outputs and Source of Verification**

| ***Outputs Component 1*** | ***Source of Verification*** |
| --- | --- |
| Health Situation Rooms Certified | MSN report verified by the Independent Technical Audit (ITA) |
| Operational Modules of Social Communication implemented (excluding indigenous peoples)  | MSN report verified by the ITA |
| Operational Modules of Social Communication implemented for indigenous peoples | MSN report verified by the ITA |
| *Output Components 2* | *Source of verification* |
| Dose of A/H1N1 vaccine applied | Report of applied vaccines issued by EPI and verified by ITA |
| Dose of Pneumococcal vaccine applied | Report of applied vaccines issued by EPI and verified by ITA |
| Outpatient treatment provided | SNVS-based report issued by MSN and verified by ITA |
| Inpatient treatment provided in hospitalization | SNVS-based report issued by MSN and verified by ITA |
| Inpatient treatment provided in ICU | SNVS-based report issued by MSN and verified by ITA |
| Influenza diagnostic laboratory test carried out | Test beneficiaries listed in SIVILA’s Nominal Registry, and verified by ITA |

## Annex 3. Economic and Financial Analysis

1. **The present annex exhibits the results of the economic evaluation of the Project using information provided by the MSN on the impact of health measures against the A/H1N1 Influenza virus.** The analysis takes into account not just the health measures financed by the Project but also the entirety of health measures implemented by the MSN to combat A/H1N1.
2. **In Argentina the Influenza A/H1N1 pandemic had a high impact in terms of morbidity** **and mortality**. The peak of the transmission occurred between epidemiological week 25 and 26 throughout the country. According to SNVS in 2009 there were 1,590,660 cases of Influenza type illness (*Enfermedad tipo influenza* – ETI). In 2010 there were 1,321,248 registered cases of ETI with a peak of 51,337 registered cases in week 33. Figure 1 reveals the evolution of ETI cases in 2009 y 2010. In 2009 14,160 cases required hospitalization for ARI cases, representing a hospitalization rate of 34.9 cases per 100,000 inhabitants. The age groups most affected were those under 5 years old and between 45 and 64 years of age. Confirmed deaths by influenza in the period of major circulation were 626, throughout the 21 provinces. The age group with the highest morality rate was the 50 a 59 year olds.

**Figure 1: Weekly Cases of Influenza Illness in Argentina, 2009 and 2010**

 *Source: Semana Epidemiológica*

**Table 1: Health Impact of A/H1N1 Influenza in Argentina**

|  |  |  |
| --- | --- | --- |
|  | 2009 | 2010 |
| Notified influenza-like illnesses | 1,590,660 | 1,321,248 |
| Number of hospitalizations ARI  | 14,160 | 132 |
| Influenza confirmed cases  | 12,170 | 2,559 |
| Number of confirmed deaths due to pandemic influenza  | 626 | 27 |

*Source: SNVS*

1. **The surveillance system likely underestimated the real health impact of the epidemic.** As a result and due to data revealed through the SNVS, MSN estimates a larger number of symptomatic cases of influenza A/H1N1, severe acute respiratory infections and deaths as exhibited in Table 2.

**Table 2: Revised Health Impact of Influenza A/H1N1 in Argentina**

|  |  |  |
| --- | --- | --- |
|  | 2009 | 2010 |
| Cases of influenza-like illnesses  | 3,098,864 | 6,591 |
| Number of hospitalizations for serious IRA  | 5,619 | 132 |
| Number of deaths due to pandemic influenza  | 2,155 | 58 |

*Source: own estimates based on MSN information*

1. **The deaths due to influenza A/H1N1 resulted in a loss of 44,265 years of life in 2009 and 1,115 years in 2010 and in terms of burden of disease 52,529 y 114 years lost for 2009 and 2010, respectively**.
2. **In addition to the loss of life and burden of disease, the epidemic resulted in a substantial increase in demand for health services in particular in the first level of attention.** During the peak of the pandemic the health system was over exerted due to the increase in demand for services, in particular in the metropolitan zones where the viral circulation was superior (Raffo, 2011). This resulted in an excess burden on emergency and hospitalization sectors, with a deficit for beds, in particular in intensive care units, and delays and suspensions of programed surgeries. In addition the pandemic generated significant economic losses due to labor and school absenteeism and the fall in demand caused by the social distancing measures adopted, in particular the observed fall in tourism, purchases in commercial centers and tickets for sporting and cultural events.

**Cost and economic impact of the pandemic**

1. **The measures adopted to combat the influenza A (H1N1) had a direct health cost of US$628 million, including prevention costs (25 percent) and treatment costs (75 percent).**

**Table 3: Health costs of interventions to combat Influenza A/H1N1**

(In millions of dollars)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 2009 | 2010 | Total | in % |
| A) Prevention | **0** | **155.0** | **155.0** | **24.7** |
| Vaccines | 0 | 119.3 | 119.3 | 19.0 |
| Inputs | 0 | 35.7 | 35.7 | 5.7 |
| B) Diagnostic and treatment | **472.4** | **0.7** | **473.1** | **75.3** |
| Diagnostic y treatment | 472.4 | 0.7 | 473.1 | 75.3 |
| Total | **472.4** | **155.7** | **628.2** | **100.0** |

*Source: Own estimates based on MSN information*

1. **The economic impact was substantial though difficult to measure**.[[40]](#footnote-40) In the case of Argentina, the MSN estimated the impact of the pandemic at US$2.1 billion, of which 30 percent (US$628 million) correspond to the main health costs to address the emergency and 70 percent to economic losses attributable to the illness (US$1.5 billion). Productivity losses are associated with the days of work or school lost for people who were directly affected by the illness, the years of life lost due to premature death and disability and the economic impact of social distancing measures (closing of schools and work absenteeism). If one considers the reduction in consumption caused by the pandemic in sectors like tourism, transportation and recreation, the global cost of influenza was over US$3 billion.

