

PIVOT's Role in E²M²

the interface between health care and research

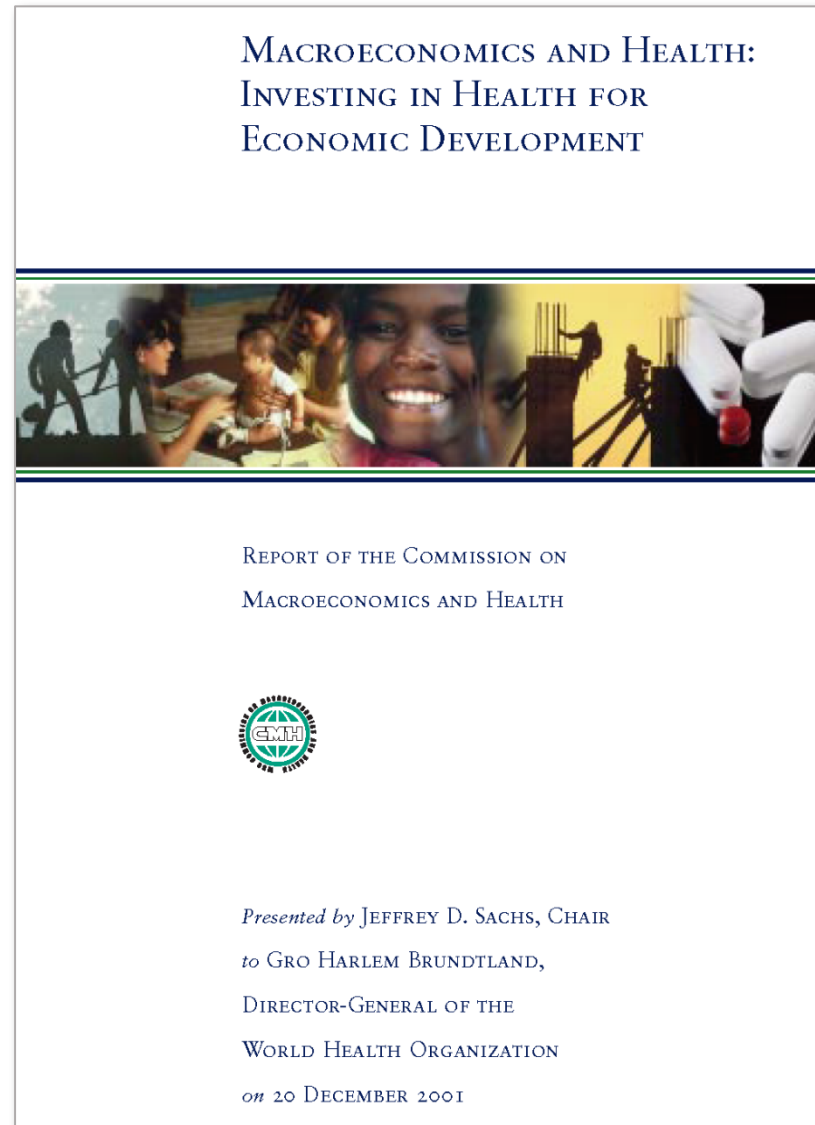




Investing in health for economic development



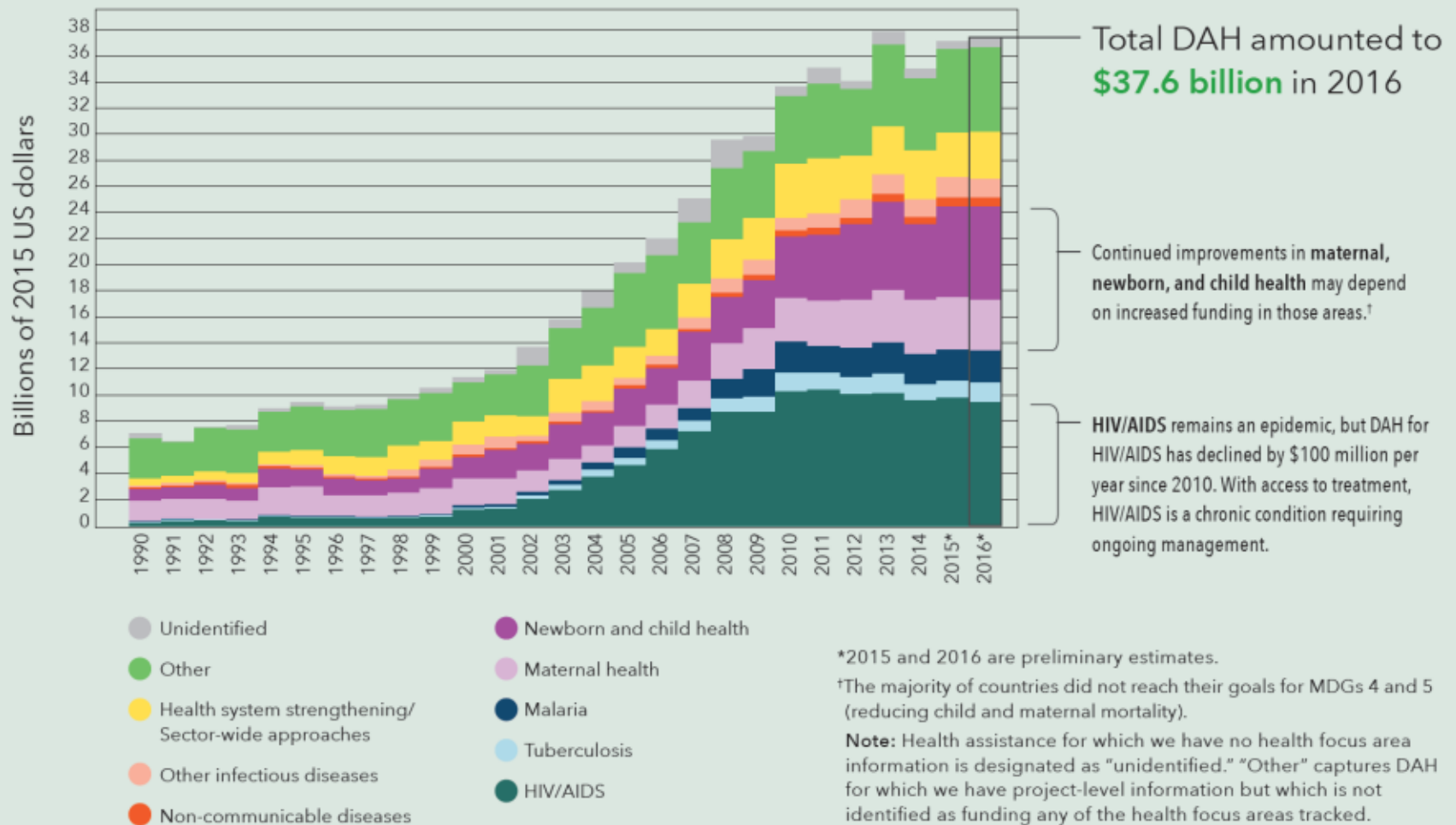
2000-2015



Development assistance for health (DAH)

Growth is stagnant, but the needs haven't gone away

DAH by health focus area, 1990-2016



1

Major improvements in health and economic development



4

**REDUCE
CHILD MORTALITY**

The global under-5 mortality rate reduced by 53% in the past 25 years
(from 90.6 to 42.5 per 1000 live births)



5

**IMPROVE
MATERNAL HEALTH**

The global maternal mortality rate reduced by 43.9% in the past 25 years
(from 385 to 216 per 100,000 live births)



6

**COMBAT
HIV/AIDS AND TUBERCULOSIS**

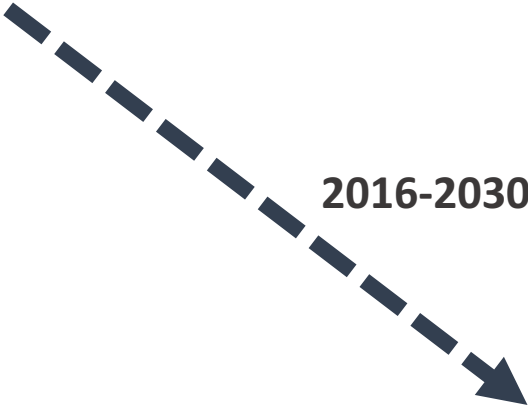
Mortality related to HIV, Tuberculosis and Malaria declined by 30-60 percent
(depending on the disease) between 2000 and 2015

