

PIVOT's Role in E²M²

the interface between health care and research



Andres Garchitorena

Ranomafana
January 2018



1 Investing in health for economic development



2000-2015

MACROECONOMICS AND HEALTH: INVESTING IN HEALTH FOR ECONOMIC DEVELOPMENT



REPORT OF THE COMMISSION ON
MACROECONOMICS AND HEALTH



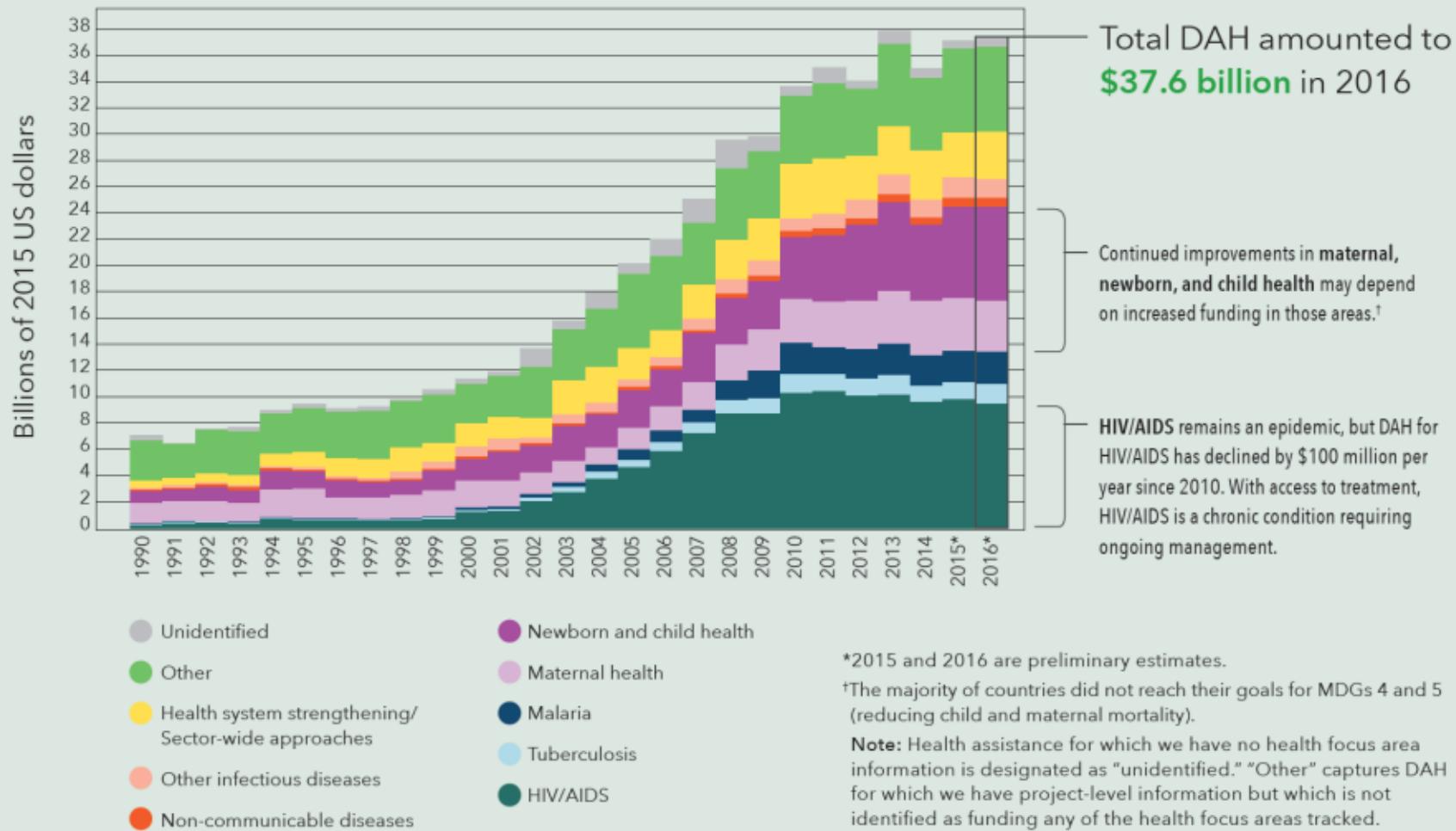
*Presented by JEFFREY D. SACHS, CHAIR
to GRO HARLEM BRUNDTLAND,
DIRECTOR-GENERAL OF THE
WORLD HEALTH ORGANIZATION
on 20 DECEMBER 2001*

Investing in health for economic development

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



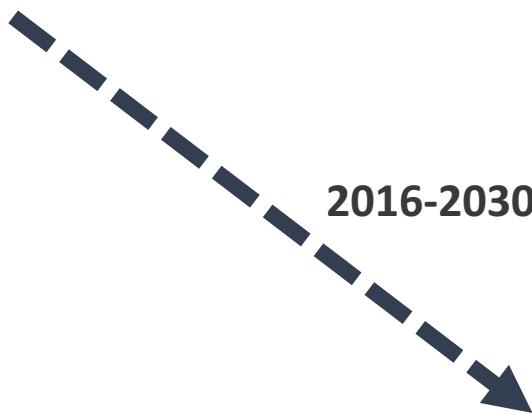
COMBAT
HIV/AIDS AND TUBERCULOSIS

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

A new framework of action



2000-2015



2016-2030

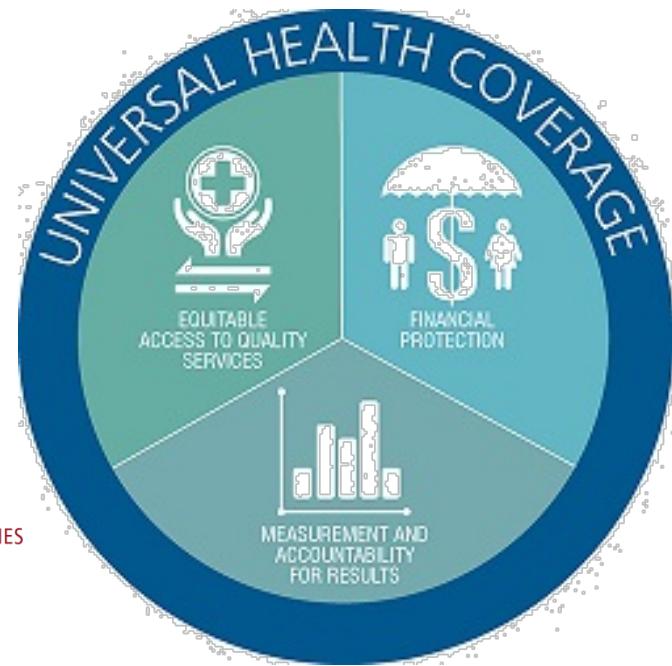


SUSTAINABLE DEVELOPMENT GOALS



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



OVERALL GOALS / OUTCOMES



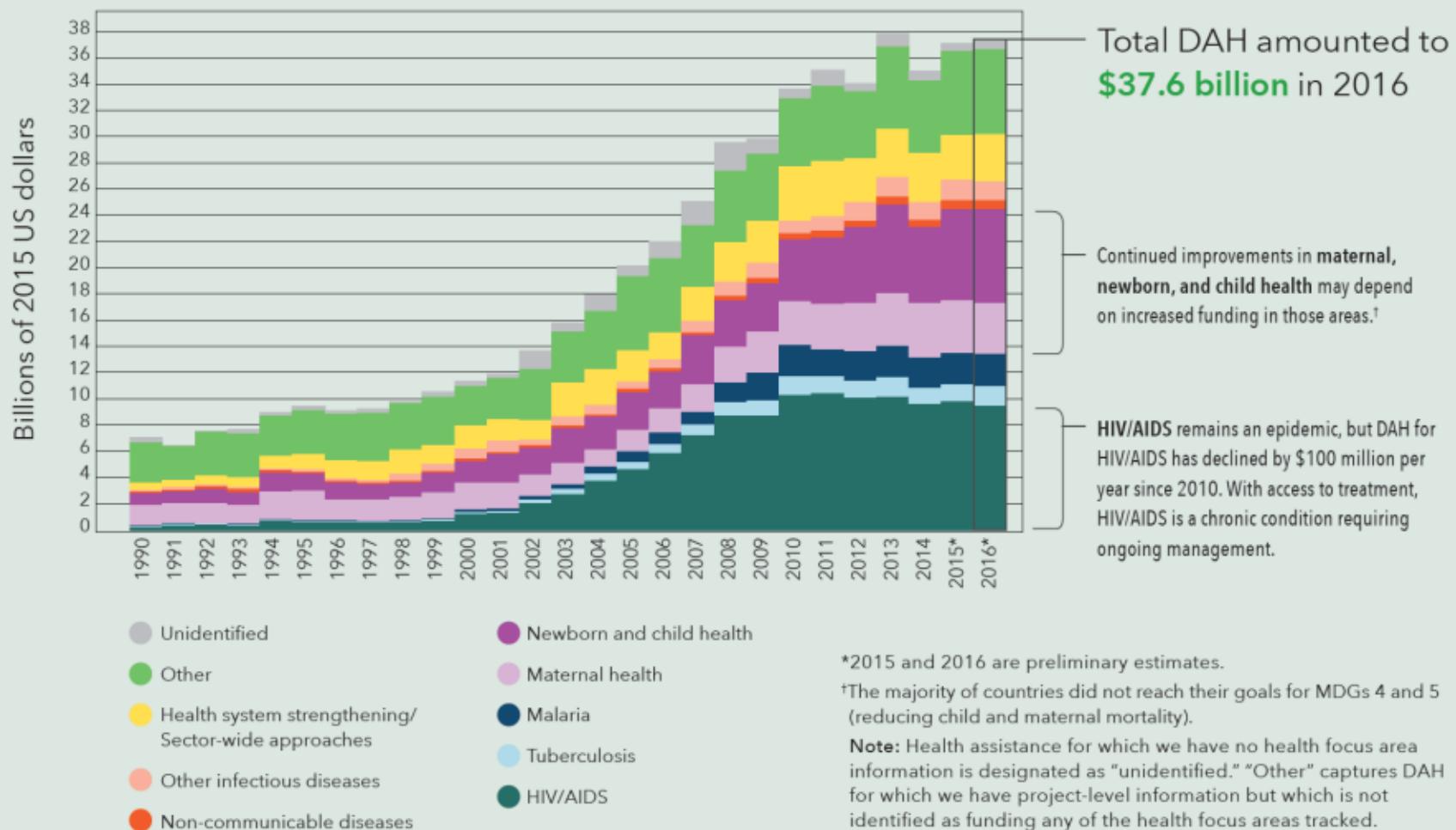
THE SIX BUILDING BLOCKS OF A HEALTH SYSTEM: AIMS AND DESIRABLE ATTRIBUTES

Ensuring sustainability through horizontal programs

Development assistance for health (DAH)

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

DAH by health focus area, 1990-2016

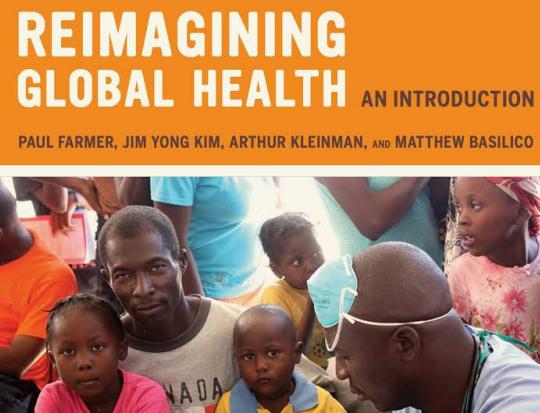


Challenges for investing in horizontal interventions

« 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



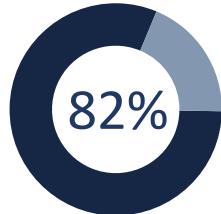
« When assessments of delivery do occur, they are often narrow studies of the cost-effectiveness of a single intervention rather than the complex set of them required to deliver value to patients and their families »

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

The background image shows a lush, green forest on rolling hills under a hazy sky. In the foreground, there's a mix of dense green vegetation and some brown, dry grass. A small, light-colored wooden post is visible on the left side.