**Table 4: Economic Impact of the A/H1N1 Influenza pandemic in Argentina**

(In millions of dollars)

|  |  |  |  |
| --- | --- | --- | --- |
|  | 2009 | 2010 | Total |
|  | amount | in % | amount | in % | amount | in % |
| 1. Direct health cost | **472.4** | **24.0** | **155.7** | **96.1** | **628.2** | **29.5** |
| Prevention | 0 | 0.0 | 155.1 | 95.7 | 155.0 | 7.3 |
| Diagnostic and treatment  | 472.4 | 24.0 | 0.7 | 0.4 | 473.1 | 22.2 |
| 2. Costs due to productivity losses | **1,494.9** | **76.0** | **6.3** | **3.9** | **1,501.2** | **70.5** |
| Costs associated with the presence of the disease | 852.4 | 43.3 | 6.3 | 3.9 | 858.7 | 40.3 |
| Costs associated with social distancing measures (school closure and work absenteeism) | 642.5 | 32.7 | 0 | 0.0 | 642.5 | 30.2 |
| Total cost | **1,967.4** | **100** | **162.1** | **100.0** | **2,129.5** | **100** |

*Source: Own estimates based on MSN information*

1. **Finally this section reviews some of the economic indicators to analyze the efficacy of the health measures adopted by the GOA to combat Influenza A/H1N1, and in particular evaluate the efficiency of the interventions that were supported within the framework of the Project.** The analysis considered two basic indicators: the net benefit cost and the benefit cost ratio. For the analysis we considered as benefit of all the public health interventions implemented the direct costs avoided (health costs due to the pandemic and costs associated due to the presence of disease in infected individuals) and as costs of the interventions the costs related to social distancing measures and prevention implemented during the emergency.
2. **As exhibited in Table 4 the benefits calculated with a discount rate of 3 percent increase to US$1.3billion and the NPV at US$797 million.** The net benefit cost discounted at a rate of 3 percent reaches US$534 million and the benefit cost ratio to 1.7.

**Table 5: Costs and Benefits of the measures adopted during the Emergency**

(In millions of dollars)

|  |  |  |  |
| --- | --- | --- | --- |
|  | 2009 | 2010 | Total |
| Benefits (avoided costs) | **1,324.9** | **7.0** | **1,331.9** |
| Treatment costs  | 472.5 | 0.7 | 473.2 |
| Costs associated with the presence of the disease | 852.4 | 6.3 | 858.7 |
| Costs of the measures against A/H1N1 | **642.5** | **154.6** | **797.2** |
| Social distancing measures | 642.5 | 0 | 642.5 |
| Prevention costs | 0 | 154.6 | 154.6 |
| *Net Benefit Cost* |  |  | ***534.7*** |
| *Benefit-cost Ratio* |  |  | ***1.7*** |

*Source: Own estimates based on MSN information*

1. **Taking into account that economic benefits of the adopted measures to combat the pandemic are underestimated due to the lack of consideration of the effects of social distancing measures in key sectors of the economy, the net benefit could be much higher**.
2. **Based on the analysis and on the epidemiological data, the adopted measures against the A/H1N1 and in particular the interventions that were financed via the Project have been effective (epidemiologic impact) and efficient (economic impact) in that they interrupted the pandemic at a reasonable cost.**

## Annex 4. Bank Lending and Implementation Support/Supervision Processes

### Task Team members

|  |  |  |
| --- | --- | --- |
| 1. **Names**
 | **Title** | **Unit** |
| **Lending:** |  |  |
| Fernando Lavadenz | Task Team Leader | LCSHH |
| Ampere Gorilla -Tobar | Co-Tak Team Leader | LCSHH |
| Vanina Camporeale | Senior Operations Officer | LCSHH |
| Diomedes Berroa | Senior Operations Officer | OPSOR |
| Luis Orlando Perez | Senior Public Health Specialist | LCSHH |
| Reynaldo Pastor | Senior Counsel | LEGLE |
| Marta Molares-Halberg | Lead Counsel | LEGLE |
| Jose Janeiro | Senior Finance Officer | CTRLA |
| Alejandro Roger Solanot | Financial Management Analyst | LCSFM |
| Snezana Mitrovic | Lead Procurement Specialist | LCSPT |
| Keisgner Alfaro | Procurement Analyst | LCSPT |
| Francis Fragano | Environmental Specialist | SARDE |
| Juan Martinez | Social Specialist | EASIS |
| Isabel Tomadin | Social Safeguards Consultant | LCSOS |
| Rocio Schmunis | Health Consultant | LCSHH |
| Daniel Cotlear | Peer Reviewer | LCSHD |
| Rafael Cortez | Peer Reviewer | LCSHH |
| Gabriel Schmunis | Peer Reviewer | LCSHD |
| Veronica Jarrin | Senior Program Assistant | LCSHH |
| Julie Nannucci | Program Assistant | LCSHH |
| Gabriela Moreno | Program Assistant | LCSHH |
| Santiago Scialabba | Program Assistant | LCSHD |
| Sarah Bailey | Team Assistant | LCSHD |
| Rory Narvaez | Consultant | LCSHH |
| Vanessa Victoria | Consultant | LCSHH |

|  |  |  |
| --- | --- | --- |
| **Supervision:** |  |  |
| Fernando Lavadenz | Task Team Leader - Senior Health Specialist | LCSHH |
| Vanina Camporeale | Task Team Leader - Senior Operations Officer | LCSHH |
| Claudia Macias | Task Team Leader for ICR - Senior Operations Officer | LCSHH |
| Natasha Zamecnik | ICR Author | LCSHH |
| Luis Orlando Perez | Senior Public Health Specialist | LCSHH |
| Amparo Gordillo-Tobar | Senior Health Economist  | LCSHH |
| Daniela Romero | Operations Analyst | LCSHH |
| Snezana Mitrovic | Manager | LCSPT |
| Keisgner De Jesus Alfaro | Senior Procurement Specialist | LCSPT |
| Alvaro Larrea | Senior Procurement Specialist | LCSPT |
| Ana Maria Grofsmacht | Procurement Specialist | LCSPT |
| Elizabeth Grandio | Junior Professional Associate | LCSPT |
| Alejandro Roger Solanot | Senior Financial Management Specialist | LCSFM |
| Luz Maria Meyer | Financial Management Analyst | LCSFM |
| Alejandro Alcala | Senior Counsel | LEGES |
| Maria Pia Cravero | Junior Counsel | LEGLE |
| Isabel Tomadin | Consultant, Indigenous People | LCSSO |
| Marcos Miranda | Consultant | LCSHH |
| Rocio Schmunis | Consultant | EASHD |
| Isabellla Bablumian | Consultant | LCSHH |
| Julie Ruel Bergeron | E T Consultant | LCSHH |
| Veronica Osorio | Consultant | LCSHH |
| Sarah Bailey | Junior Professional Associate | LCSHD |
| Santiago Scialabba | Program Assistant | LCC7C |
| Gabriela Moreno Zevallos | Program Assistant | LCSHH |
| Silvestre Rios Centeno | Team Assistant | LCSHD |