1

A new framework of action



2000-2015



2016-2030



1

Ensuring sustainability through horizontal programs

At least 400 million people worldwide lack access to essential health services

THE WHO HEALTH SYSTEM FRAMEWORK

SYSTEM BUILDING BLOCKS

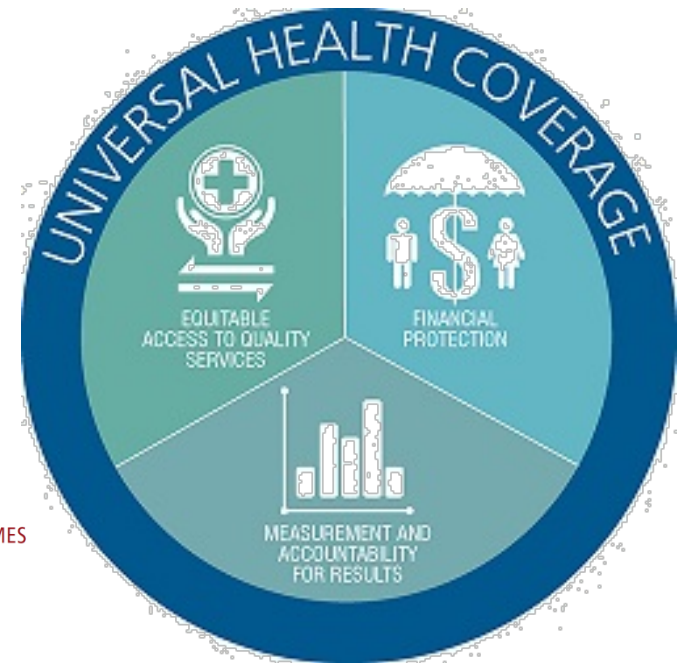


ACCESS
COVERAGE



QUALITY
SAFETY

OVERALL GOALS / OUTCOMES

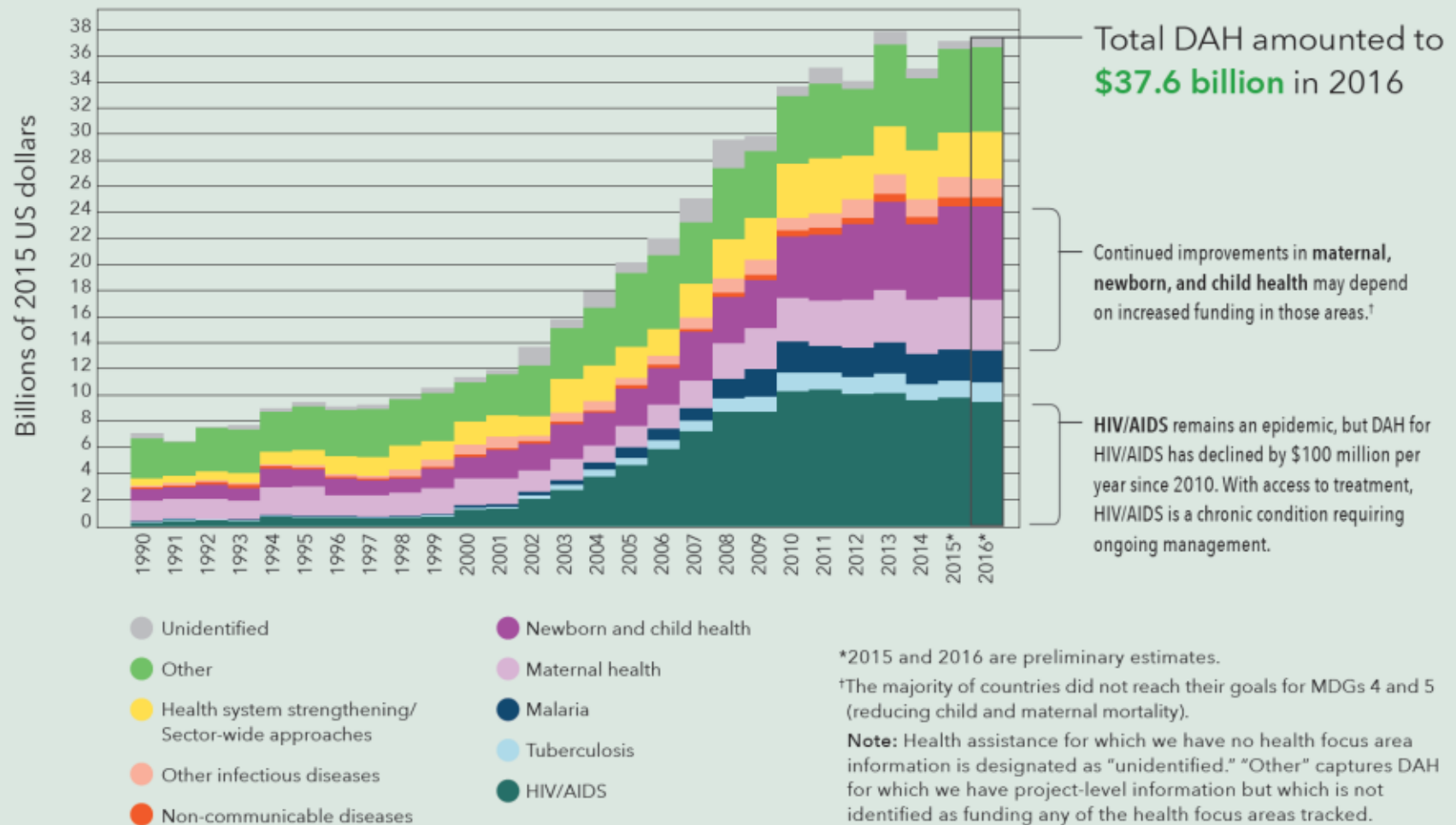


THE SIX BUILDING BLOCKS OF A HEALTH SYSTEM: AIMS AND DESIRABLE ATTRIBUTES

Development assistance for health (DAH)

Growth is stagnant, but the needs haven't gone away

DAH by health focus area, 1990-2016



« Achieving convergence in global health by 2035 (...) will only be possible if the very large “delivery gap” can be closed—that is, the gap between the interventions known to be effective and what is actually being delivered. »



Lancet Global Health 2035 Commission on Investing in Health

REIMAGINING GLOBAL HEALTH

AN INTRODUCTION

PAUL FARMER, JIM YONG KIM, ARTHUR KLEINMAN, AND MATTHEW BASILICO



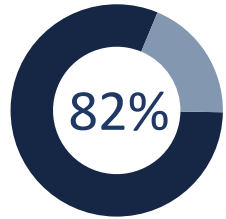
« When assessments of delivery do occur, they are often narrow studies of the cost-effectiveness of a single intervention rather than the complex set of them required to deliver value to patients and their families »

J. Kim, P. Farmer, M. Porter (2013) *The lancet*



>> Building a platform for HSS research

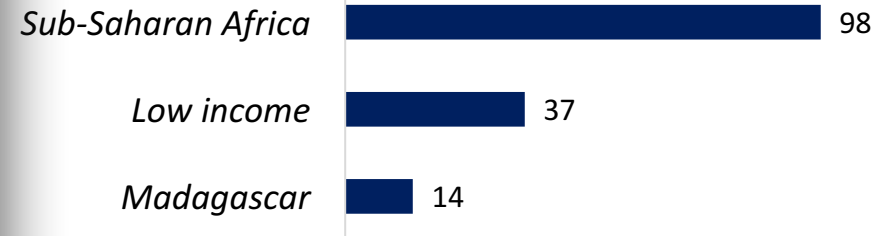
Challenges and opportunities in Madagascar



Poverty rate
(1,90 USD/day)



Lowest health expenditure in the world
(USD per capita, 2014)



Our Approach

We are creating an **evidence-based model health district** in partnership with the Ministry of Health that can be scaled throughout Madagascar.

Guided by existing policies, the model includes the integration of clinical programs, strengthened systems, and data and research...



...which are implemented across all levels of the health system:



As of the end of 2016, PIVOT had begun the **transformation of the District Hospital**, established **four model health centers**, and constructed **twenty community health posts**.

[Video link](#)

IFANADIANA DISTRICT



2 A platform for health system strengthening



1. Health System



Hospital



Health center



Community

Health System Strengthening (Inputs)

- Service Delivery
- Health Workforce
- Information Systems
- Medicines and Supplies
- Financing
- Leadership and governance

Health System Performance (Outputs)

- Service and Readiness
- Quality
- Access

Population Health (Outcomes and Impacts)

- Changes in population health

3. Analysis

- Routine and Contextual Analysis
- Policy Implementation Research
- Scientific Research

2. Data Platform

Input metrics

Quality of Care Assessments

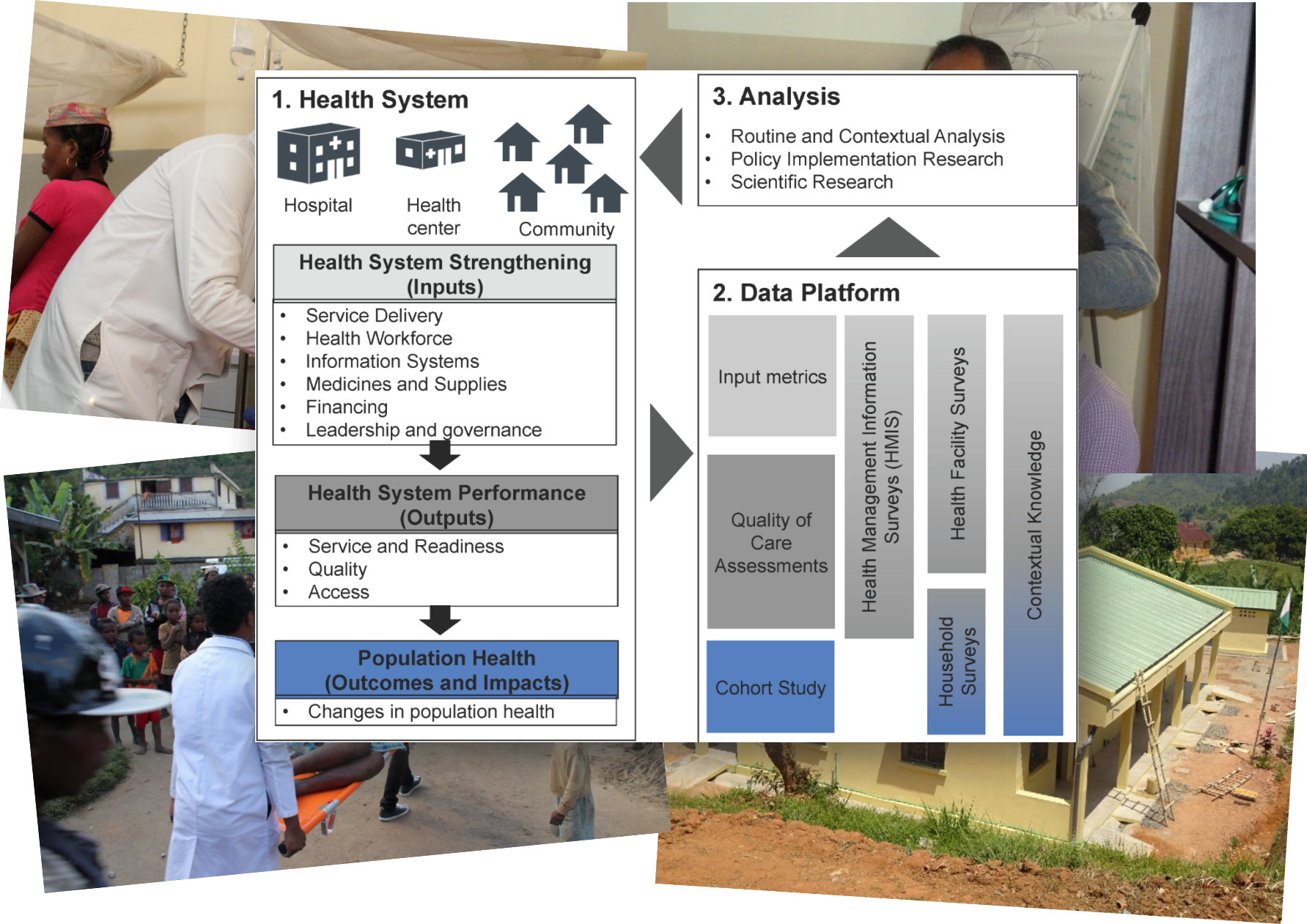
Cohort Study

Health Management Information Surveys (HMIS)