» Building a platform for HSS research

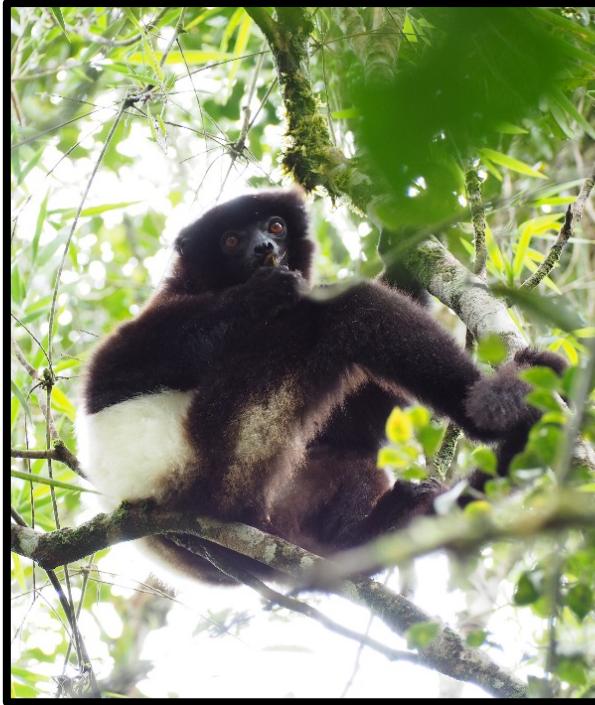
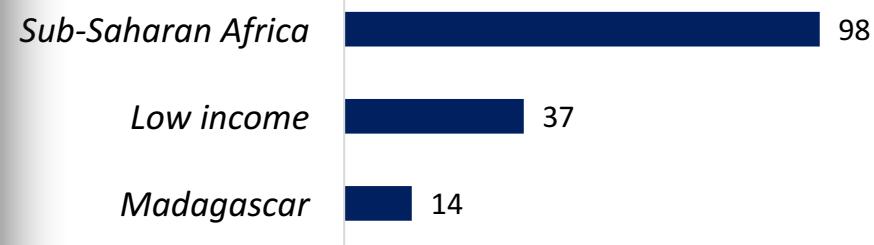
Challenges and opportunities in Madagascar



**Poverty rate
(1,90 USD/day)**



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



The health care organization PIVOT

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...

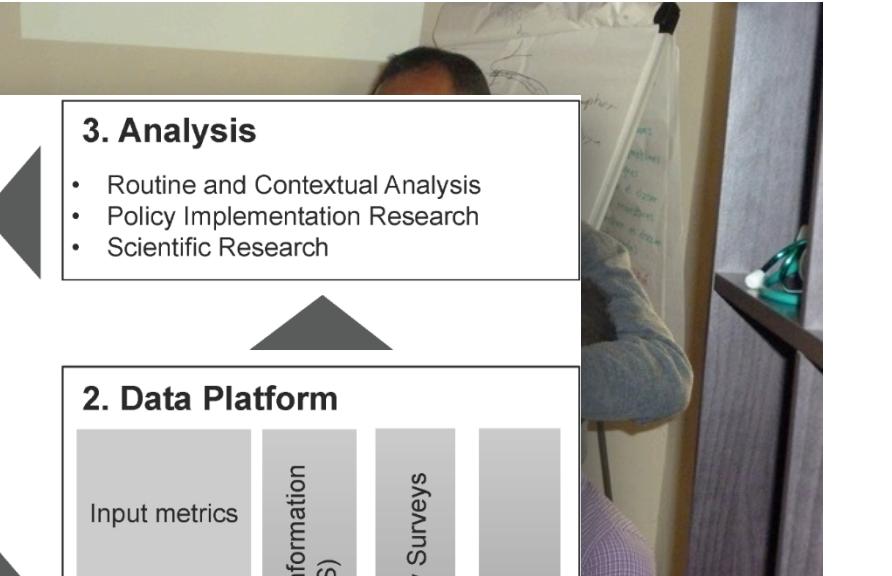
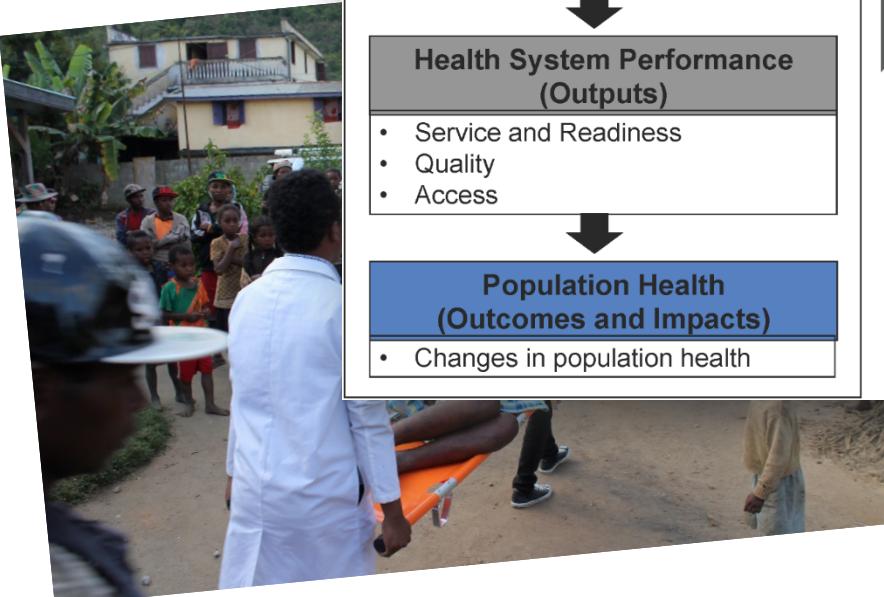
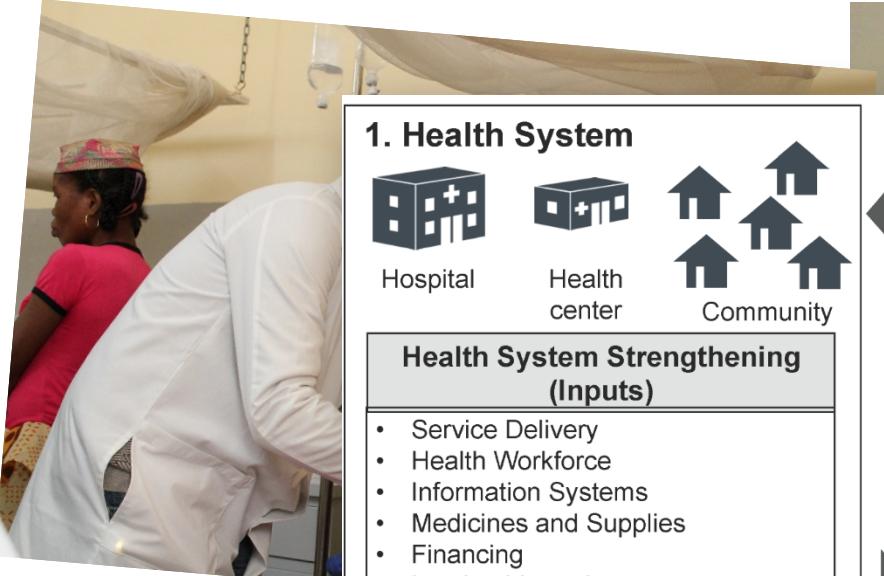
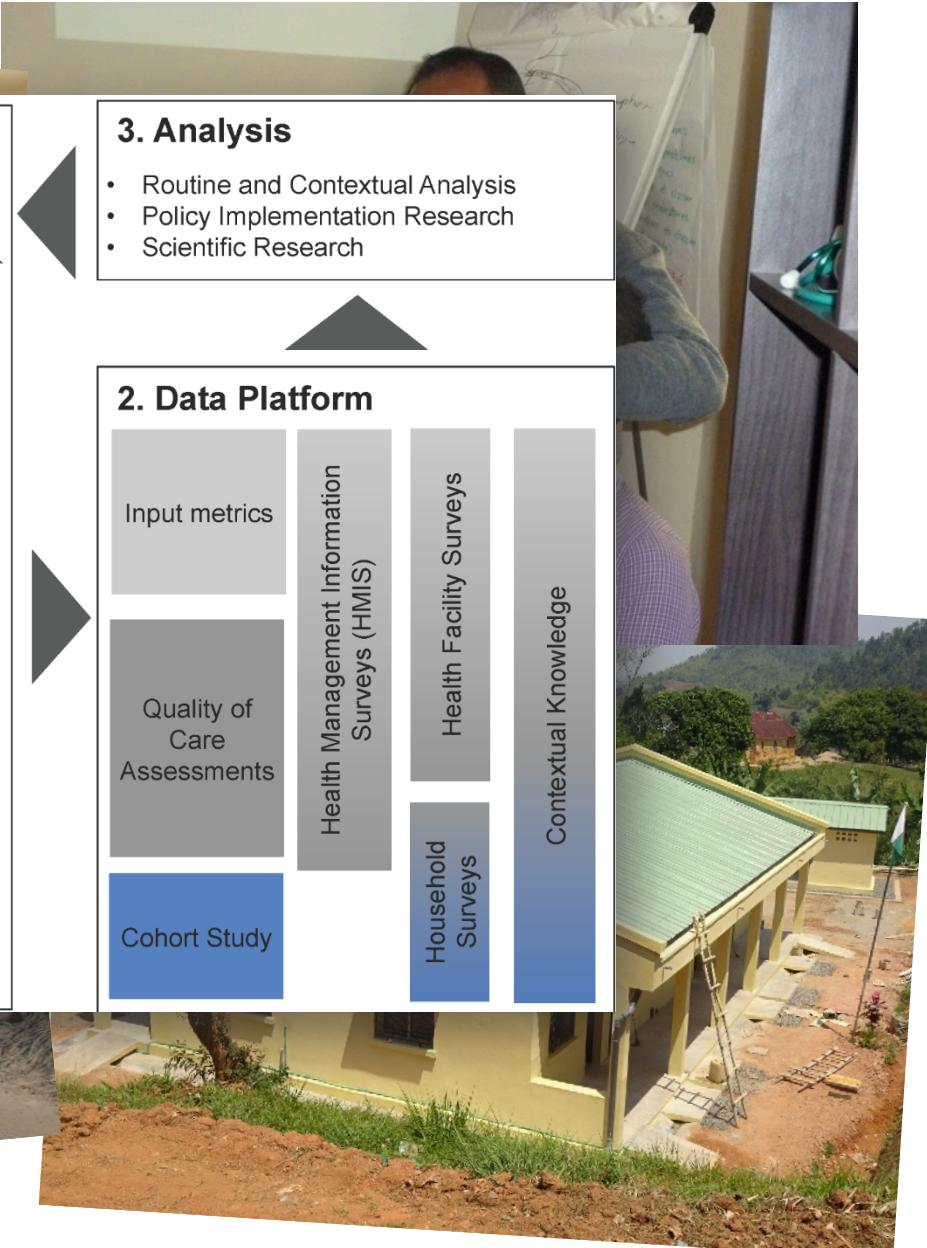
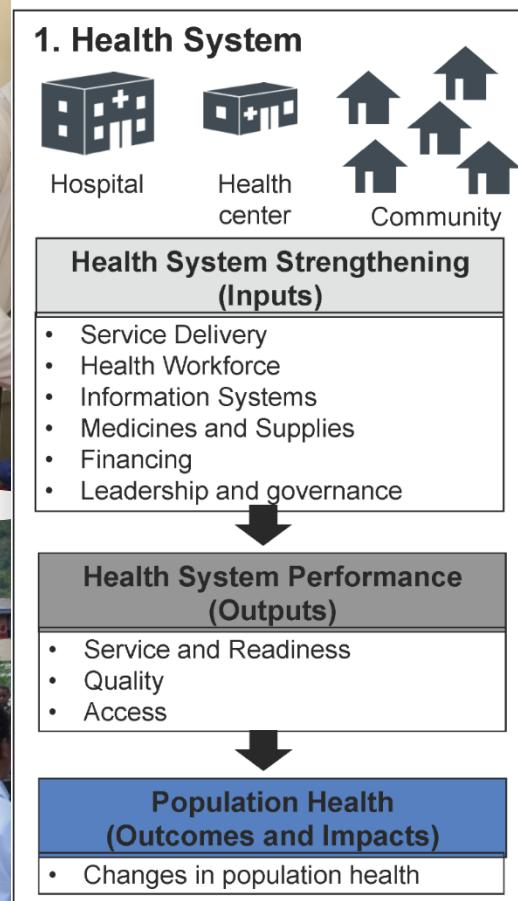