### (b) Staff Time and Cost

|  |  |
| --- | --- |
| Stage of Project Cycle | Staff Time and Cost (Bank Budget Only) |
| No. of staff weeks | USD Thousands (including travel and consultant costs) |
| Lending |  |  |
|  **FY10** | 43.38 | 229.28 |
| **Sub-total:** | **43.38** | **229.28** |
| **Supervision/ICR** |  |  |
|  **FY10** | 11.03 | 36.33 |
|  **FY11** | 11.31 | 69.27 |
|  **FY12** | 14.55 | 74.52 |
|  **FY13** | 11.76 | 41.37 |
|  **FY14** | 7.92 | 44.78 |
| **Sub-total:** | 56.57 | 266.27 |
| **TOTAL** | **99.95** | **495.55** |

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## Annex 5. Beneficiary Survey Results

Not Applicable

## Annex 6. Stakeholder Workshop Report and Results

Not Applicable

## Annex 7. Summary of Borrower's ICR and / or Comments on Draft ICR

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**EMERGENCY PROJECT FOR THE PREVENTION, MONITORING AND CONTROL OF INFLUENZA H1N1 DISEASE TYPE**

**IBRD 7843-AR**

**Completion Report**

**January, 2014**

**INTRODUCTION**

1. The purpose of this Closing and Results Report is to consolidate the most important information regarding the performance of the **Emergency Project for the Prevention, Surveillance and Control of A/H1N1 Influenza Type Illnesses**, indicating the primary actions carried out in the various project areas and the results achieved in terms of compliance with the objectives proposed in the project design.

**CHAPTER 1: Description of the initial situation and the context in which the Project was formulated**

**1.1 Background**

1. In 2009 the epidemic generated by the A/H1N1 virus caused in Argentina 14,000 cases of hospitalization due to severe Acute Respiratory Infection (ARI) and more than 600 deaths throughout the country. In that same year, scientific and epidemiological studies predicted another wave of influenza caused by the A/H1N1 virus, expected to affect the Southern Cone in 2010. Consequently, the Government of Argentina (GOA) requested a loan from the World Bank to help finance the costs associated with the efforts made by national authorities to prevent, monitor and control the A/H1N1 influenza epidemic, preparing an Emergency operation project under OP/BP 8.00.
2. The project was approved by the World Bank’s Board of Directors on February 21, 2010, and became effective in April 2010. Nevertheless, the GOA initiated the planned actions in the originally-estimated time periods. In particular the vaccination campaign was initiated in late February 2010. This meant that the process of acquiring pandemic vaccines was carried out under national regulations, and acknowledgement of the process by the World Bank would be requested later.
3. With the project, the GOA was seeking—in addition to controlling a potential new pandemic wave—to strengthen the country’s overall epidemiological response system, and carry out actions for improving the surveillance system and contributing to the improvement of the network of hospitals for symptomatic patients throughout the country.

**1.2 Health emergency setting (2009)**

1. In April 2009, after the outbreak of the new A/H1N1 Influenza in Mexico, the virus spread rapidly to other countries. On June 11, 2009 the WHO’s declaration of Phase 6 of the Pandemic Alert for A/H1N1 Influenza indicated that a world pandemic was in progress, and that it was necessary to move from preparations to response.
2. In Argentina the peak of contagion took place between June 20 and July 3, with the virus circulating throughout the entire country. By December 4 the number of deaths had reached 613, above the number for Mexico, with Argentina ranking third among countries around the world at that time.
3. The number of cases of ILI (influenza-like illness) reported during 2009 was much higher than during previous epidemic years, reaching a level of 160,000 cases reported per week at the peak of viral circulation.
4. As for serious cases, a total of 14,160 cases requiring hospitalization due to severe Acute Respiratory Infection (ARI) were reported during 2009, representing a hospitalization rate of 34.95 cases per 100,000 inhabitants.
5. The age groups most seriously affected were children under five years of age, with a rate of 76.41 cases per 100,000 inhabitants, followed by the group of persons 45 to 64 years of age, with a rate of 26 cases per 100,000 inhabitants.
6. During 2009, 12,080 cases of Pandemic Influenza (H1N1) were confirmed by laboratory tests. The 2009 Pandemic Influenza (H1N1) and unspecified Influenza A represented 83.3% of the total respiratory viruses reported in patients fives year of age or older, and 22.13% in children under the age of five.[[41]](#footnote-41) In 2009 there were 626 confirmed patient deaths from the pandemic influenza, during the period of the greatest circulation.

**1.3 GOA’s intervention strategy**

1. Argentina responded to the emergency by following the Integrated Response Plan for the Influenza Pandemic and “SARS,” approved by Decree 644/2007. The Project was formulated in this context, with an immediate objective—controlling the pandemic—and another objective structural in nature—the comprehensive strengthening of the Argentine health system’s capacity for responding to potential epidemiological outbreaks.
2. Argentina was the first country in the region (in the Southern hemisphere) to begin an anti-influenza vaccination campaign, implementing a comprehensive vaccination strategy that also included the pneumococcal and pertussis vaccines. The 2010 and 2011 vaccination campaigns were on a massive scale, offered free-of-charge in all of the country’s hospitals and vaccination centers for the at-risk population.[[42]](#footnote-42) Based on a decision by the GOA, the anti-flu vaccine was incorporated into the National Vaccination Calendar for the at-risk population during the second half of 2011.

**CHAPTER 2: Results Achieved in the H1N1 Emergency Project and the Contribution to Strengthening Prioritized Actions**

1. In the following sections, the Project’s contributions and results are described in detail, by components, outputs, indicators and related actions.

**2.1 Component 1: Strengthening epidemiological surveillance for preventing, monitoring and evaluating influenza activity**

1. With the objectives of expanding and improving the quality of the epidemiological surveillance system for timely detection of cases of respiratory illnesses, and promoting prevention and self-care measures, this component included the following actions:

**2.1.1. Provincial Health Situation Rooms**

The project proposed the implementation of Health Situation Rooms (HSRs) throughout the country, under Output 1 of Component 1. The objective was to implement 38 HSRs (during a two-year period).[[43]](#footnote-43) At the projects’ end, 36 Health Situation Rooms are operating throughout the country.[[44]](#footnote-44) The implementation and strengthening of the provincial Health Situation Rooms, with human, physical and technological resources associated with their operations, and with a coordinated protocol for completing tasks, supervised by a national technical team, generated a platform for producing systematic, periodic information. This led to improved contributions from the provinces to the National Health Surveillance System (SNVS) and promoted the assimilation of the Rooms by provincial health authorities, as an instrument for improvements in managing and making health decisions.