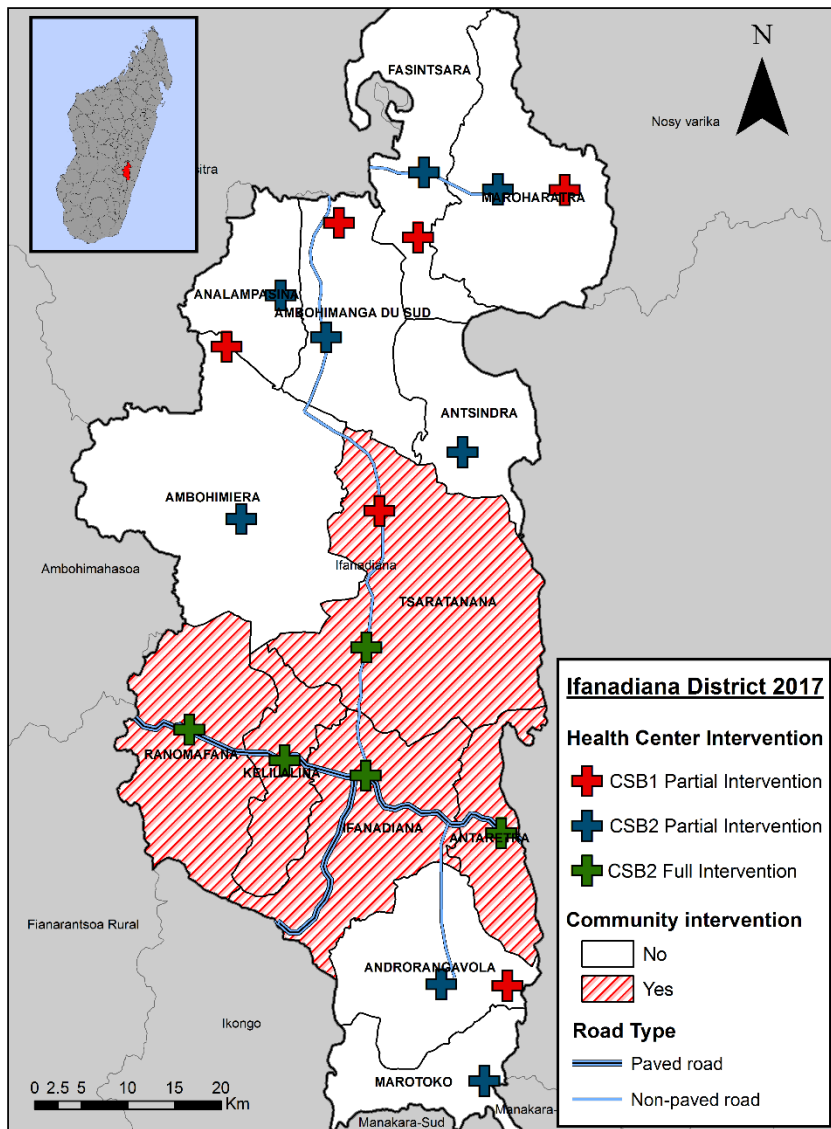
Health Facility Surveys

Household Surveys

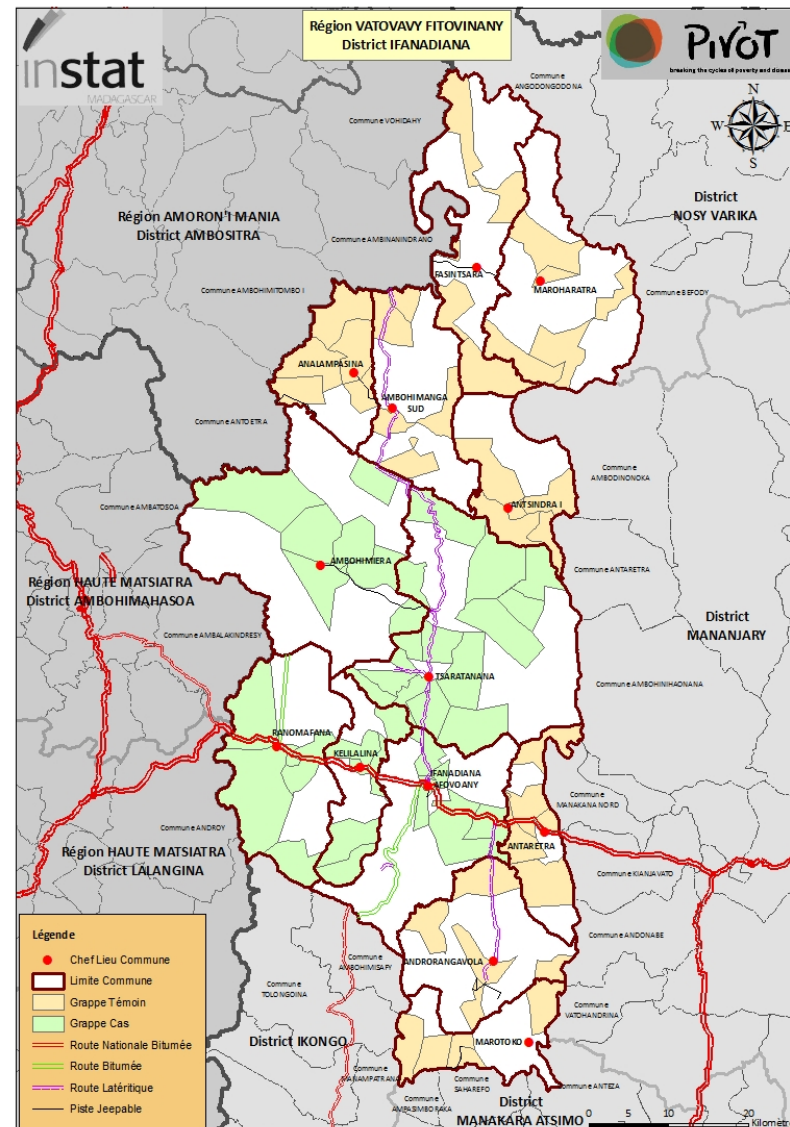
Contextual Knowledge



PIVOT intervention



Data collection



PIVOT intervention	2014	2015	2016	2017	2018
	<ul style="list-style-type: none"> Referral network User fee exemptions Facility Renovations Medical staff hires 	<ul style="list-style-type: none"> Referral network User fee exemptions Facility Renovations Medical staff hires Medical trainings Malnutrition program (1^{ary} & 2^{ary} level) Support to IMCI 	<ul style="list-style-type: none"> Referral network User fee exemptions Facility Renovations Medical staff hires Medical trainings Malnutrition program (1^{ary} & 2^{ary} level) Support to IMCI Community-level care 	<ul style="list-style-type: none"> Referral network User fee exemptions Facility Renovations Medical staff hires Medical trainings Malnutrition (1^{ary}, 2^{ary} & community level) Support to IMCI Community-level care (expansion) Tuberculosis program 	<ul style="list-style-type: none"> Referral network User fee exemptions Facility Renovations Medical staff hires Medical trainings Malnutrition (1^{ary}, 2^{ary} & community level) Support to IMCI Community-level care (expansion) Tuberculosis program
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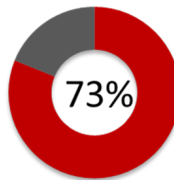
THE SURVEY