As of the end of 2016, PIVOT had begun the **transformation of the District Hospital**, established **four model health centers**, and constructed **twenty community health posts**.

[Video link](#)

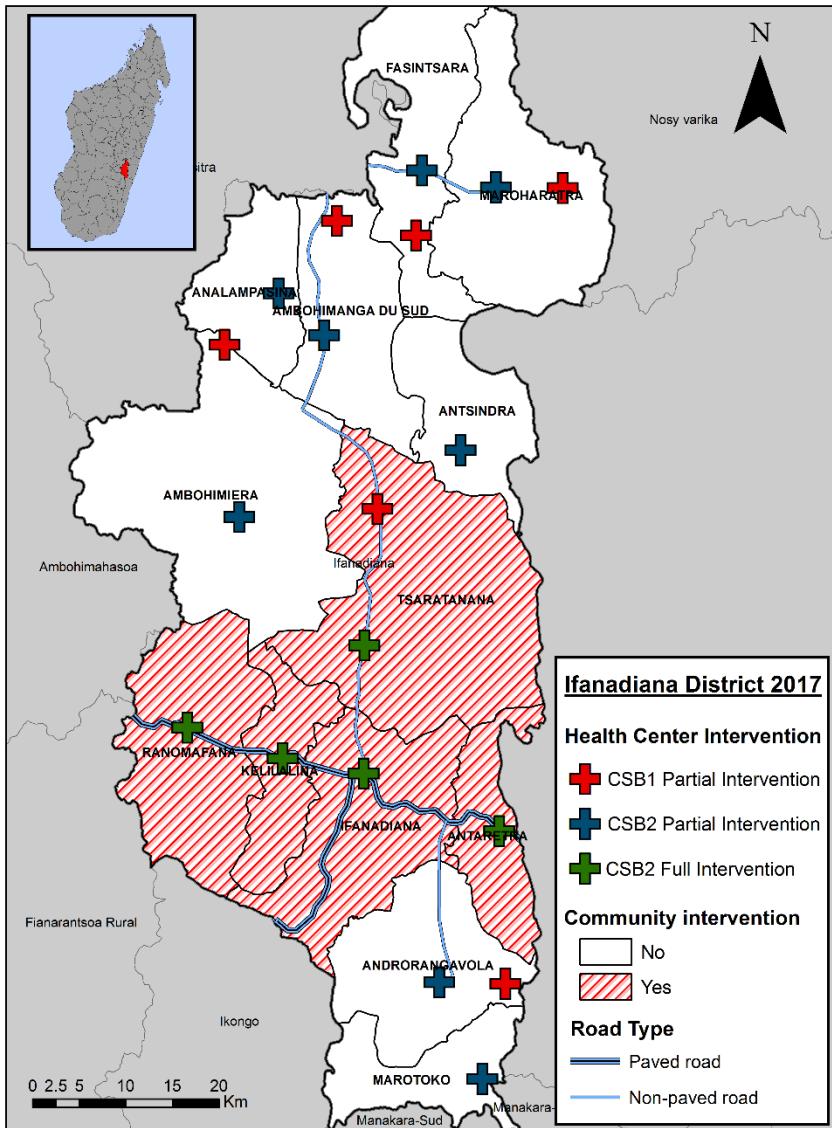
IFANADIANA DISTRICT

A platform for health system strengthening

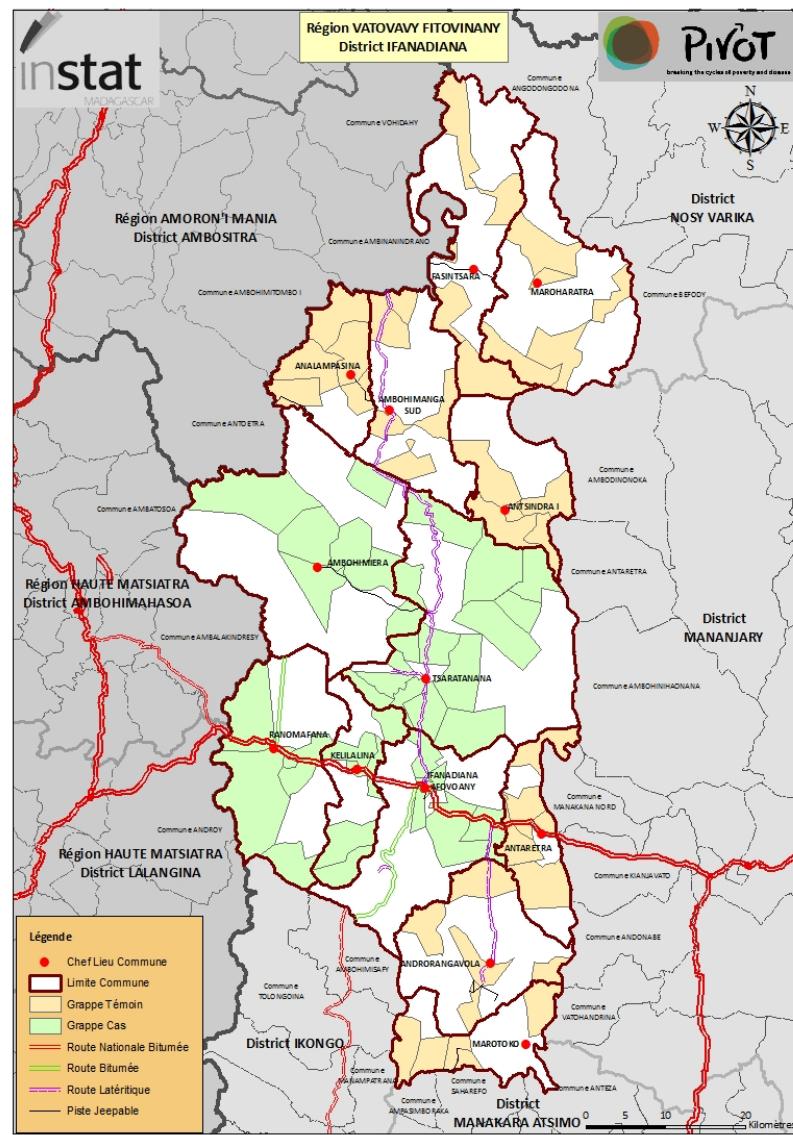


A platform for health system strengthening

PIVOT intervention



Data collection



PIVOT intervention	<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 	<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} & community 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
	2014	2015	2016	2017	2018	
Data collection	<ul style="list-style-type: none"> Baseline population survey Internal PIVOT data MoH HMIS data Facility Assessments 	<ul style="list-style-type: none"> Internal PIVOT data MoH HMIS data 	<ul style="list-style-type: none"> Follow-up population survey Internal PIVOT data MoH HMIS data 	<ul style="list-style-type: none"> Internal PIVOT data MoH HMIS data Facility Assessments 	<ul style="list-style-type: none"> Internal PIVOT data MoH HMIS data Facility Assessments 	<ul style="list-style-type: none"> Follow-up population survey Internal PIVOT data MoH HMIS data Project-driven data
			<ul style="list-style-type: none"> Project-driven data 			<ul style="list-style-type: none"> Project-driven data