1. Of the 36 Rooms, 28 certified their activities in 2012 above 80% compliance with the certification protocol, indicating an optimal level of functioning.[[45]](#footnote-45) During the last year of certification (2012), the evaluation was particularly oriented toward the production of high-quality information in a systematic, timely manner, through contributions from the various areas, programs and projects. This generates mechanisms for flows of information centralized in the Room, which also offers and produces information for provincial health authorities.

**2.1.1.1 Degree of the Rooms’ institutionalization**

1. The degree of institutionalization in the HSRs at the end of the project can be summarized as follows: 33% of the provincial HSRs are formally established within the scheme of the Ministries of Health at the provincial level; 57% of the provincial HSRs are still in the process of becoming formalized; and 10% of the HSRs have not presented initiatives for their integral formalization.

**2.1.1.2 Financing for Human Resources**

1. The work carried out in the provincial Situation Rooms and coordinated at the national level was possible due to financing for the hiring of Human Resources. A small group of consultants in the Epidemiology Department in Argentina’s Ministry of Health (MSAL) was hired according to stipulations in the Project’s Operations Manual, through a competition among groups of three, as was an extensive group of consultants from the provincial Situation Rooms, using the ROSTER method.
2. Three consultants, specifically two experts in epidemiology and one with a public health orientation were hired for the Epidemiology Department at MSAL. They became part of the National HSR technical team during the Project’s entire execution. The team’s performance, in terms of complying with all of the actions required for implementing the provincial Rooms, was excellent.
3. A fundamental factor in stimulating the Situation Rooms’ work was the establishment of an interdisciplinary technical team with the capacity to obtain data from various sources and provide tools for not only bringing together quantitative and qualitative methodologies but also different perspectives.[[46]](#footnote-46)

**2.1.1.3 Training**

1. Financing was provided for training activities ranging from graduate studies, to practical-theoretical courses, to workshops on specific topics related to processing health information. Training was provided to over 200 professionals with the Graduate Course in Epidemiology given by the National University of Córdoba.

**2.1.1.4 Publications**

1. Two publications were produced in the framework of the implementation of Situation Rooms, and they were distributed to health departments in all of the country’s provinces: (i) “*Salas de Situación de Salud en Argentina: Compartiendo el proceso de implementación*”, a presentation of all the strategic plans for implementing HSRs in the 23 provincial jurisdictions, for the particular context in each province and (ii) “*Experiencias Exitosas de Salas de Situación de Salud en Argentina*”, a compilation of experiences in the Rooms in the Mendoza, Neuquén, Santa Fe and Tucumán provinces.

**2.1.1.5 Computer Equipment**

1. The project also contributed to strengthening the epidemiological surveillance system through the purchase and distribution of computer equipment for the nodes in the **National Health Surveillance System** (*Sistema Nacional de Vigilancia de Salud*—SNVS). This system operates by promoting the flow of information for improving the coverage and quality of surveillance data that begins at the local level and expands to the provinces and the national government.

**2.1.2 Communication campaigns for prevention and self-care**

1. The project financed the **Operational Modules of Social Communication (MOCS)**, with the objectives of promoting the dissemination of measures for preventing the spreading of respiratory illness, promoting early doctor visits, and adapting social communication policies to native communities, through communication campaigns directed at local communities. The **MOCS directed at the indigenous population** facilitated a synergy of actions with the IPP in the FESP Project, through the promotion of actions aimed at coordination with indigenous health agents (workshops, groups, conferences, meetings, etc.) The experience of systematizing the MOCS was considered by MSAL’s Communications Department as an experience to be replicated in other programs.

**2.2 Component 2: Strengthening the Argentine health system’s response capacity for reducing the virus’ transmissibility.**

**2.2.1 Reducing the virus’ transmissibility**

1. In Argentina, the primary reason for doctor visits and inpatient services at all ages is respiratory illness. Based on the data from the National Health Surveillance System (in the clinic and laboratory surveillance modalities) and from the National Reference Laboratory for Influenza and other respiratory viruses, the situation for the Influenza-Type Illness (ITI) is analyzed, together with the studied cases of respiratory viruses.

**2.2.1.1. Anti-flu Vaccination**

1. The GOA used funds from the National Treasury to purchase and distribute vaccines and antiviral treatment during the Project’s entire implementation. The Project helped to generate the necessary synergies among the different levels of government in order to confront the pandemic and outline long-term intervention strategies. Payment for results was a driving force that motivated authorities in the provinces to appropriately record and document information on the doses applied.
2. During the two years of output certification, coverage above 90% of the target population was established for the indicator “**doses of A/H1N1 vaccines applied**.” At the end of the 2010 campaign, no deaths from H1N1 influenza had been reported within the prioritized at-risk groups, with two deaths from H1N1 outside these groups reported. During 2011 no deaths from the H1N1 virus were reported from any groups. In summary, if we compare the data on mortality from the virus in 2009 (626 deaths) with the data from 2010 and 2011, the success of the massive vaccination campaign conducted during those two years is clearly apparent.
3. In 2011 the anti-flu vaccine was incorporated into the national vaccination calendar, demonstrating the importance that the GOA placed on reducing the transmissibility of the influenza virus. According to PRONACEI reports, coverage rates were as high as 87.6% in 2012 and 89.6% at SE 40 in 2013.

**2.2.1.2. Anti-pneumococcal Vaccination**

1. Illnesses caused by Streptococcus pneumoniae (Sp) continue to be a significant cause of morbidity and mortality around the world. Rates of infection from Sp have been reported as high as 30-50% of Community-acquired pneumonia (CAP) cases, with mortality near 25%. The illness occurs more frequently among older adults (>55 years), and individuals who are immunocompromised or who have chronic illnesses. Sp can cause not only CAP, but also various serious systemic infections such as meningitis and bacteremia, with high rates of mortality.
2. In 2012 the pneumococcal conjugate vaccine was incorporated into the National Vaccination Calendar for children at two months (1 dose), four months (2 doses), and twelve months (1 booster). Coverage has been 85% in 2012 and 82.4% in 2013, according to PRONACEI reports.

**2.2.2. Improvement in services to affected individuals**

1. In relation to persons with influenza-like symptoms, the project carried out actions aimed at improving hospital services, financing antiviral treatments and laboratory tests as outputs, as well as the provision of hospital inputs and equipment.