1,600 Households across Ifanadiana
Information on > 8,000 individuals

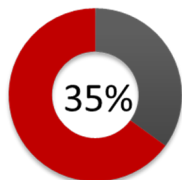
1 in 6 Under-5 Mortality



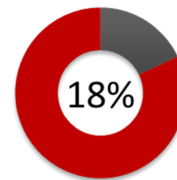
1 in 14 Lifetime Maternal Mortality



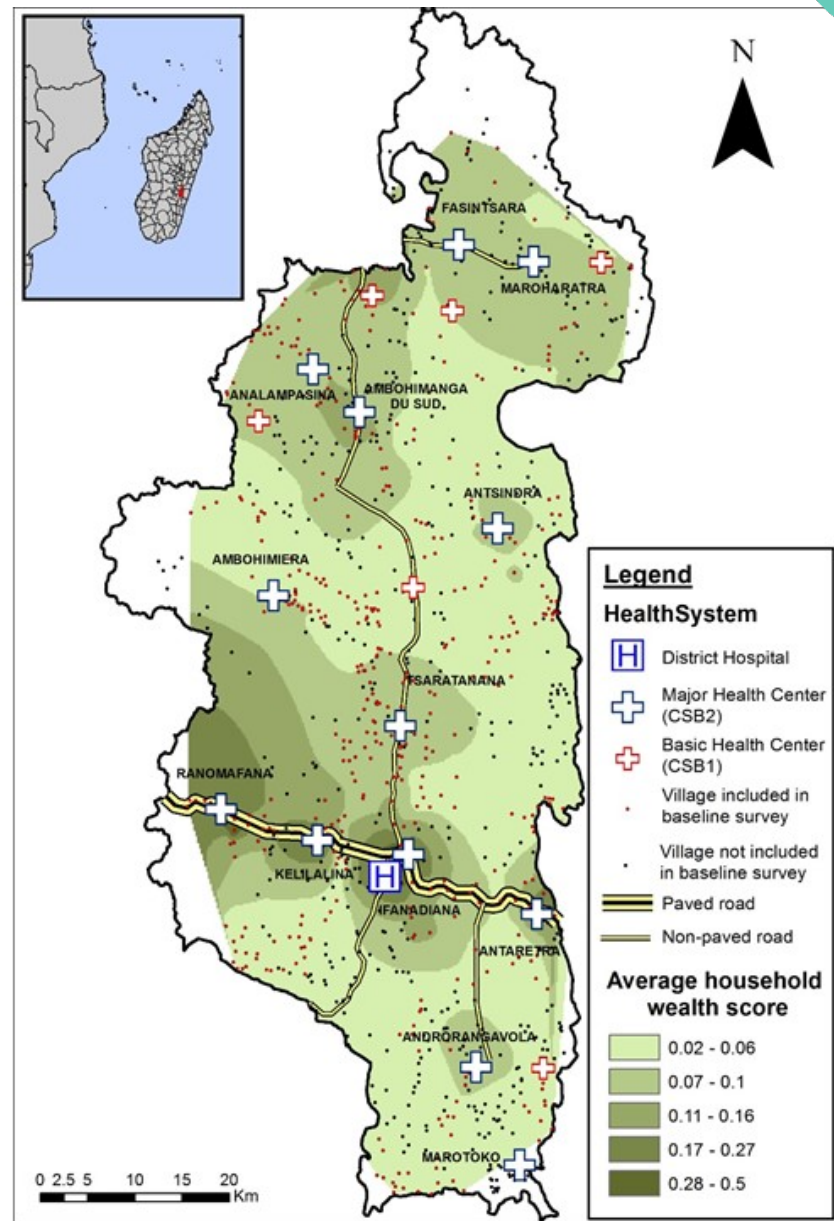
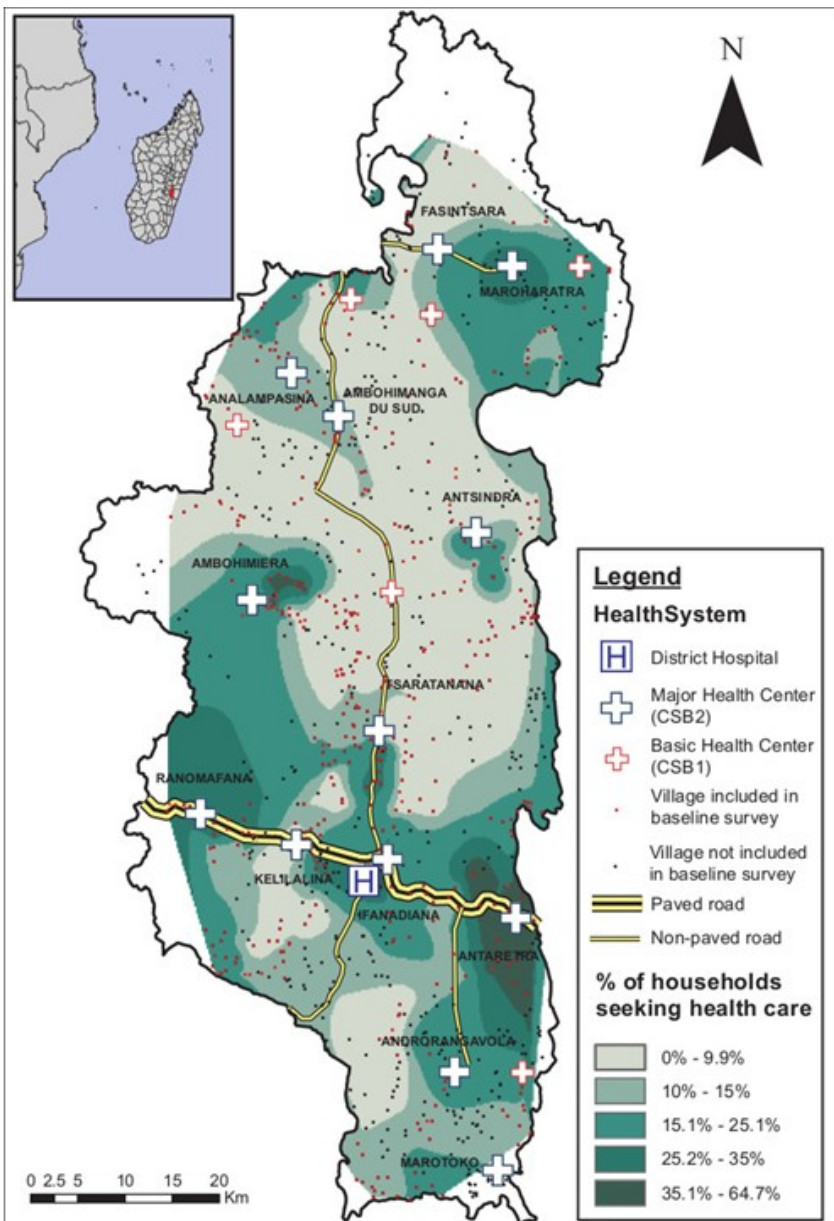
Population living in
extreme poverty



Children under
5 with ARI
taken for care

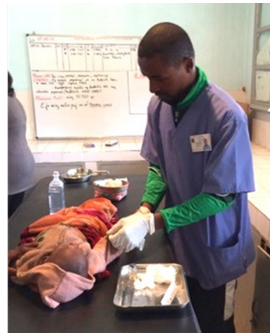


Mothers delivering
last baby in a
health care facility





Supply Chain Management



Patient Care



Reimbursement of costs

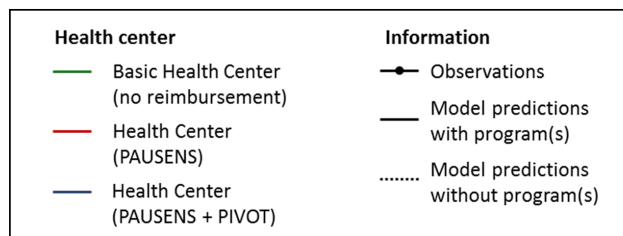


PAUSENS program characteristics

- ✓ Since February 2014 at all CSBs 2 in the district
- ✓ Target: children <5 & pregnant women of the whole 185,000 district population
- ✓ Reimbursement of all medical visit costs

PIVOT program characteristics

- ✓ Since October 2014 at 4 PIVOT supported CSBs
- ✓ Target: all patient in the catchment population (1/3 of 185,000 district population)
- ✓ Reimbursement of 40 essential meds and 20 consumables



Impact of user-fee removal

65% increase In outpatient consultations (all patients)

52% increase In outpatient consultations (children under five)

25% increase In maternal consultations (prenatal, deliveries, postnatal)