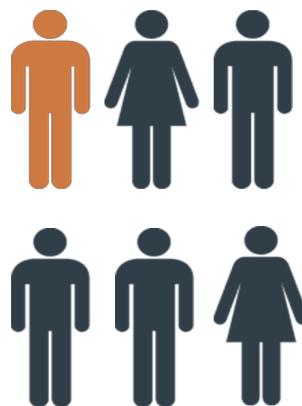
The situation when PIVOT started (2014)



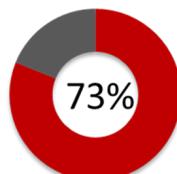
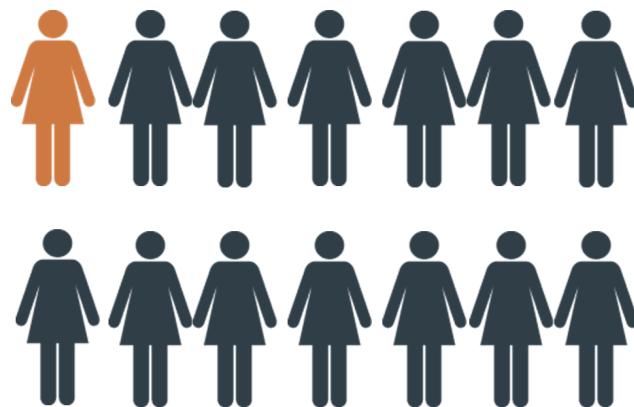
THE SURVEY

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

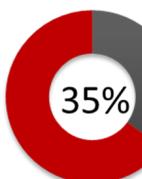
1 in 6 Under-5 Mortality



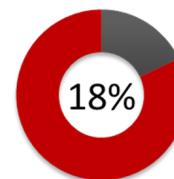
1 in 14 Lifetime Maternal Mortality



Population living in extreme poverty

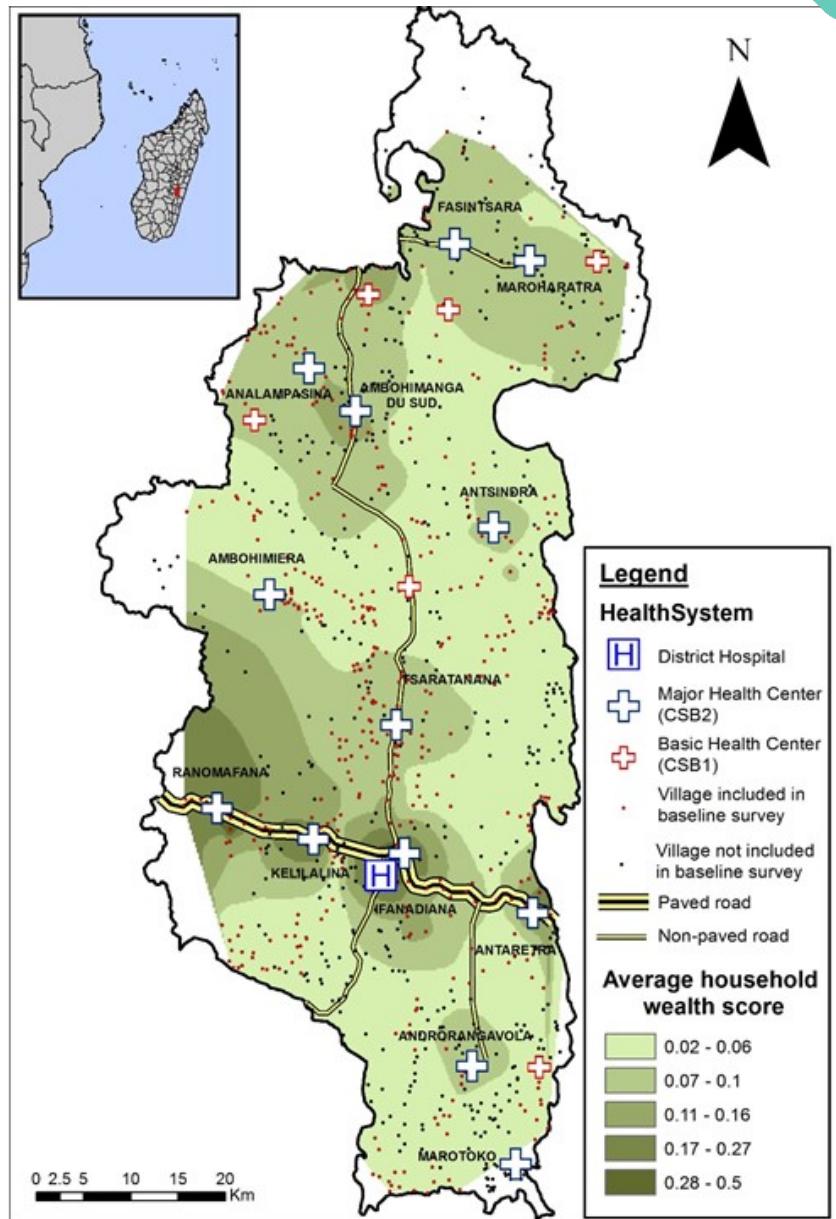
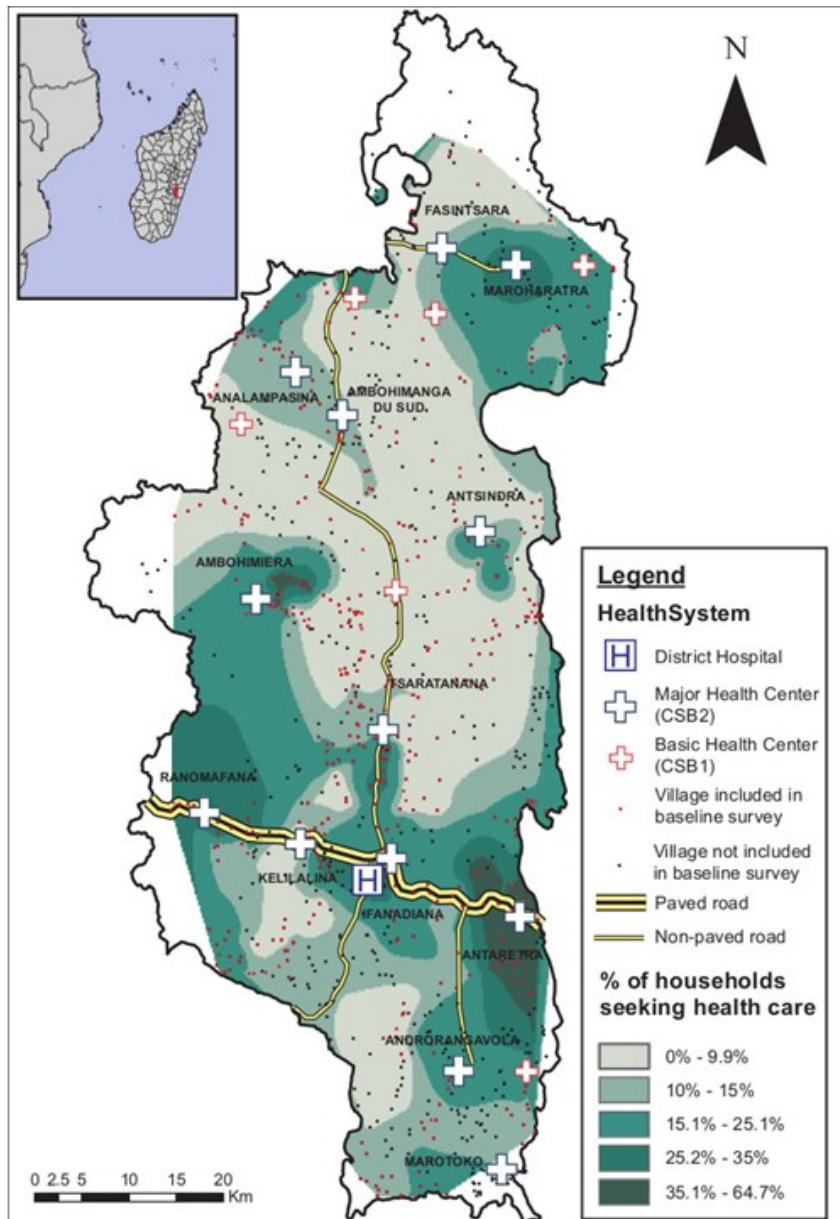


Children under 5 with ARI taken for care



Mothers delivering last baby in a health care facility

Impact evaluation of two user-fee exemptions



Impact evaluation of two user-fee exemptions



Supply Chain Management



Patient Care



Reimbursement of costs



PAUSENS program characteristics

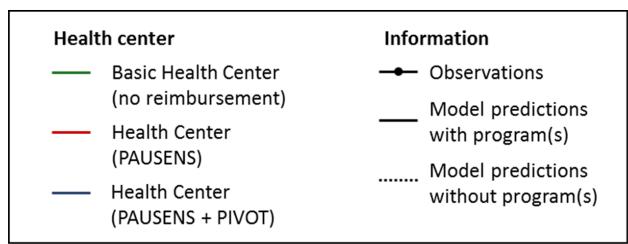
- ✓ Since February 2014 at all CSBs 2 in the district
- ✓ Target: children <5 & pregnant women of the whole 185,000 district population
- ✓ Reimbursement of all medical visit costs

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 evaluation of two user-fee exemptions