**2.2.2.1 Outpatient treatment provided**

1. In both 2010 and 2011 a high level of compliance was demonstrated in the project’s output 6, “**outpatient treatments provided**,” as measured by the number of cases of Influenza-Like Illness (ILI) reported to the SNVS, in relation to the number of treatments anticipated. The project’s efforts to achieve certification in this indicator generated indirect positive effects, such as an improvement in the level of reporting in the provincial nodes in the SNVS, through the Complex Index for the Evaluation of the National Health Surveillance System (SNVS) – Module C by the National Directorate of Epidemiology (DE). This Index, developed in the project’s framework, is designed to measure the status of reporting on the basis of data regularity and opportunity, as well as reporting coverage and adequate use of the system.
2. Among the primary institutional achievements linked to the reporting of Influenza-Like Illnesses, the following are worth highlighting: (i) SNVS’s legitimacy as a single reporting system; (ii) SNVS’s visibility in the national political agenda and the regional technical agenda; (iii) systematization of evaluation instruments; (iv) periodic production of MSAL’s Integrated Surveillance Newsletter; and (v) the integration of MSAL’s Surveillance Area with other programs.

**2.2.2.2 Hospital treatment for Acute Respiratory Infections**

1. During the winter months, acute respiratory infections represent the primary reason for doctor visits and inpatient treatment. While this indicator was not one of the project’s outputs, it indicates the increase in reported events of acute respiratory infections during the project’s implementation.

**2.2.2.3 Laboratory tests conducted**

1. Among the main achievements identified by the Directorate of Epidemiology in relation to laboratory surveillance are the following: (i) active monitoring of respiratory viruses was maintained in Argentina since 2008, and was strengthened during and following the influenza pandemic; (ii) the influenza outbreaks in 2011 were detected early through SIVILA information and helped to characterize the increases in ILI cases, including those not occurring during the winter season; (iii) the system was consolidated as a communication tool through the use of virtual derivation; (iv) Argentina currently contributes the greatest volume of information on respiratory viruses in the region, used in the analysis and dissemination of information on the influenza situation; (v) information on the situation in the country is available weekly through the Integrated Surveillance Newsletter; (vi) information is analyzed and disseminated at provincial and local levels; and (vii) SIVILA was consolidated as the single source of information on the monitoring of respiratory viruses at the national level.

**2.2.2.4 Inputs and Equipment**

1. With the acquisition of equipment, the network of 208 hospitals (with a total of 1,674 critical care hospital beds) was strengthened. If we consider that the equipment for a critical care bed consists of a multiparametric monitor, infusion pump and oximeter, equipment was provided for a total of 625 beds (37.33% of those available).

**2.3 Primary factors affecting the Project’s execution**

1. The risks identified in the PAD are presented below, together with the way in which the Project was able to mitigate them, and some results that indicate this.
2. ***Argentina could confront some challenges in order to acquire enough A/H1N1 vaccines necessary to vaccinate 8.5 million persons.***
3. The Pandemic Flu Vaccination Campaign was part of a comprehensive strategy for preventing illnesses from the A/H1N1 Influenza in Argentina. The GOA acquired the pandemic and trivalent vaccines with the pandemic strain for the amount of US $88,000,000 through a bidding process carried out between November 2009 and January 2010 through what was known at that time as MSAL’s Expanded Immunizations Program (PAI). During preparations for the Project, in January to March 2010, consideration was given to the possibility of retroactive financing of this expenditure by the Bank, but the standards for acquisition were not compatible, and therefore the partial cancellation of the loan in this amount was requested in December 2010.
4. ***The A/H1N1 vaccine currently being developed may cause adverse affects to health with greater frequency and of a more serious nature than what was anticipated and deemed tolerable.***
5. The risk-benefit assessment of the application of vaccines allows us to affirm that the available vaccines are safe. The safety of vaccines and vaccination covers the products’ characteristics as well as the ways in which they are applied.
6. ***In terms of the capacity for implementation, there are serious institutional limitations in responding quickly and effectively to a wave of the long-term, virulent A/H1N1 influenza epidemic.***
7. The GOA’s capacity to confront the second pandemic wave expected in 2010 was proven to be effective. The coordination between the national and provincial levels in the implementation of control and prevention actions was highly effective, as demonstrated by the indicators of coverage and mortality from the virus during that year.
8. ***Other factors not anticipated in the PAD that affected the project’s execution* *Incompatibility between national standards for acquisitions and those of the financing entity:***
9. The incompatibility between national standards for acquisitions and those of the project’s financing entity generated the need to request the partial cancelation of the loan initially anticipated. Of US $229,000,000, a total of US $88,000,000 was cancelled, with a loan of US $141,000,000 remaining. It is important to emphasize that this unforeseen circumstance did not affect the project’s execution in any way, as acquisitions were made with funds from the national treasury.

***Provincial political-institutional contexts***

1. Output 1, “Health Situation Rooms,” was influenced by jurisdictions’ political decisions that had an impact on their implementation. We might especially mention the case of the city of Buenos Aires which, by not signing on to Project FESP, could not participate in the Project’s financing of Situation Rooms. We would also mention the case of the Formosa province, where the change in health authorities led to the suspension of activities in the Situation Room during the third year of implementation, as it was not considered to be a priority within its overall policies.
2. Outputs 2 and 3, “MOCS for the general population and for the indigenous population,” also executed at the provincial level, were affected by the lack of interinstitutional coordination among the various areas involved: health ministries, communication departments and offices for promoting and assisting native peoples. This was the case in La Pampa and Salta.