Cost Per Patient

\$0.68

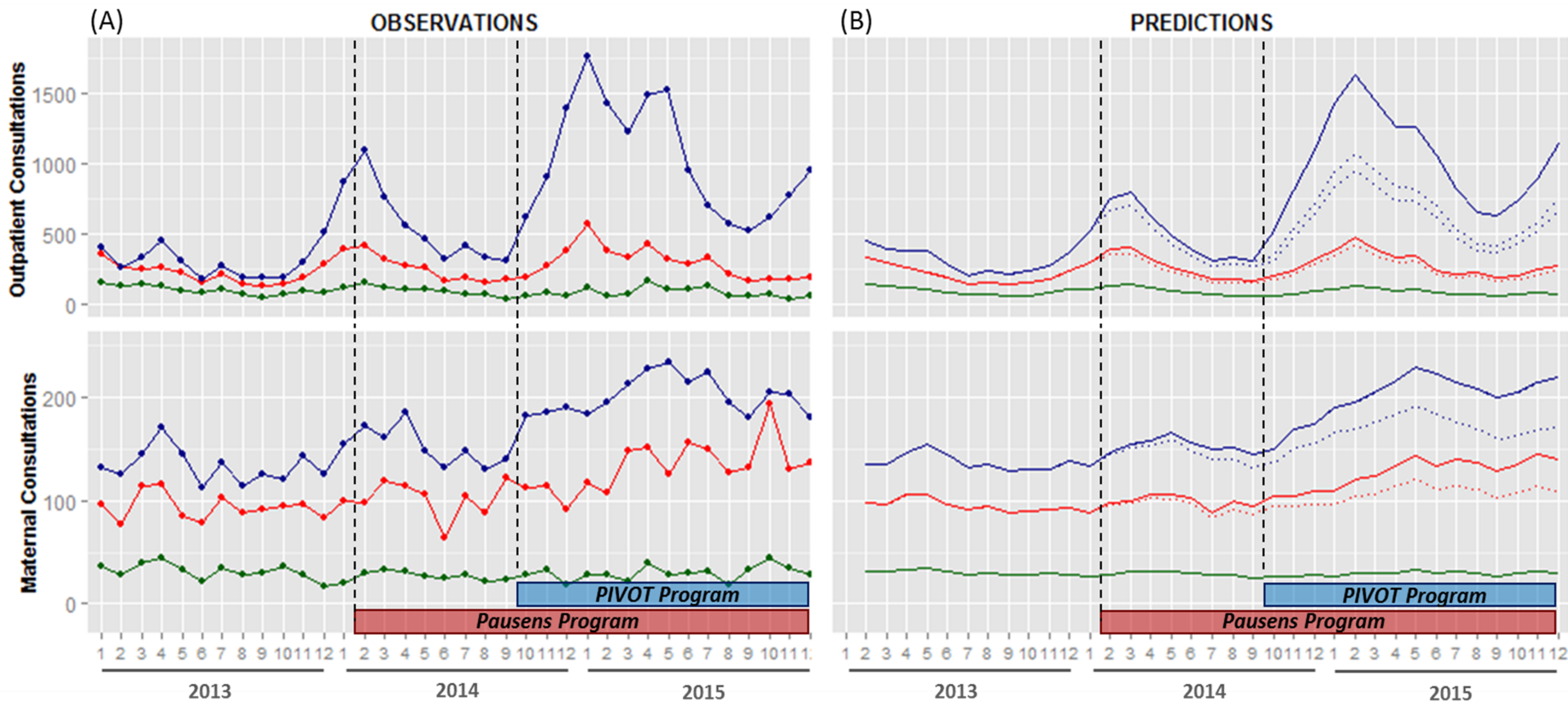


Health Center

\$26

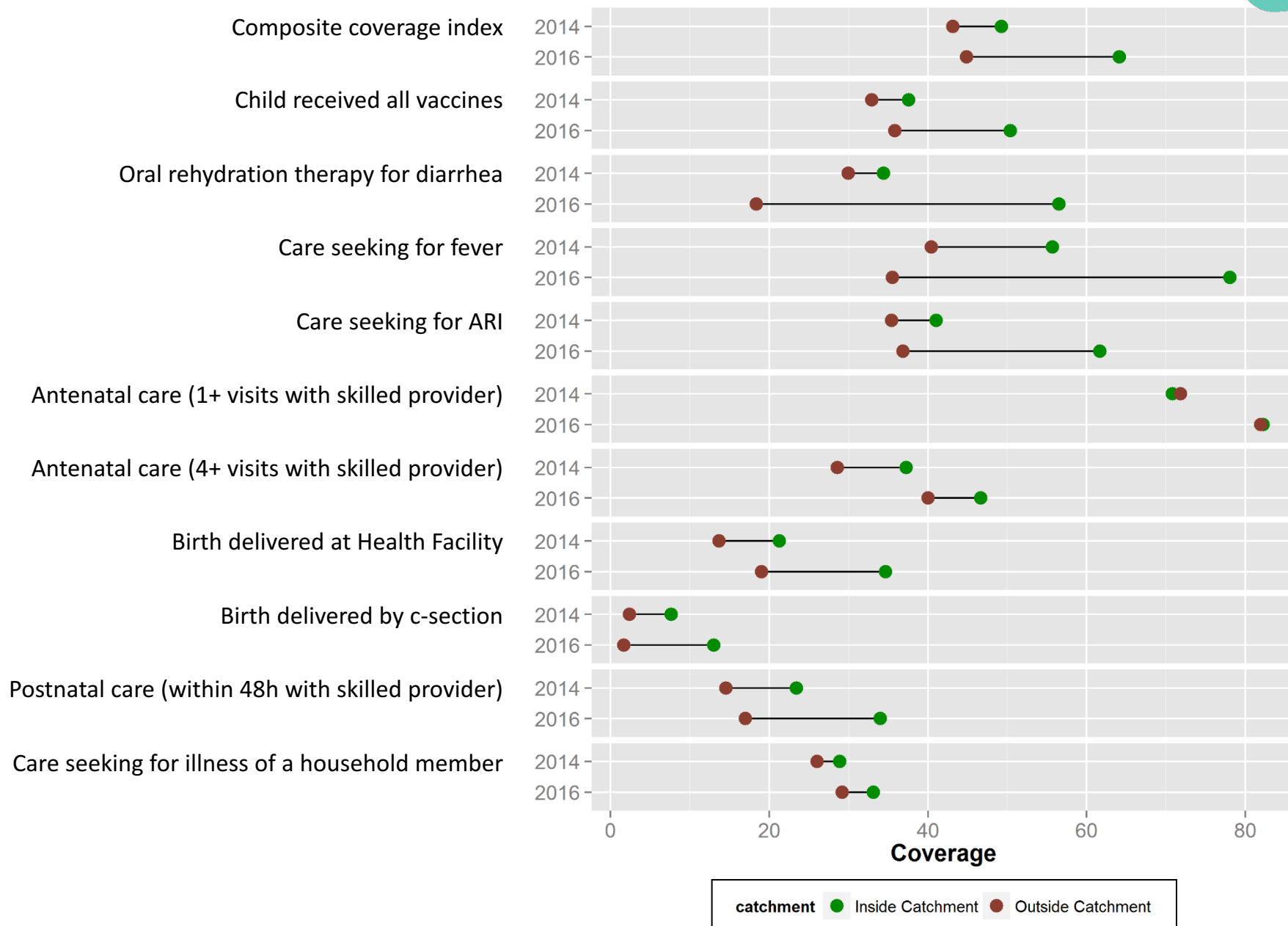


Hospital

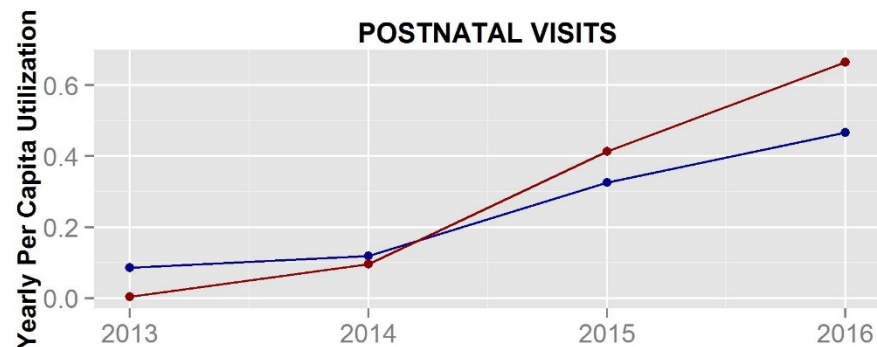
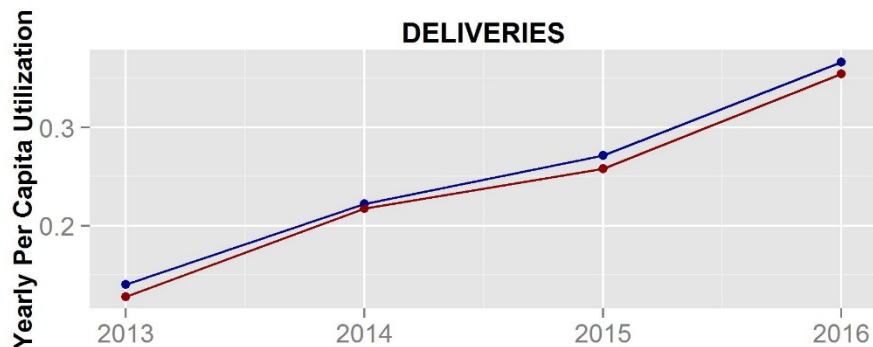
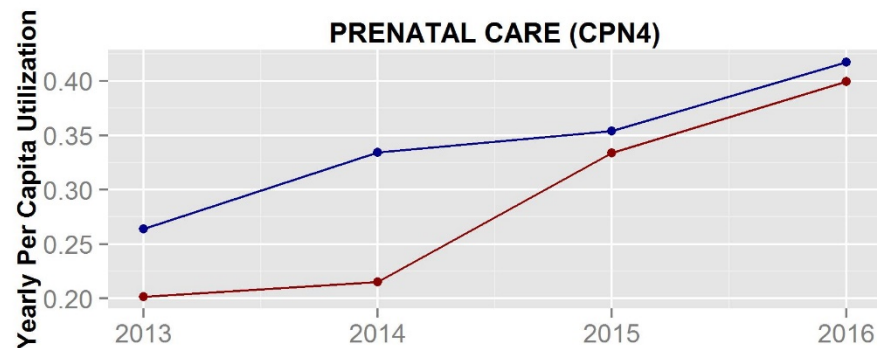
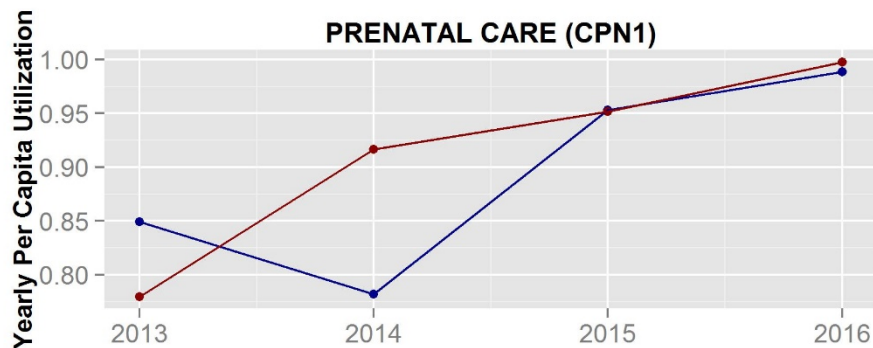
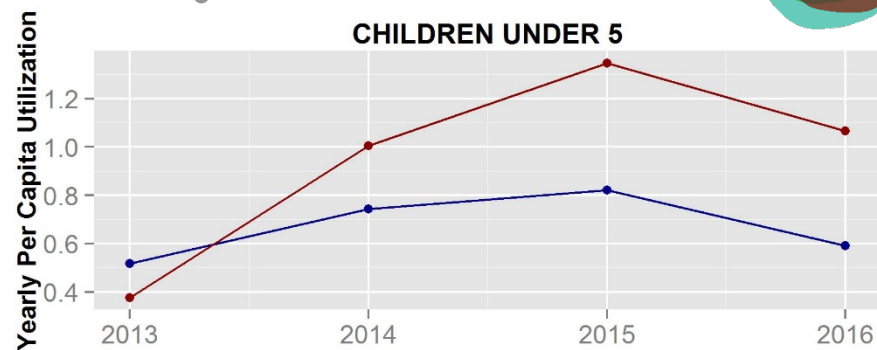
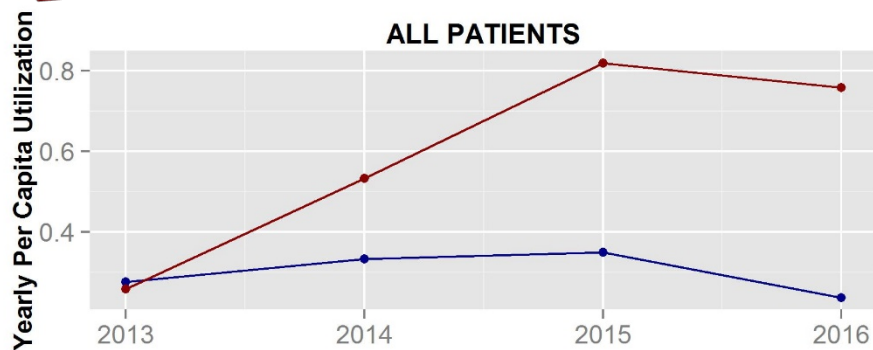