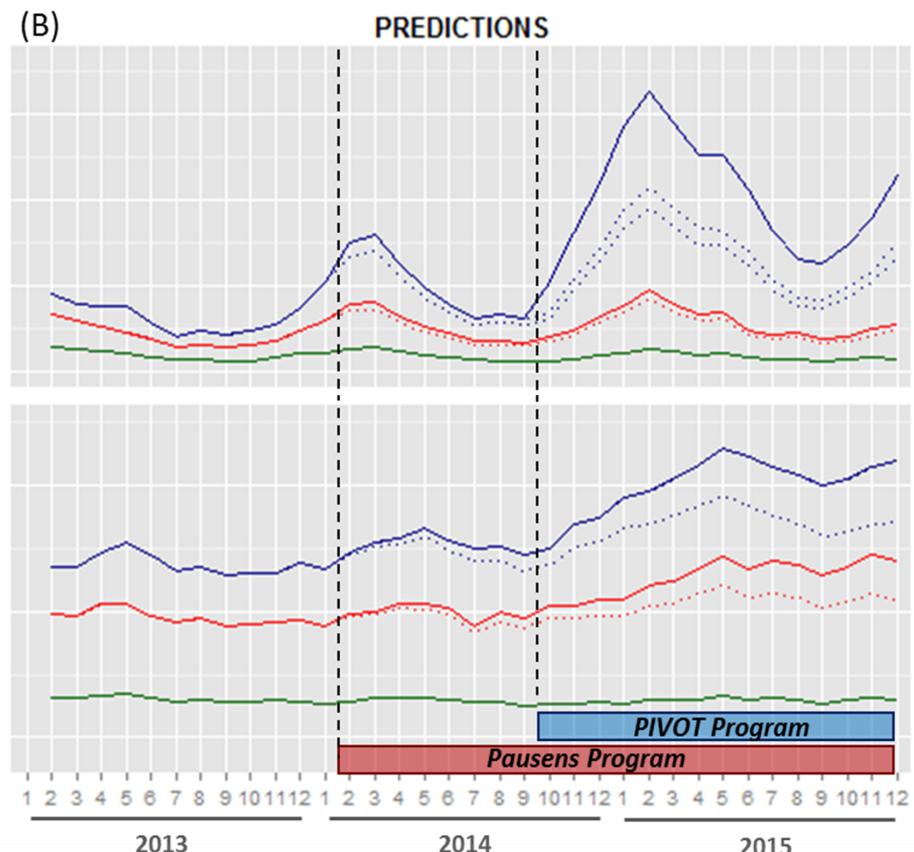
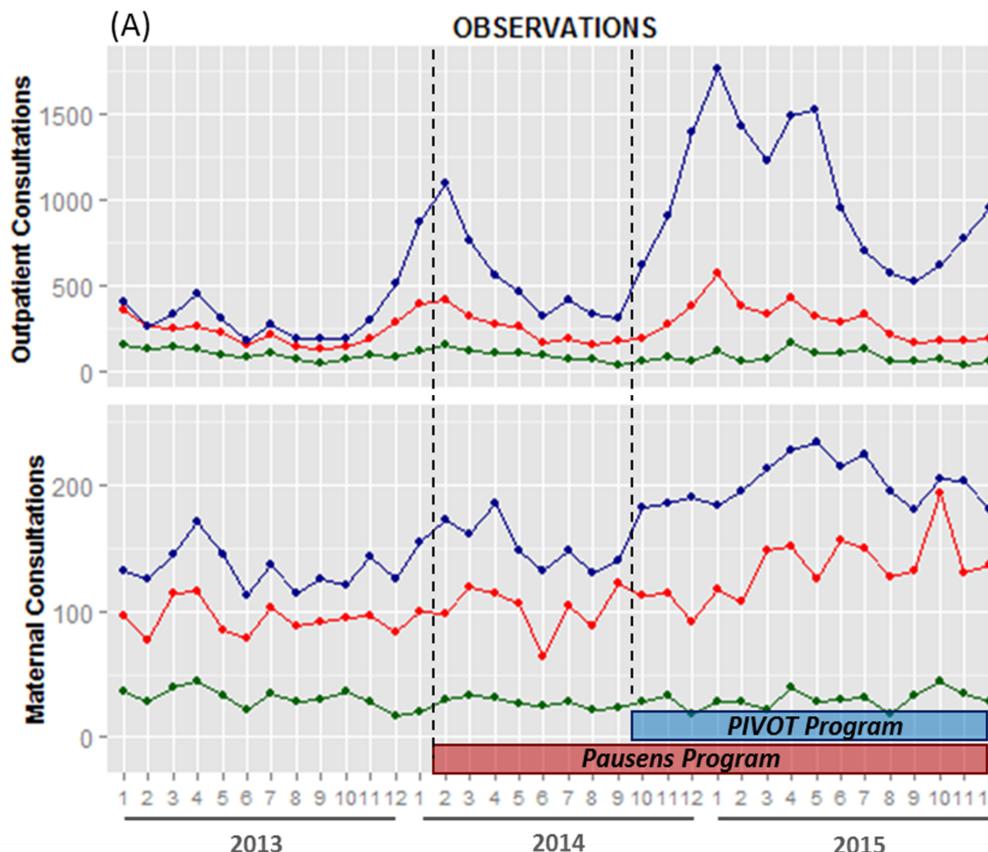
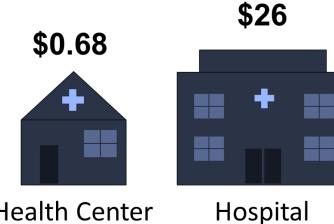
Impact of user-fee removal

65% increase In outpatient consultations (all patients)

52% increase In outpatient consultations (children under five)

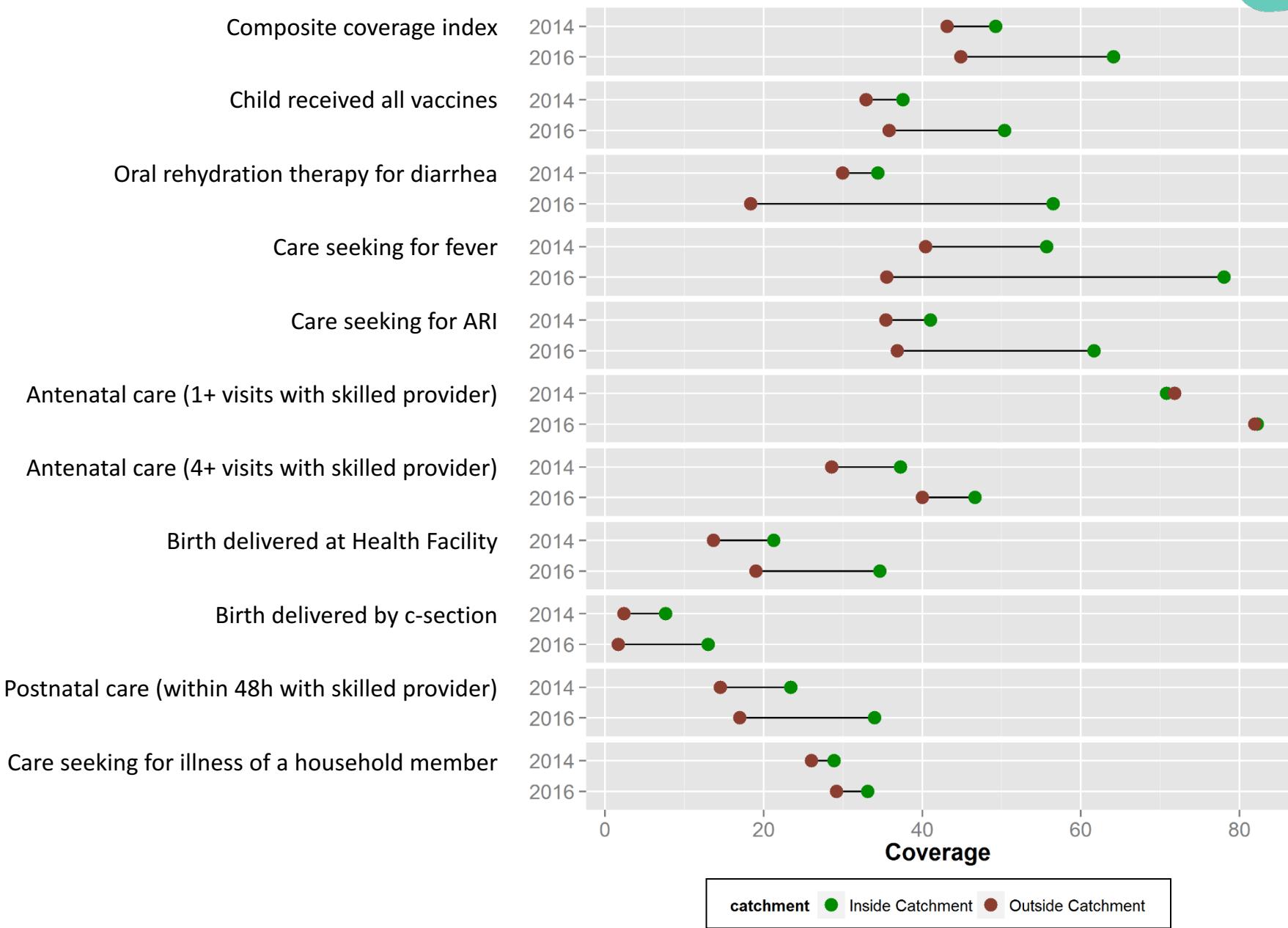
25% increase In maternal consultations (prenatal, deliveries, postnatal)