**CHAPTER 3: Final considerations**

1. An important result of timely actions in anti-flu vaccination is that the number of deaths from the A/H1N1 virus decreased from 626 in 2009, to 2 in 2010 (outside risk groups), to 0 in 2011, as reported to the intensified surveillance system implemented during the pandemic and in the years that followed.
2. Regarding the anti-pneumococcal vaccination, efforts have been made to intensify its application to the at-risk population. During the 2010 campaign, it became clear that the records of the vaccine’s application did not reflect the demand for and application of doses in the provinces. This led to the need for reinforcing the doses from the national level to the SNVS for the 2011 campaign. That year the coverage achieved in terms of the doses distributed in all the country’s provinces was 93.3%.
3. The anti-pneumococcal vaccine, like the anti-flu vaccine, was incorporated into the national vaccination calendar, beginning on January 1, 2012, for children under one year of age. This was implemented together with strategies for diminishing morbimortality from respiratory illnesses, primarily from pneumonia in children, since pneumococcus may produce serious illness, with serious consequences and/or death.
4. The high coverage achieved during the pandemic, in terms of reporting ILI in the SNVS, was maintained with a high degree of compliance, and was used to evaluate the provision of outpatient treatments to symptomatic patients, with 105.8% for 2010 and 99.1% for 2011, in relation to the goals proposed for the project.
5. With regard to laboratory surveillance, the project consolidated the use of this surveillance tool, reporting a significant level of compliance. In 2009 a total of 36,000 laboratory tests conducted (baseline) was reported to the SNVS, and between 2010 and 2011, a total of 65,341 tests for respiratory viruses were reported.
6. An important externality from the project has been the use of SNVS components as a single registry system in all of the country’s provinces. This is because in order to certify the application of vaccines (PRONACEI), the provision of outpatient treatments (Module C2) and the application of laboratory tests (SIVILA Module), it was necessary for the cases to be reported to the SNVS. This led to an improvement in the quality and timeliness of the information provided to the SNVS, in terms of obligatory reporting of events.
7. Although the project was designed in an emergency context, with the aim of controlling the pandemic in Argentina caused by the A/H1N1 virus during 2009, two of the main structural objectives were to strengthen surveillance systems and to improve access to timely information for making health decisions. Thus, one of the project’s important contributions to these objectives was the implementation of Health Situation Rooms (HSRs) in all of the country’s provinces.
8. The project promoted the design and implementation of communication campaigns focused on prevention and self-care, directed at the general population and the indigenous population in particular. The experience has been successful, since it permitted the provinces to define strategic actions, and to implement and document them. From an institutional perspective, this is considered an action to be replicated by other programs in terms of interinstitutional management and coordination, with guidance from the national level and implemented with provinces and within them, among the various areas involved.
9. In general, the project management model has been considered to be successful, and has contributed to the optimization of resources, strengthening synergies among the various actors involved, minimizing operational costs and contributing to strengthening the country’s Ministry of Health. Actively involved in project coordination by the International Financing Units were the technical teams from the Epidemiology Department, PRONACEI, Health Economy Department, Communications area and the FESP Project. With this model it was possible to reprogram operational and administrative expenditures in line with technical components.
10. The results-based financing model promoted changes in guidelines for the management, evaluation and regulation of the organizations involved, facilitating improvements in strategic and operational planning actions and the re-engineering of processes and structures. The Situation Rooms were developed with this model, under a scheme of incentives and the development of mechanisms for evaluating and controlling results.
11. The emergency context generated by the pandemic served to deepen the commitment assumed in the provinces, formalized through the signing of letters of adherence in the country’s 23 jurisdictions. The guiding role of the National Ministry of Health with the Provincial Ministries of Health was strengthened in order to respond effectively to the emergency.
12. The study of the impact from health measures taken in Argentina to fight influenza offers an estimate of the significant magnitude of the economic impact generated by the Influenza A/H1N1 pandemic in the society during 2009 and 2010. This impact was specifically in terms of direct costs for treatment and prevention, the loss of productivity due to school and work absences, and the loss of opportunities for society. Also offered is an estimate of the life years lost through premature death, adjusted by life quality and disability.
13. We can affirm that the implementation of the A/H1N1 Emergency Project not only fulfilled the proposed objectives in a satisfactory manner, but it also contributed to the development of institutional and management capacities at both national and provincial levels in the area of public health policy implementation.

## Annex 8. Comments of Cofinanciers and Other Partners/Stakeholders

Not Applicable

## Annex 9. List of Supporting Documents

CEPAL (2010): Evaluación Preliminar del Impacto en Mexico de la Influenza A H1N1. Documento elaborado por el equipo conjunto CEPAL/OPS-OMS a solicitud y con el apoyo del Gobierno de México

Chowell G., Vibourd V, Wang X., S Bertozzi, S. and Miller, M. Adaptive Vaccination Strategies to Mitigate Pandemic Influenza: Mexico as a Case Study (2009)

Gentile A, J. Bakir, C Russ, S. Ruvinsky, G. Ensinich, A. Falaschi, A. Cané, F. Lución, M. Bruno, R. Moreno and N. Bidone, Estudio de las Enfermedades respiratorias por virus Influenza AHINI (pH1N1) en niños internados durante el ano de la pandemia. Experiencia de 34 centros en la Argentina, Archivos de Pediatría del Uruguay 2013, 84 (1).IEG Working Paper 2009/4. “Do Health Sector-Wide Approaches Achieve Results?”

Ministerio de Salud de la Nación (2013): Evaluación de Impacto de las Medidas Sanitarias contra la Influenza A (H1N1) en Argentina. Informe Final Ampliado.

Ministerio de Salud (2014): Proyecto de Emergencia para la Prevención, Vigilancia y Control de Enfermedades Tipo Influenza H1N1- BIRF 7843-AR Documento de Cierre. Enero de 2014

Raffo (2011) Epidemia de influenza A(H1N1) en la Argentina. Experiencia del Hospital Nacional Profesor Alejandro Posadas Comisión para la Contingencia de Influenza A (H1N1), Hospital Nacional Profesor Alejandro Posadas.

Schuchat, A., B. Bell, and S. Redd, The Science Behind Preparing and Responding to Pandemic Influenza: the Lessons and Limits of Science, Oxford journal of Medicine: Clinical infectious Diseaseas, vol 52, issue Suplement 1, p.1 and 2.

Unidad de Financiamieneto Internacional de Salud, Ministerio de Salud, Proyecto de Emergencia para la Prevención Vigilancia y Control de Enfermedades Tipo Influenza H1N1, BIRF 7843-AR

Unidad de Financiamiineto Internacional de Salud, Ministerio de Salud, Proyecto de Emergencia para la Prevención Vigilancia y Control de Enfermedades Tipo Influenza H1N1, BIRF 7843-AR, Segundo Semestre 2011

Unidad de Financiamieneto Internacional de Salud, Ministerio de Salud, Proyecto de Emergencia para la Prevención Vigilancia y Control de Enfermedades Tipo Influenza H1N1, BIRF 7843-AR, Primer Semestre 2012

Unidad de Financiamiento Internacional de Salud, Ministerio de Salud, Proyecto de Emergencia para la Prevención Vigilancia y Control de Enfermedades Tipo Influenza H1N1, BIRF 7843-AR, Segundo Semestre 2012

Unidad de Financiamieneto Internacional de Salud, Ministerio de Salud, Proyecto de Emergencia para la Prevención Vigilancia y Control de Enfermedades Tipo Influenza H1N1, BIRF 7843-AR, Primer Semestre 2013

Unidad de Financiamieneto Internacional de Salud, Ministerio de Salud, Proyecto de Emergencia para la Prevención Vigilancia y Control de Enfermedades Tipo Influenza H1N1, BIRF 7843-AR, Documento de Cierre, Enero 2014.