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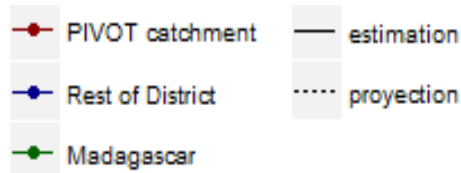
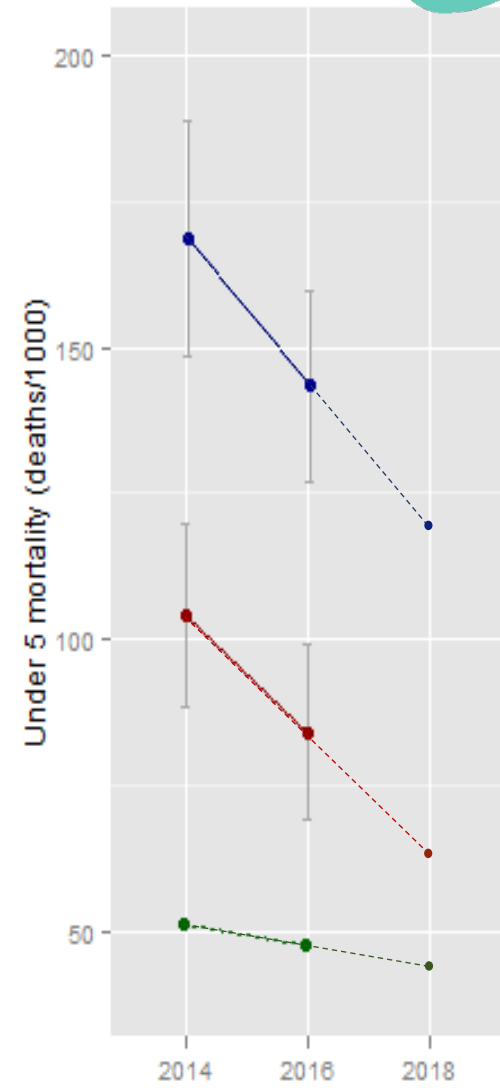
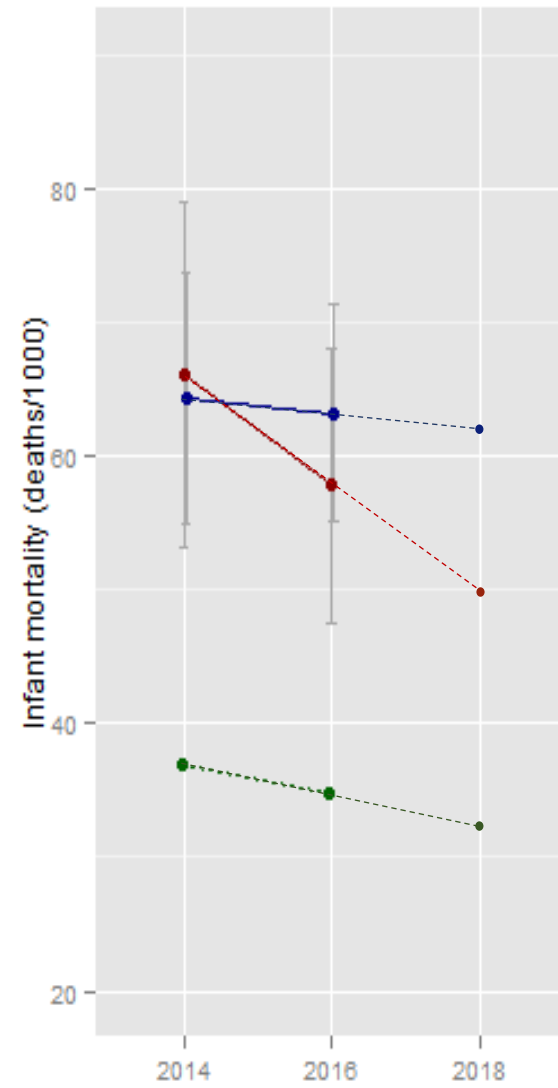
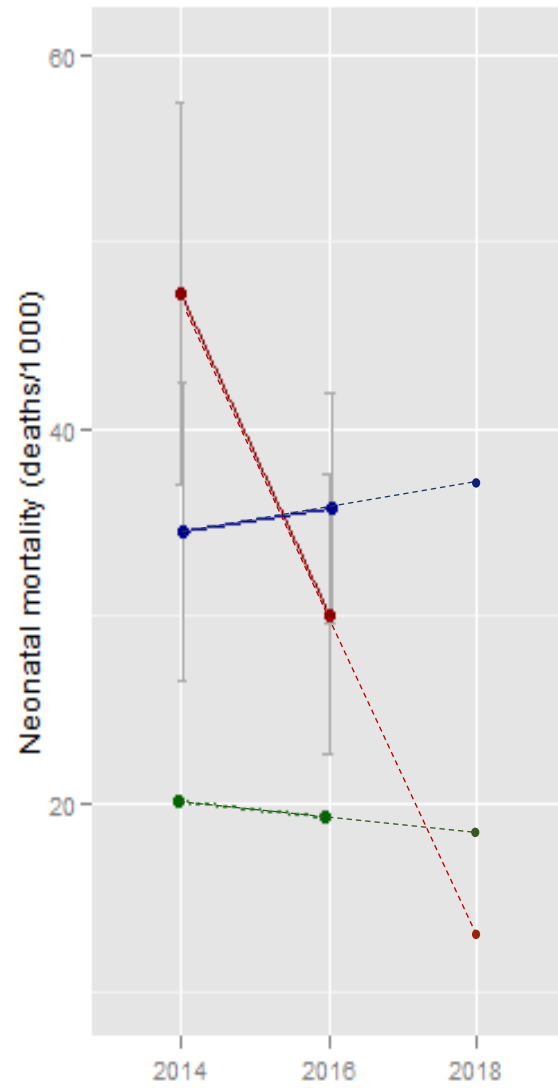
Changes in coverage: catchment vs. rest of Ifanadiana



Changes in healthcare utilization

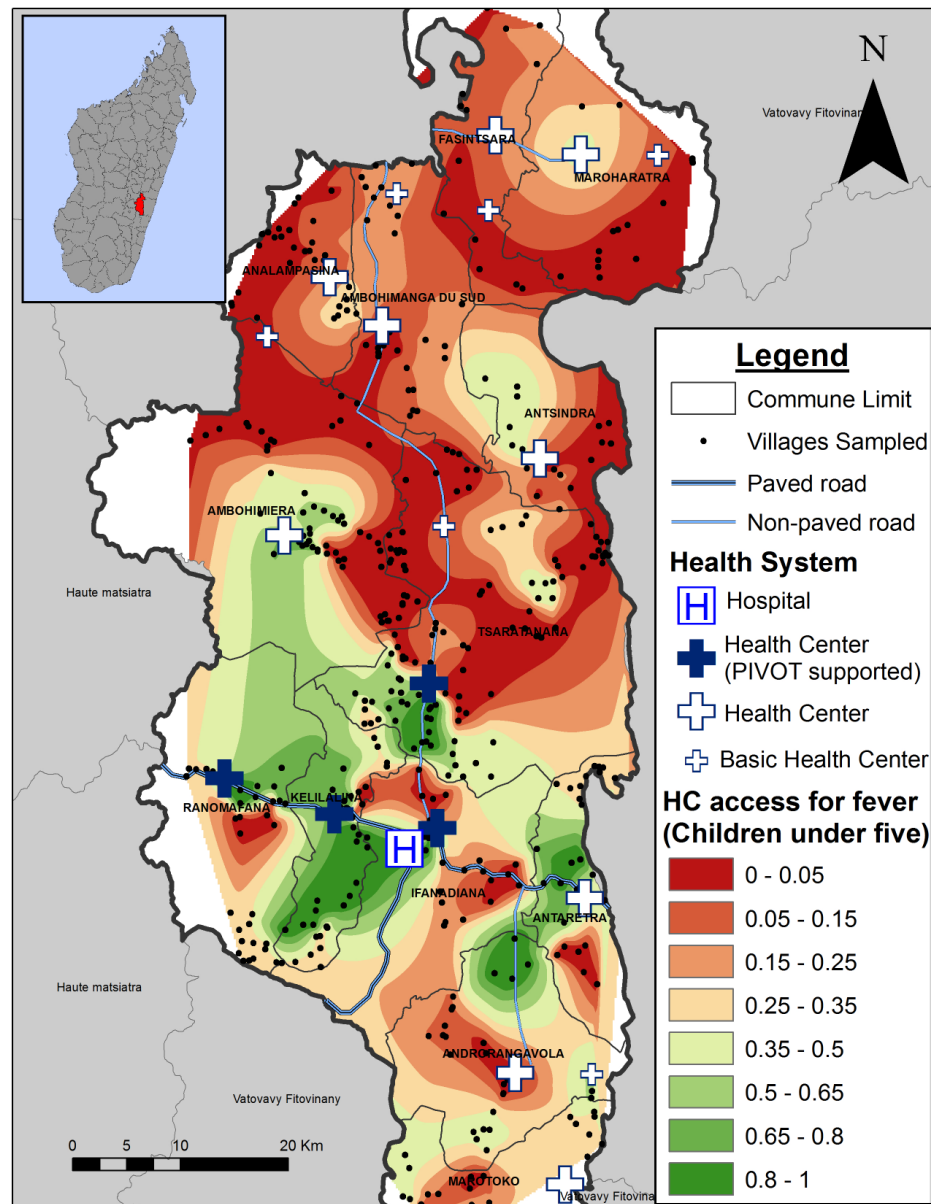
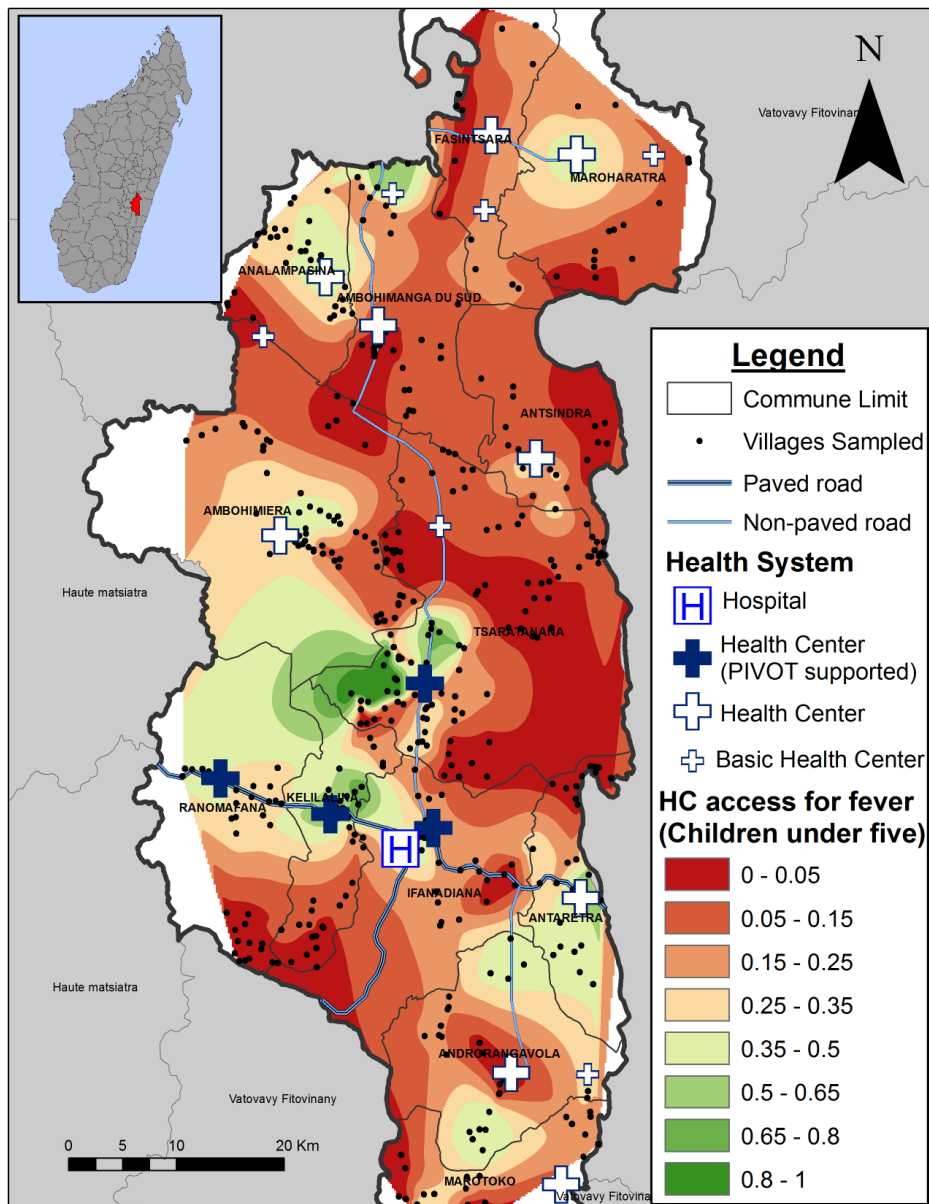