Cost Per Patient

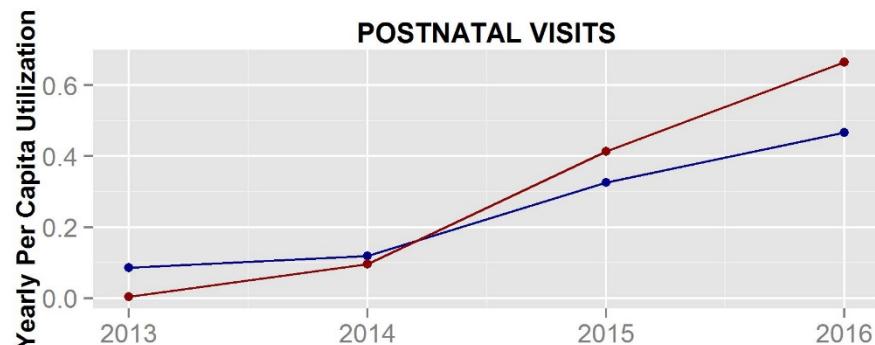
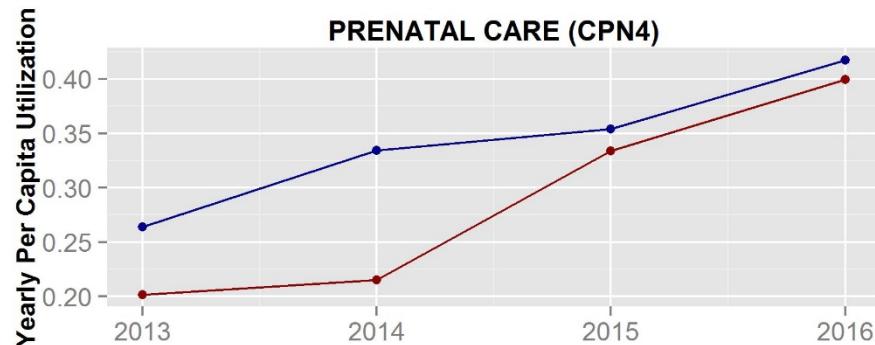
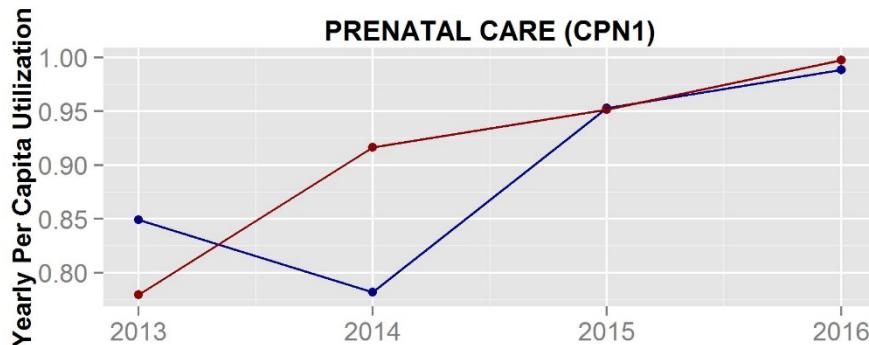
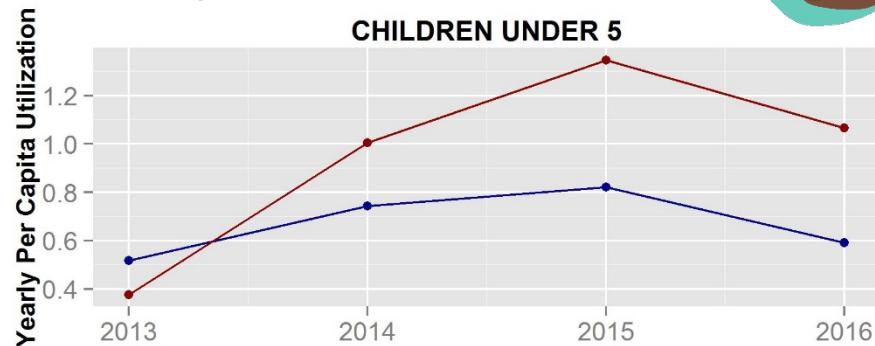
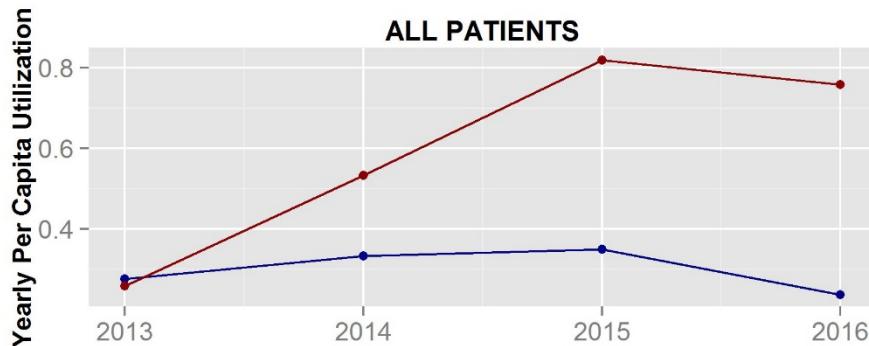


PIVOT intervention	<ul style="list-style-type: none"> • Referral network • User fee exemptions • Facility Renovations • Medical staff hires 	<ul style="list-style-type: none"> • Referral network • User fee exemptions • Facility Renovations • Medical staff hires • Medical trainings • Malnutrition program (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
	2014	2015	2016	2017	2018
Data collection	<ul style="list-style-type: none"> • Baseline population survey • Internal PIVOT data • MoH HMIS data • Facility Assessments 		<ul style="list-style-type: none"> • Follow-up population survey 		
		<ul style="list-style-type: none"> • Internal PIVOT data • MoH HMIS data 	<ul style="list-style-type: none"> • Internal PIVOT data • MoH HMIS data • Project-driven data 	<ul style="list-style-type: none"> • Internal PIVOT data • MoH HMIS data • Facility Assessments • Project-driven data 	<ul style="list-style-type: none"> • Internal PIVOT data • MoH HMIS data • Facility Assessments • Project-driven data

Changes in coverage: catchment vs. rest of Ifanadiana



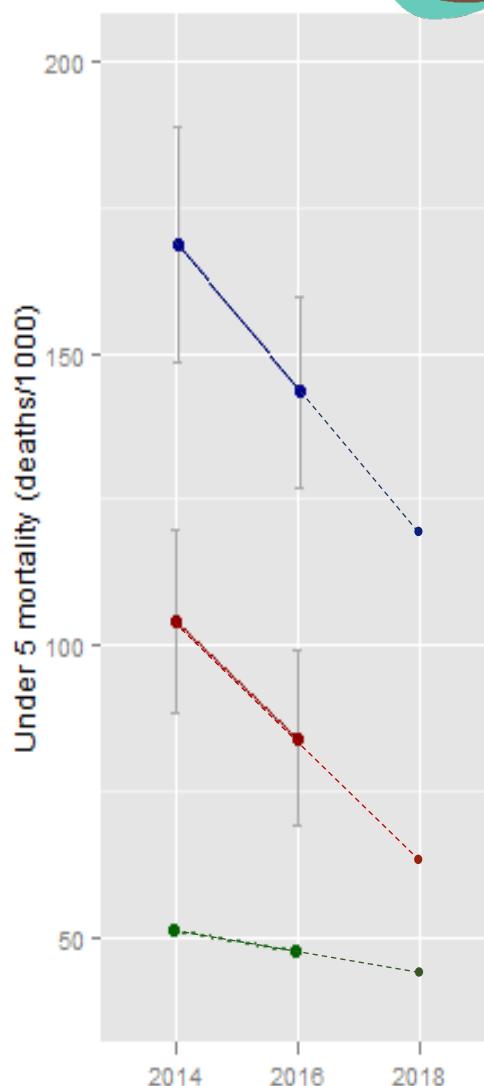
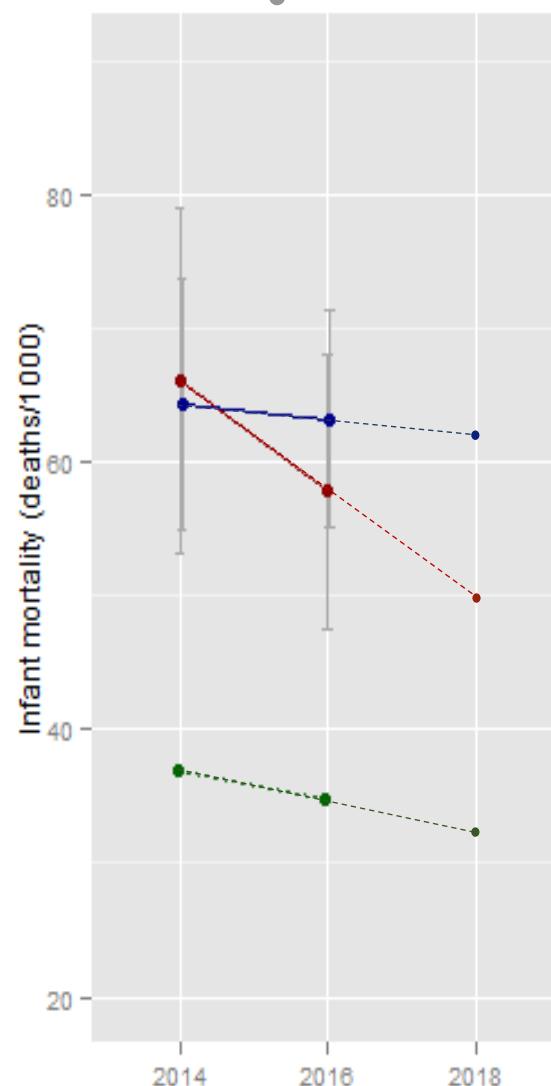
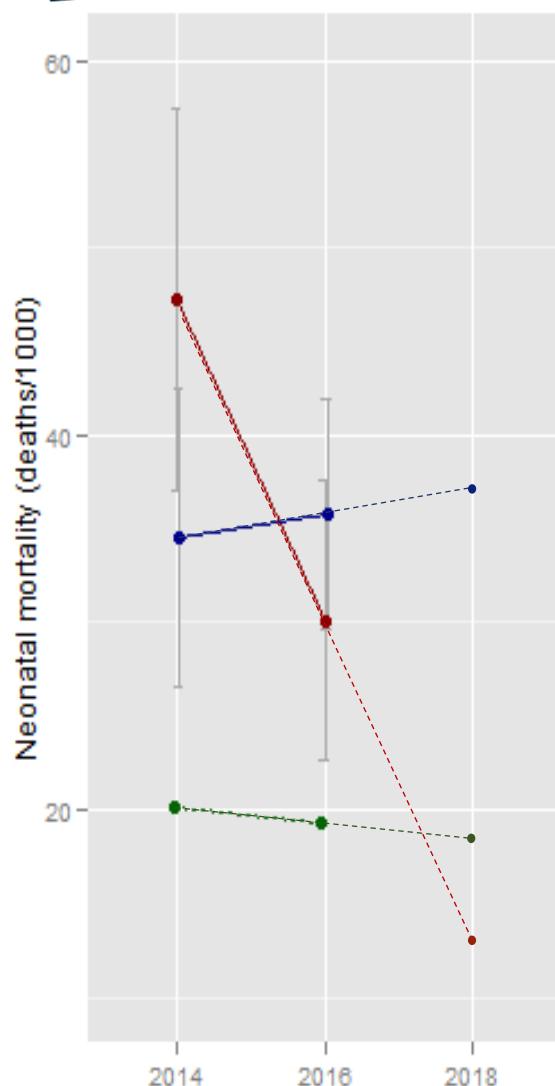
Changes in healthcare utilization