Unidad de Financiamieneto Internacional de Salud, Ministerio de Salud, Evaluacion de Impacto de las Medidad Sanitarias contra la Influenza A (H1N1) en Argentina. Informe Final Ampliado

Unidad de financiamieneto Internacional de Salud, Ministerio de Salud, Experiencias Exitosas de Sala de Situacion de Salud en Argentina, Programa de Emergencia para la Prevencion Vigilancia y Control de Enfermedades Tipo Influenza H1N1, 2013

Van Kerkhove, M. and A. Mounts (2011), 2009 versus 2010 comparison of influenza activity in southern hemisphere temperate countries.

World Bank- Independent Evaluation Group (2013) Responding to Global Public Bads

Learning from Evaluation of the World Bank Experience with Avian influenza 2006-2013

World Health Organization, Evaluation of a Pandemic A (H1N1) 2009, April 2009-August 2010

## Annex 10. Map

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1. WHO, Evaluation of a Pandemic A(H1N1) 2009, April 2009-August 2010, pg. 36. [↑](#footnote-ref-1)
2. WHO, Global Alert and Response (GAR) - Pandemic (H1N1) 2009 update. The impact of the pandemic on countries varied widely according to factors such as the season at the time of the outbreak, the extent of virus communicability, differences in health care practices and the capacity of the population for response. (http://www.who.int/wer/2009/wer8422/en/index/html) [↑](#footnote-ref-2)
3. A striking difference between the A/H1N1 virus and seasonal influenza is that the former seemed to select people in a younger age cohort. Pregnant women and individuals with underlying conditions were at higher risk for complications. The true extent of death attributable to A/H1N1 is likely higher since many people died without being tested. [↑](#footnote-ref-3)
4. MSN, Influenza Pandemica (H1N1) 2009, Informe Semana Epidemiologica No. 52, January 6, 2010. [↑](#footnote-ref-4)
5. The MSN deployed mobile units and hired extra health care workers to compensate and offset the increased demand. [↑](#footnote-ref-5)
6. In 2009, in addition to the influenza pandemic, Argentina suffered one of the worst dengue outbreaks since the reappearance of the disease in the country. [↑](#footnote-ref-6)
7. Once a pandemic wave starts the possibility of a second or more waves (viral activity) is likely because the same virus remains circulating within the community. [↑](#footnote-ref-7)
8. The Project coordinated with Plan Nacer regarding immunization reports (EPI) data to identify the population to receive vaccination, treatment and education or preventive measures against A/H1N1. [↑](#footnote-ref-8)
9. For more information regarding the monitoring framework see pages 62 and 63 of the PAD and Section 2.3 of this ICR. [↑](#footnote-ref-9)
10. See section 2.3 for a list of the indicators under the RBF scheme. [↑](#footnote-ref-10)
11. Health situation rooms are physical spaces where information is collected and analyzed in order to facilitate the identification of priority health programs and contribute to effective decision-making. The criteria for HSR certification was based on the following: (i) institutional mechanisms for the integration and diffusion of information; (ii) health quality improvements; (iii) improvements in the technical quality of produced analysis; and (iv) HSR functioning. [↑](#footnote-ref-11)
12. The A/H1N1 epidemic had a different evolution than other influenza strains, therefore vaccines targeted the following high-risk groups (approximate numbers): (i) health professionals (1 million); (ii) community workers (1 million); (iii) pregnant women (700,000); (iv) the morbidly obese (400,000); (v) those older than six months of age with underlying diseases that affect the immune system (2 million); and (vi) children from six months to five years of age (3.5 million). [↑](#footnote-ref-12)
13. To finance a second A/H1N1 vaccination (the 2011 National Free Vaccination Campaign against Influenza). [↑](#footnote-ref-13)
14. The reallocation of loan proceeds (i) increased Category 1 disbursements (non consultancy and consultancy services) from US$1.8 to US$2.4 million in order to finance additional years of training activities, consolidate strengthening of the epidemiological surveillance system and extend the Independent Technical Audit *(Auditoria Técnica Independiente* - ITA); (ii) reduced Category 2 (goods) from US$82.8 to US$80.51 million to reflect activities already initiated in the 2011-2012 Procurement Plan; (iii) increased Category 3 (outputs) from US$4.9 to US$8.25 to provide an additional year of financing for the situation rooms (which would now receive a level II certification), and consolidate epidemiological surveillance system achievements; and (iv) reduced Category 4 (outputs) and Category 5 (operating costs). [↑](#footnote-ref-14)
15. IEG Working Paper 2009/4. “Do Health Sector-Wide Approaches Achieve Results?” p xii. [↑](#footnote-ref-15)
16. The Project teams worked closely with the Provinces to prepare the plans, including holding several workshops and providing materials in the local languages. All Provinces with indigenous populations except La Pampa prepared an IPP in 2008 in a participative approach involving social evaluations. [↑](#footnote-ref-16)
17. Numerous procurement issues arose during the purchase of ambulances, which resulted in the rejection of the first bidding process and a two-year purchase delay, which was finally successfully achieved. [↑](#footnote-ref-17)
18. Good surveillance mechanisms allow governments to efficiently invest and distribute health care resources. Due to influenza virus variability, the capacity to evaluate data quickly provides the foundation for an effective response. [↑](#footnote-ref-18)
19. Schuchat, A., B. Bell, and S. Redd, The Science Behind Preparing and Responding to Pandemic Influenza: the Lessons and Limits of Science, Oxford journal of Medicine: Clinical infectious Diseaseas, vol 52, issue Suplement 1, p.1 and 2. [↑](#footnote-ref-19)
20. The process includes registering, analyzing, and disseminating information on priority diseases, including the gathering of statistics from clinics all over the country; promoting research on prevalent, serious and preventable transmissible diseases; and analyzing, in an effective and timely manner, statistics on disease prevalence and other data, to monitor the country’s public health status. [↑](#footnote-ref-20)