Changes in child mortality



2014

2016



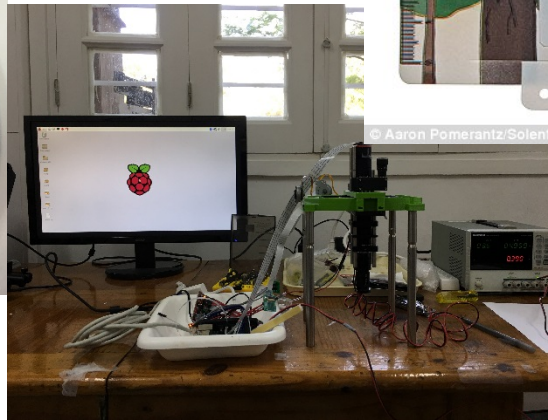
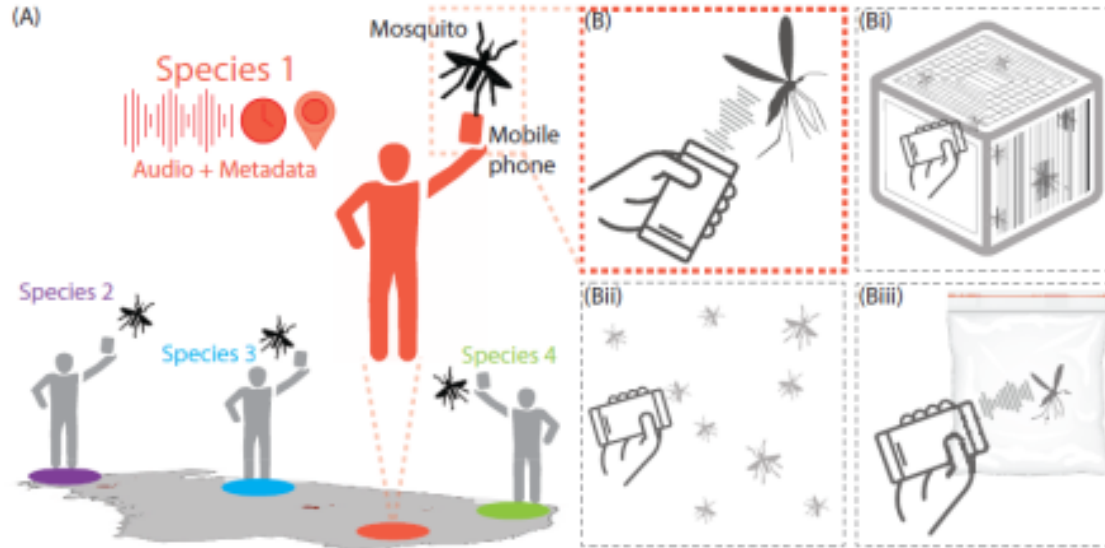


»» Innovation, field research & planetary health



Driving innovation in global health

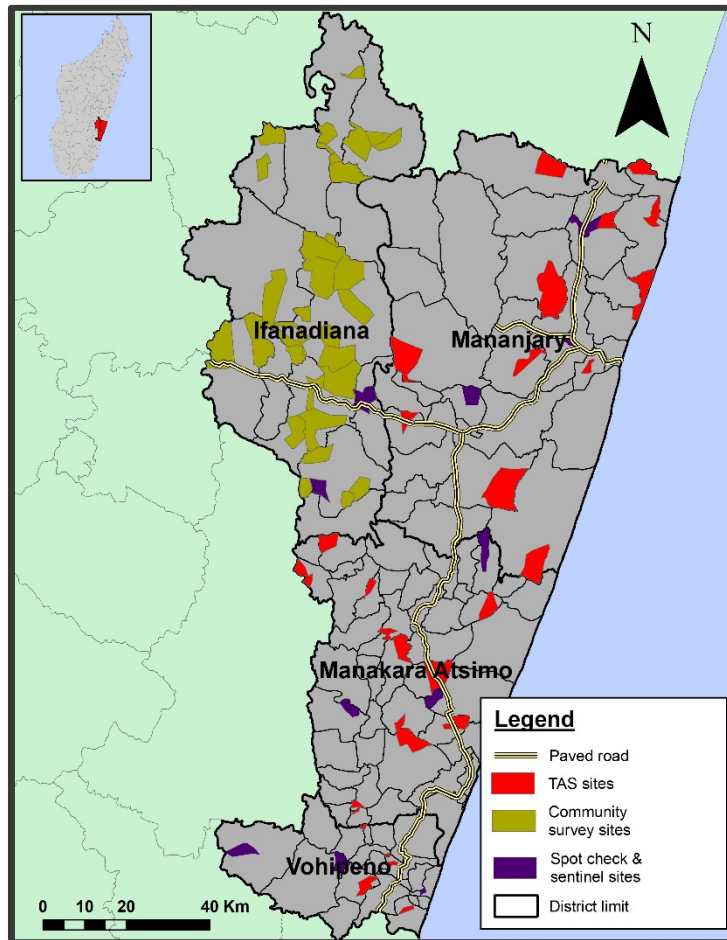
Field testing of frugal technologies for disease surveillance and diagnosis



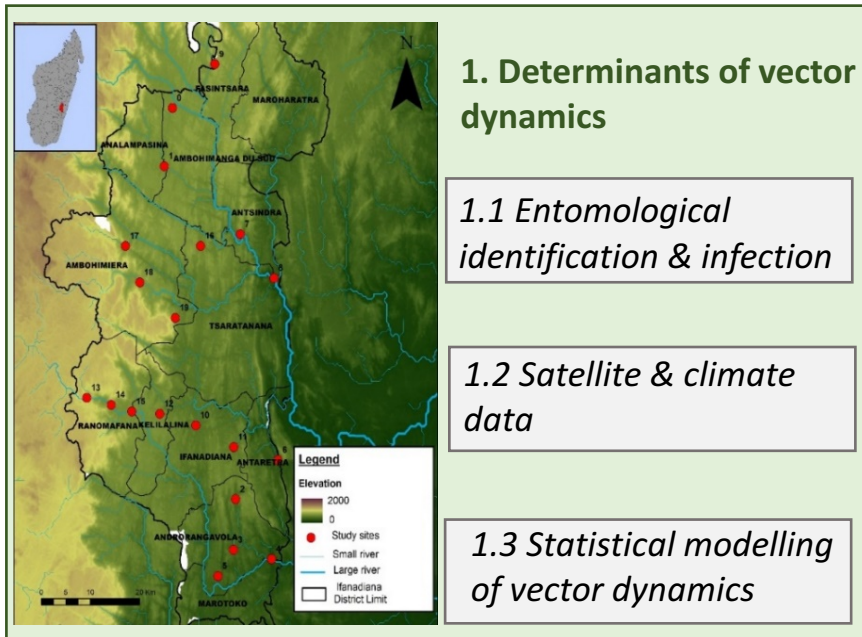
Supporting research on neglected diseases

Lymphatic filariasis research:

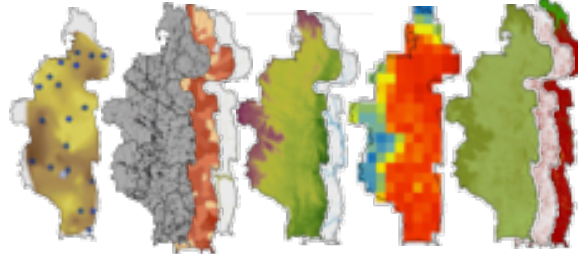
- (1) Measure point prevalence of Lymphatic Filariasis in Ifanadiana
- (2) Transmission Assessment Survey in 3 other districts



Setting the stage for a Planetary Health research agenda



Health Economic Geography Climatic Land use



2. Drivers of malaria spatio-temporal patterns

2.1 Human disease data collection

2.2 Socio-economic data collection

3.3 Statistical modelling of transmission risk

3. Coupled transmission models

3.1 Mathematical model development

3.2 Integration in routine monitoring and evaluation

IMPACT

Prediction of malaria risk in Ifanadiana

Development of early warning system for NGO activities

Information on best strategies for local malaria control



The role of PIVOT in E2M2

4

So why is PIVOT interested in supporting E2M2?