—●— Pivot-supported CSB2

—●— Not supported CSB2

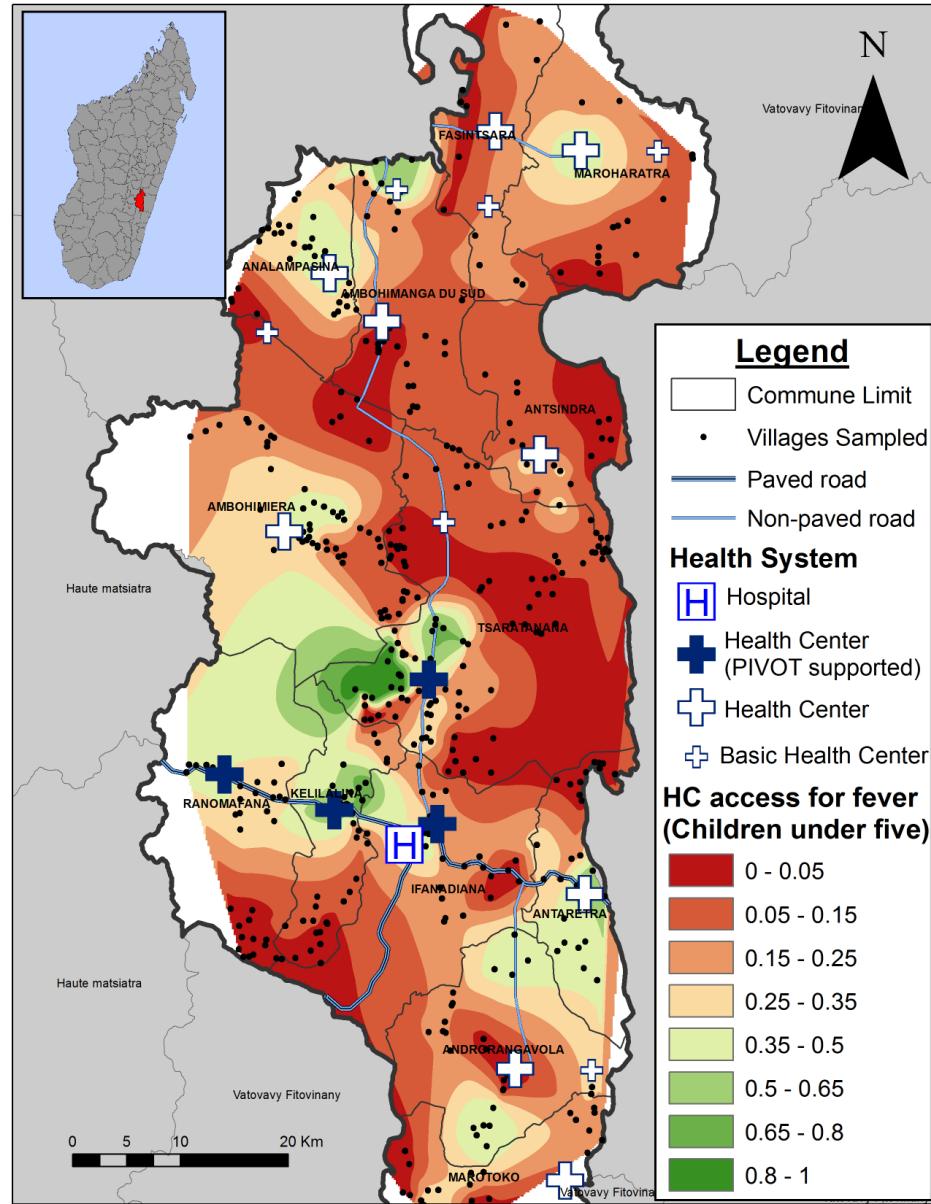
Changes in child mortality



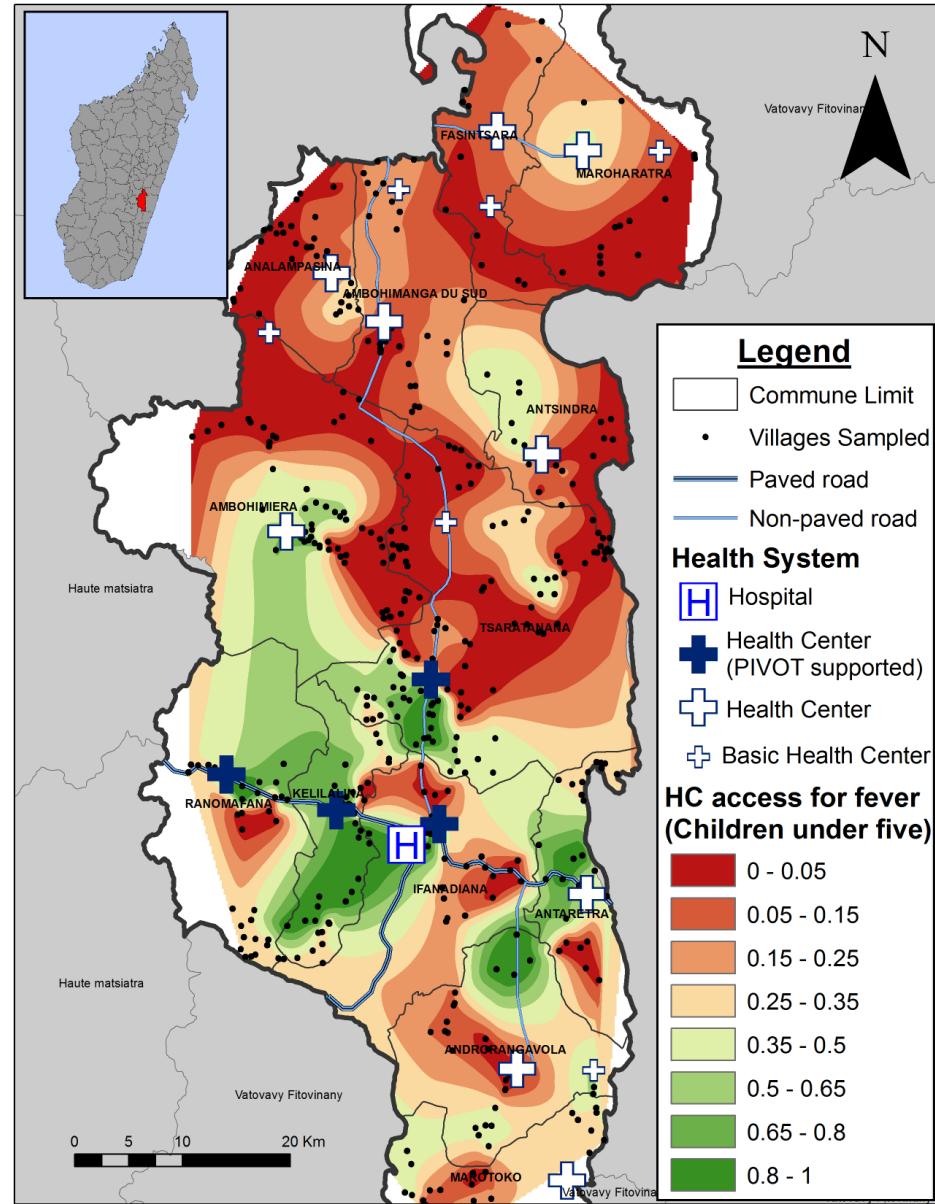
● PIVOT catchment — estimation
● Rest of District ····· projection
● Madagascar

Changes in coverage: spatial distribution (children)

2014



2016

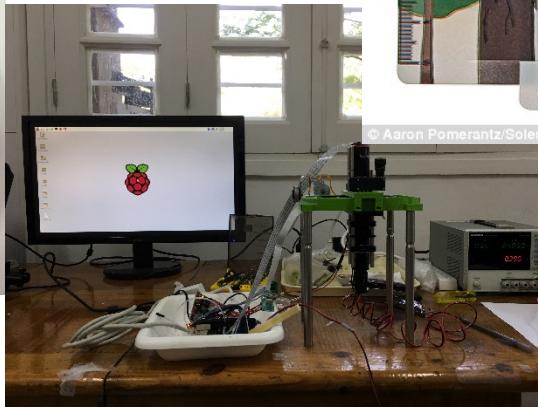
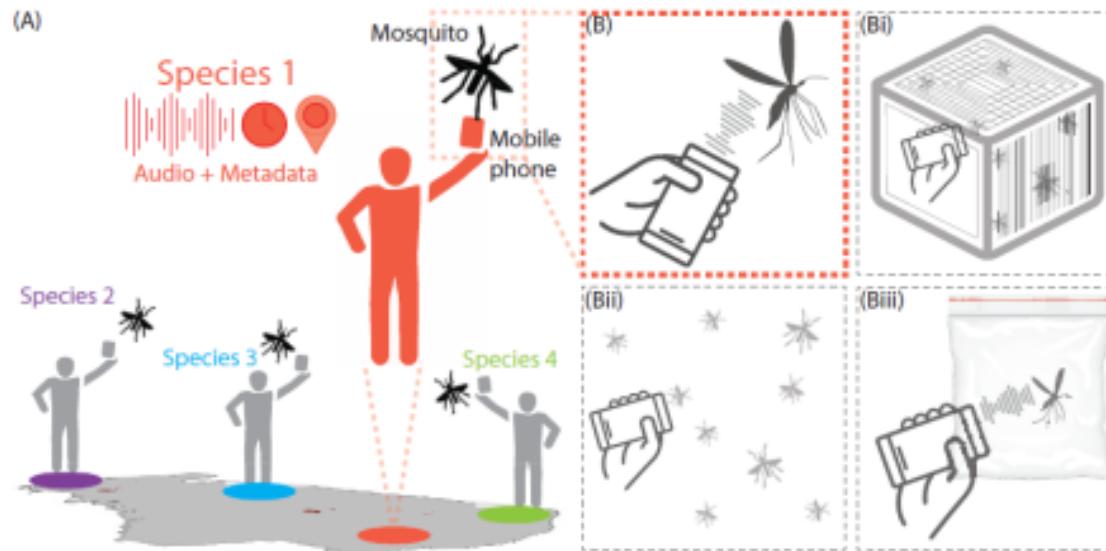




» Innovation, field research & planetary health

Driving innovation in global health

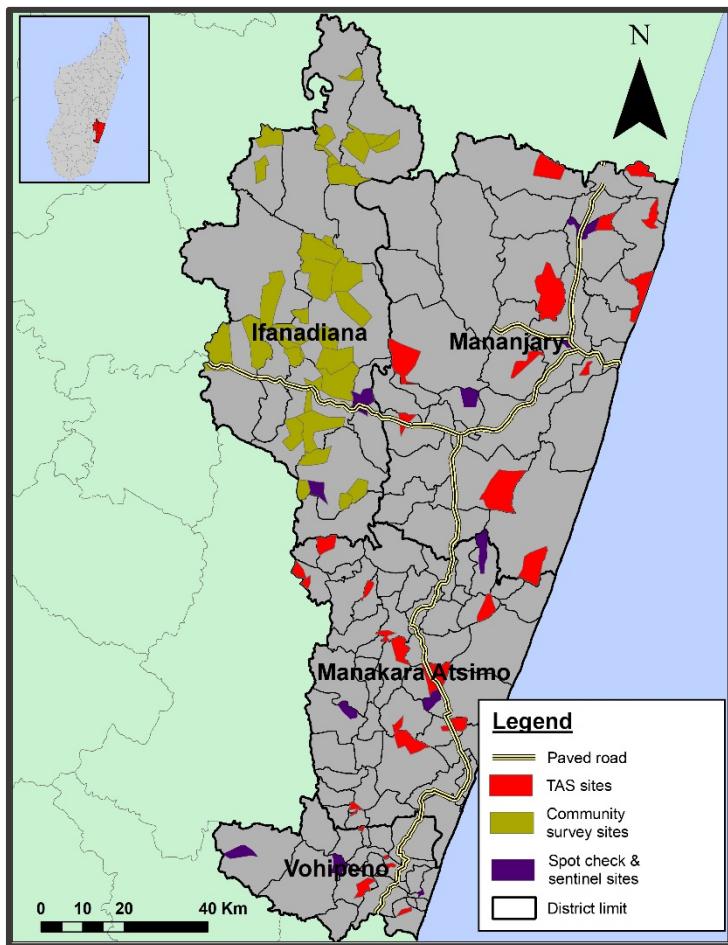
Field testing of frugal technologies for disease surveillance and diagnosis