21. The city of Buenos Aires did not join the Program, while the province of Formosa did not submit their situation room for certification in 2012, as the new health authorities did not support their implementation. [↑](#footnote-ref-21)
22. The indicator was only applied in year three of Project implementation and involved more complex certification criteria, including the establishment of institutional mechanisms to integrate and diffuse information and the quality improvement of provincial health information. [↑](#footnote-ref-22)
23. One MOC per 72,000 inhabitants. [↑](#footnote-ref-23)
24. Acording to Project design, each province with an IPP was to implement three MOCs, however three provinces failed to elaborate them. Rio Negro decided that the indigenous population could be served with the provincial MOCs, while La Pampa and Salta found it difficult to establish IPP MOCs due to the lack of a communication unit within the provincial ministry of health. [↑](#footnote-ref-24)
25. Informe de Gestión Semestral de Unidad Coordinadora del Proyecto y el Área de Monitoreo y Evaluación UFI-s (Mayo 2012), Proyecto de Emergencia para la prevención, vigilancia control de Enfermedades Tipo Influenza H1N1 BIRF 7843-AR, Segundo Semestre 2011, p. 8. [↑](#footnote-ref-25)
26. Graph source: Sistema de Vigilancia de la Salud (SNVS-C2). [↑](#footnote-ref-26)
27. During the first restructuring, funds allocated to Category of disbursement 4 (outputs) were increased to finance the 2011 National Free Vaccination Campaign against Influenza (second year) due to the successful reduction of virus communicability from the 2010 campaign. [↑](#footnote-ref-27)
28. The costs may also be inflated as the costs of a second wave could have been lower than those of the first wave. [↑](#footnote-ref-28)
29. Some provinces, such as Santa Fe and Tucuman did maintain room functioning. [↑](#footnote-ref-29)
30. Controlling Avian Influenza: Learning from evaluation of the World Bank efforts 2006-2013. [↑](#footnote-ref-30)
31. Includes MSN investments in 2010 and 2013 in vaccines, antivirals and tests. It does not include other associated costs. [↑](#footnote-ref-31)
32. The process includes registering, analyzing, and disseminating information on priority diseases, including the gathering of statistics from clinics all over the country; promoting research on prevalent, serious and preventable transmissible diseases; and analyzing, in an effective and timely manner, statistics on disease prevalence and other data, to monitor the country’s public health status. [↑](#footnote-ref-32)
33. The city of Buenos Aires did not join the Program, while the province of Formosa did not submit their situation room for certification in 2012, as the new health authorities did not support their implementation. [↑](#footnote-ref-33)
34. The indicator was only applied in year three of Project implementation and involved more complex certification criteria, including the establishment of institutional mechanisms to integrate and diffuse information and the improvement of health information quality in the provinces. [↑](#footnote-ref-34)
35. One MOC per 72,000 inhabitants. [↑](#footnote-ref-35)
36. Acording to Project design, each province with an IPP was to implement 3 MOCs, however three provinces failed to elaborate them. Rio Negro decided that the indigenous population could be served with the provincial MOCs, while La Pampa and Salta found it difficult to establish IPP MOCs due to the lack of a communication unit within the provincial ministry of health. [↑](#footnote-ref-36)
37. Informe de Gestión Semestral de Unidad Coordinadora del Proyecto y el Área de Monitoreo y Evaluación UFI-s (Mayo 2012), Proyecto de Emergencia para la prevención, vigilancia control de Enfermedades Tipo Influenza H1N1 BIRF 7843-AR, Segundo Semestre 2011, p. 8 [↑](#footnote-ref-37)
38. Graph source: Sistema de Vigilancia de la Salud (SNVS-C2). [↑](#footnote-ref-38)
39. This accounts for the highest coverage rate of the eligible population in the Latin America Region for the winter season. The vaccination campaigns in 2010 and 2011 offered free vaccination in all hospitals and vaccination centers to high risk individuals. [↑](#footnote-ref-39)
40. In Mexico, for example, estimates indicate an economic impact of USD$9.1 billion, approximately 1 percent of GDP. [↑](#footnote-ref-40)
41. Source: <http://municipios.msal.gov.ar/h1n1/parte_influenza/parte-91-26-02-10.pdf> [↑](#footnote-ref-41)
42. Mothers of infants under 6 months of age, children from 6 to 24 months of age, pregnant women, post-partum women, health personnel, persons over 65 years of age, persons with chronic illnesses (respiratory, cardiac, renal, diabetic, weakened immunity and morbidly obese). [↑](#footnote-ref-42)
43. One room for each of 20 provinces (Catamarca, Chaco, Chubut, Corrientes, Entre Ríos, Formosa, Jujuy, La Pampa, La Rioja, Mendoza, Misiones, Neuquén, Río Negro, Salta, San Juan, San Luis, Santa Cruz, Santiago del Estero, Tierra del Fuego and Tucumán); two rooms for Córdoba (Córdoba Capital and Río Cuarto) and Santa Fe (Santa Fe Capital and Rosario); one room for the city of Buenos Aires; 13 rooms for the Buenos Aires province (12 for the Health Regions and one central provincial room). [↑](#footnote-ref-43)
44. The city of Buenos Aires did not participate in the project, and the Formosa room did not certify its operations during 2012. [↑](#footnote-ref-44)
45. Buenos Aires, 10 Rooms (Central, RS 1, RS II, RS IV, RS V, RS VI, RS VII, RS IX, RS XI, RS XII); Chaco, 1 Room; Chubut, 1 Room; Córdoba, 2 Rooms (Capital and Río Cuarto); Entre Ríos, 1 Room; La Pampa, 1 Room; La Rioja, 1 Room; Misiones, 1 Room; Neuquén, 1 Room; Río Negro, 1 Room; Salta, 1 Room; San Juan, 1 Room; San Luis, 1 Room; Santa Cruz, 1 Room; Santa Fe, 2 Rooms (Capital and Rosario), Santiago del Estero, 1 Room; and Tucumán, 1 Room. [↑](#footnote-ref-45)
46. The required profile was the following: a university-educated professional with abilities in developing cross-cutting epidemiological studies. Profiles with the required skills: health sciences (physicians, nutritionists, psychologists, biochemists, kinesiologists, obstetricians, odontologists, pharmacists, and university graduates in nursing or other health sciences), social sciences and humanities, statistics, social communication, social service, administration, health administration, as well as biological, natural and veterinary sciences; preferably with training in health and experience in epidemiological surveillance. [↑](#footnote-ref-46)