+



ANNOUNCING THE INAUGURAL CLINIC -

*E²M²: ECOLOGICAL AND EPIDEMIOLOGICAL MODELING IN
MADAGASCAR*

NOVEMBER 27-DECEMBER 3, 2016

CENTRE VALBIO, RANOMAFANA NATIONAL PARK, MADAGASCAR

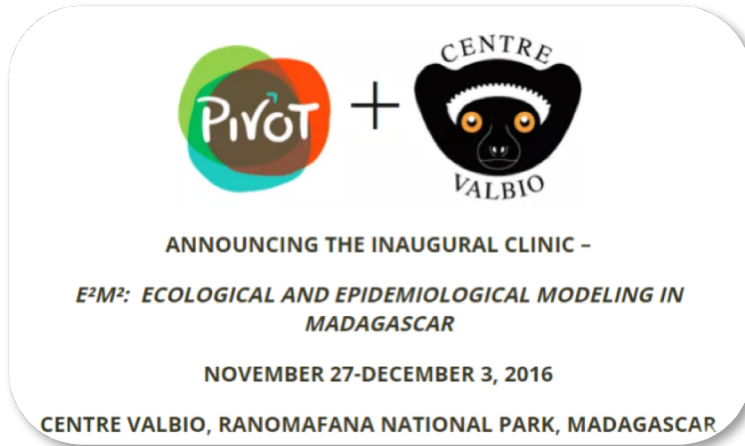


PIVOT is all about strengthening!!

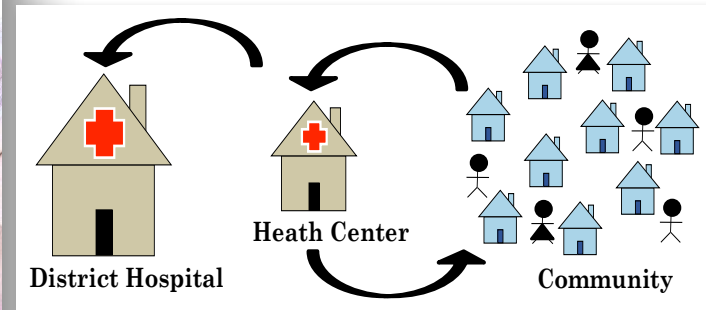


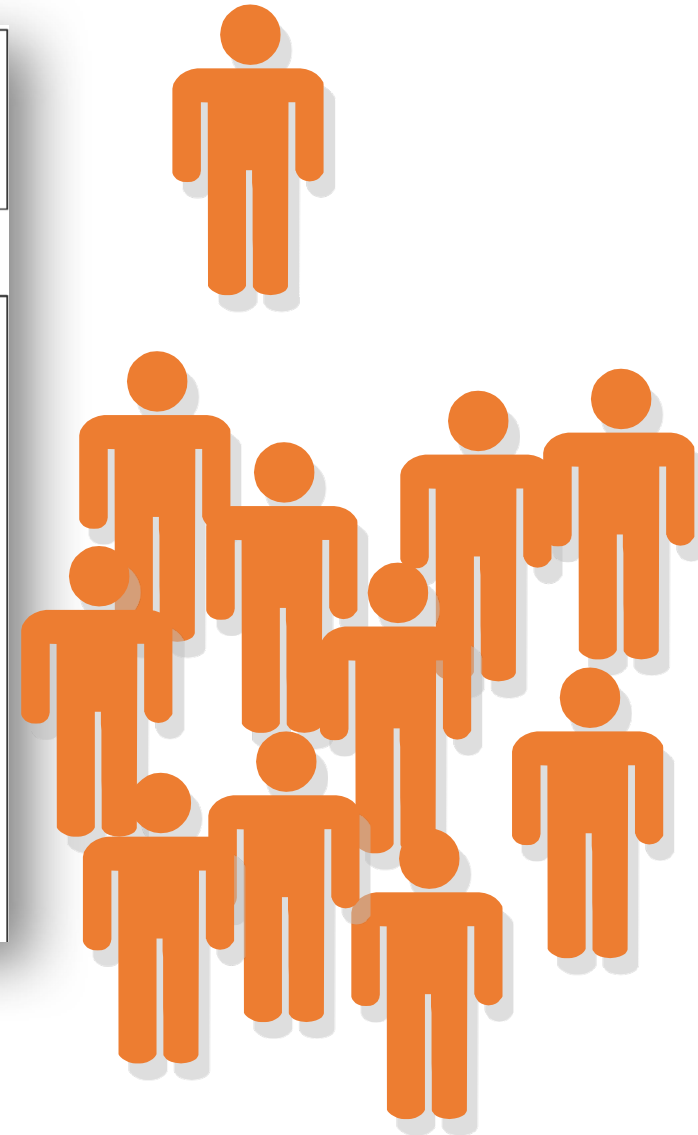
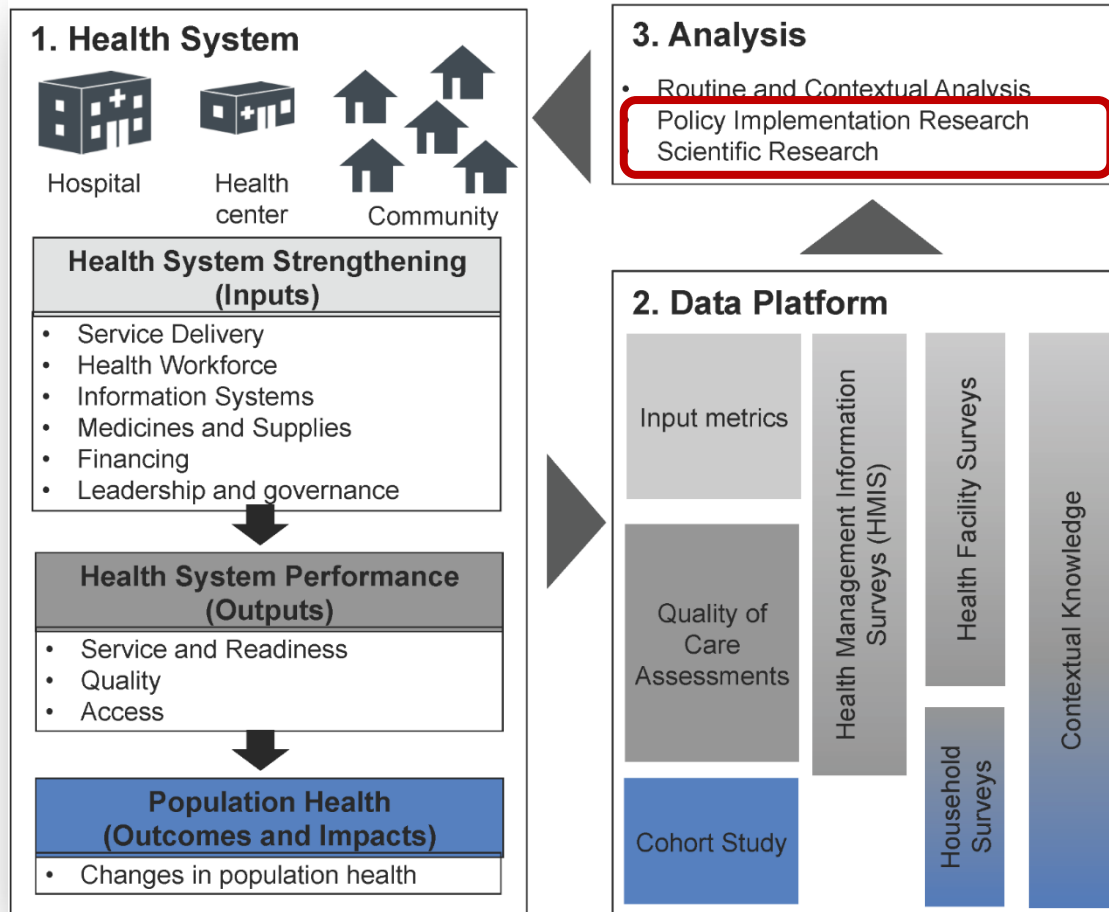
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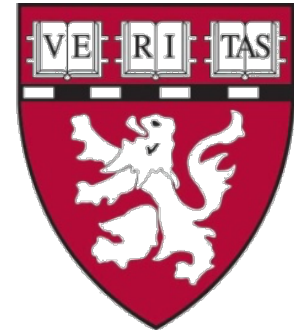
So why is PIVOT interested in supporting E2M2?



Quantitative research capacity to advance our mission







Institut de Recherche
pour le **Développement**



JOHNS HOPKINS
M E D I C I N E



Stanford
University

PIVOT's Role in E²M²

the interface between health care and research