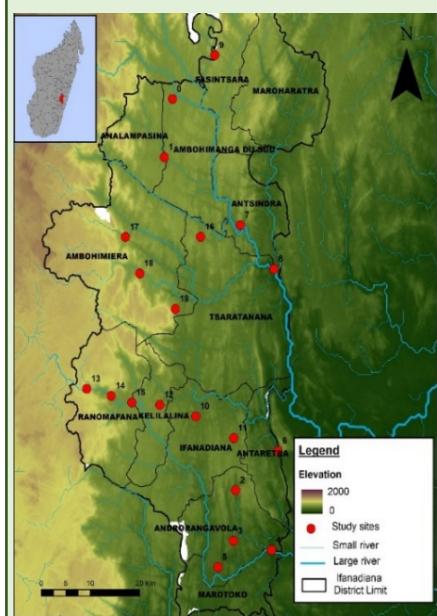
Supporting research on neglected diseases

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



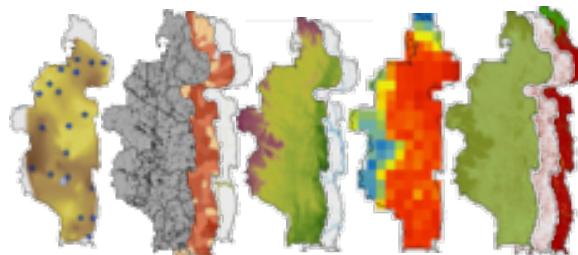
1. Determinants of vector dynamics

1.1 Entomological identification & infection

1.2 Satellite & climate data

1.3 Statistical modelling of vector dynamics

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

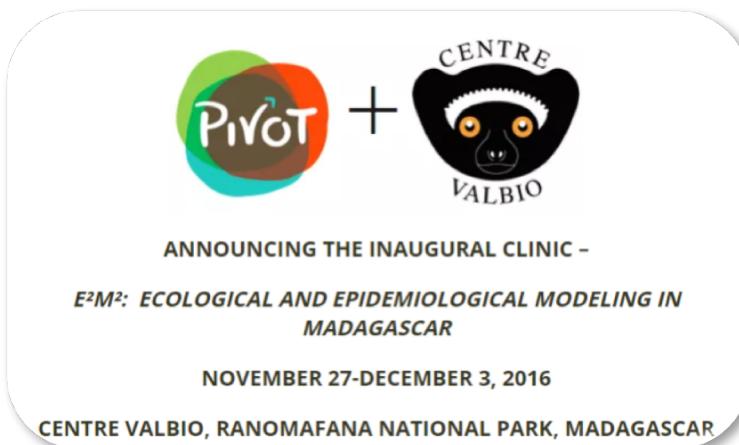


The role of PIVOT in E2M2



4

So why is PIVOT interested in supporting E2M2?



PIVOT is all about strengthening!!

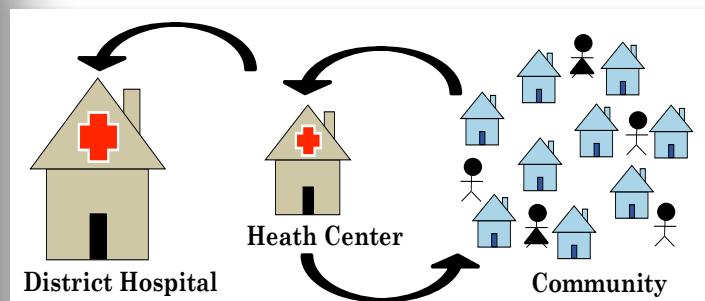


4

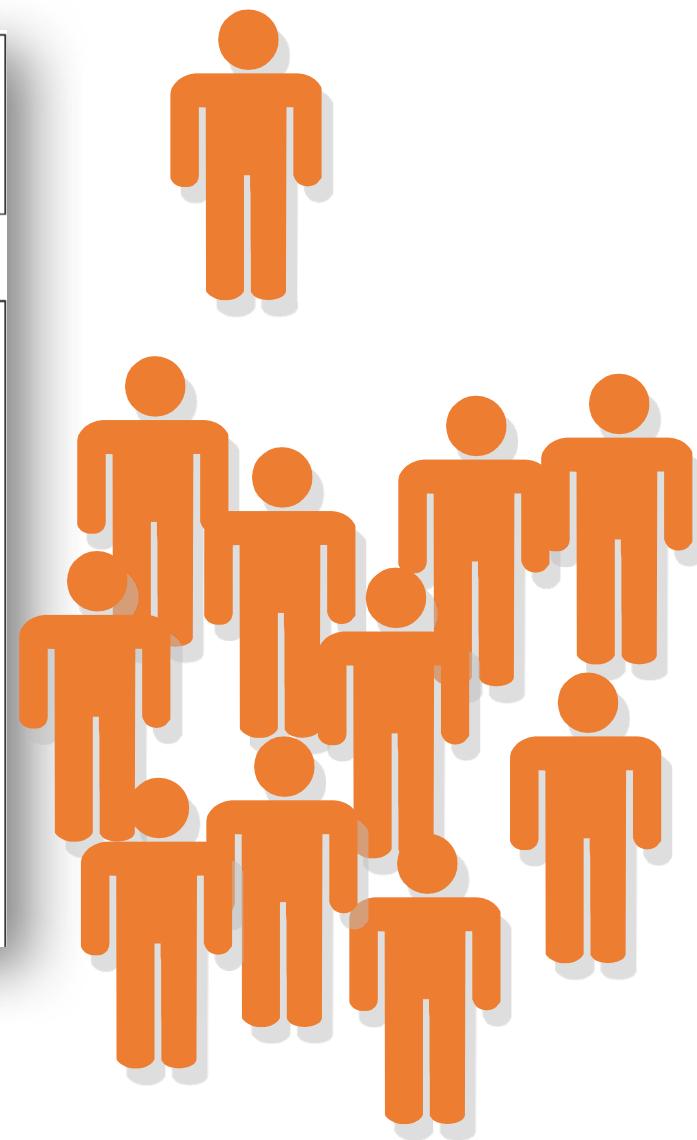
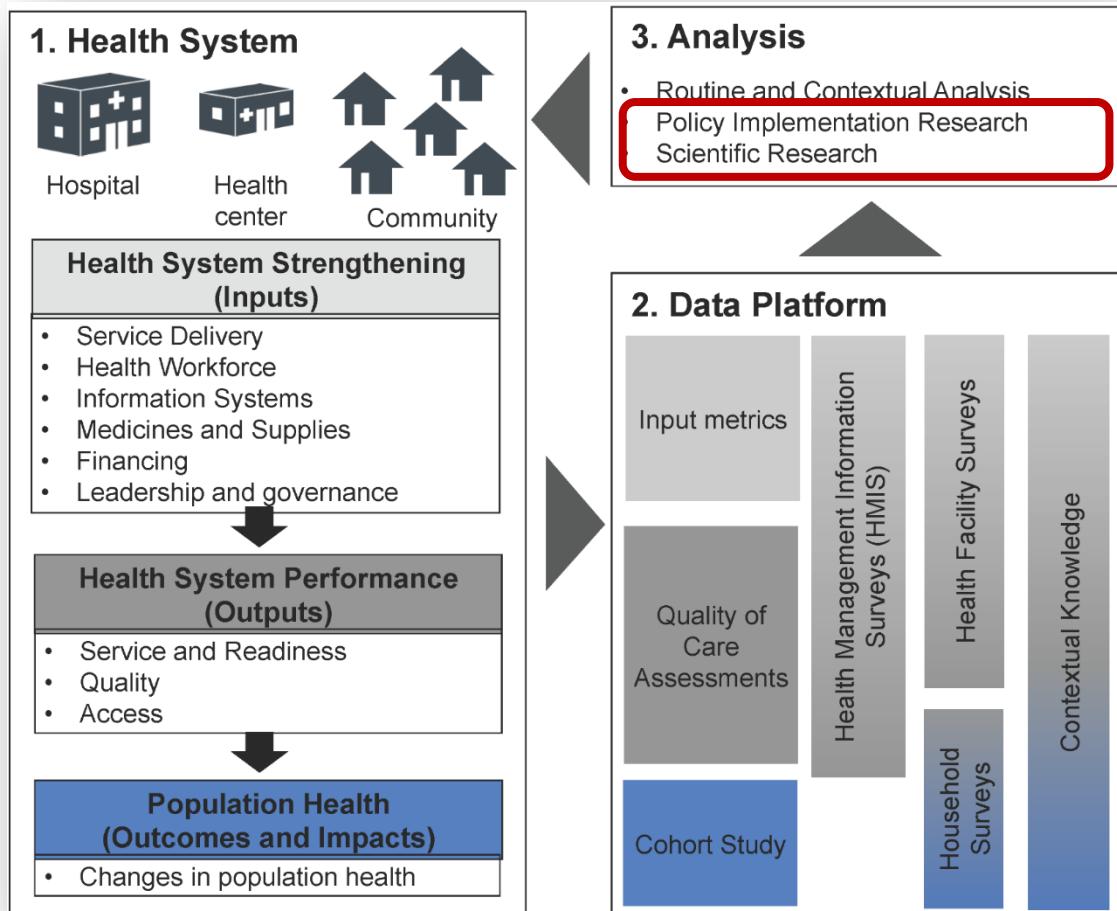
So why is PIVOT interested in supporting E2M2?



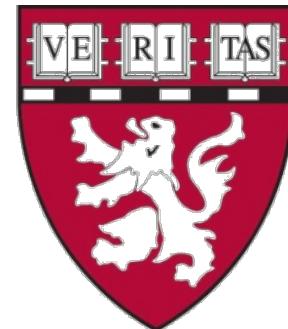
Quantitative research capacity to advance our mission



The longterm goal...



Acknowledgements



**Institut de Recherche
pour le Développement**



JOHNS HOPKINS
MEDICINE



PIVOT's Role in E²M²

the interface between health care and research



Andres Garchitorena

Ranomafana
January 2018