

**Next generation of PEPFAR supports an Ethiopian University  
and a US University partnership to design a state-of-the-art  
outpatient care and teaching facility in Gondar, Ethiopia**

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## **Presenter Disclosures**

Christine Kiefer

- (1) The following personal financial relationships with commercial interest relevant to this presentation existed during the past 12 months:

**No relationships to disclose.**

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**Vision**

I-TECH envisions a world in which all people have access to high quality, compassionate, and equitable health care.

**Mission statement**

I-TECH is a global network that works with local partners to develop skilled health care workers and strong national health systems in resource-limited countries. I-TECH promotes local ownership to sustain effective health systems.

## Introduction

**Project Goal: Health Worker  
Training and Health Care System**

## Partner Relationships

**Factors impacting rapid scale-  
up of Health worker teaching  
capacity**

## Objective

## Background

**Cultural Issues: Communication &  
Infection Control**

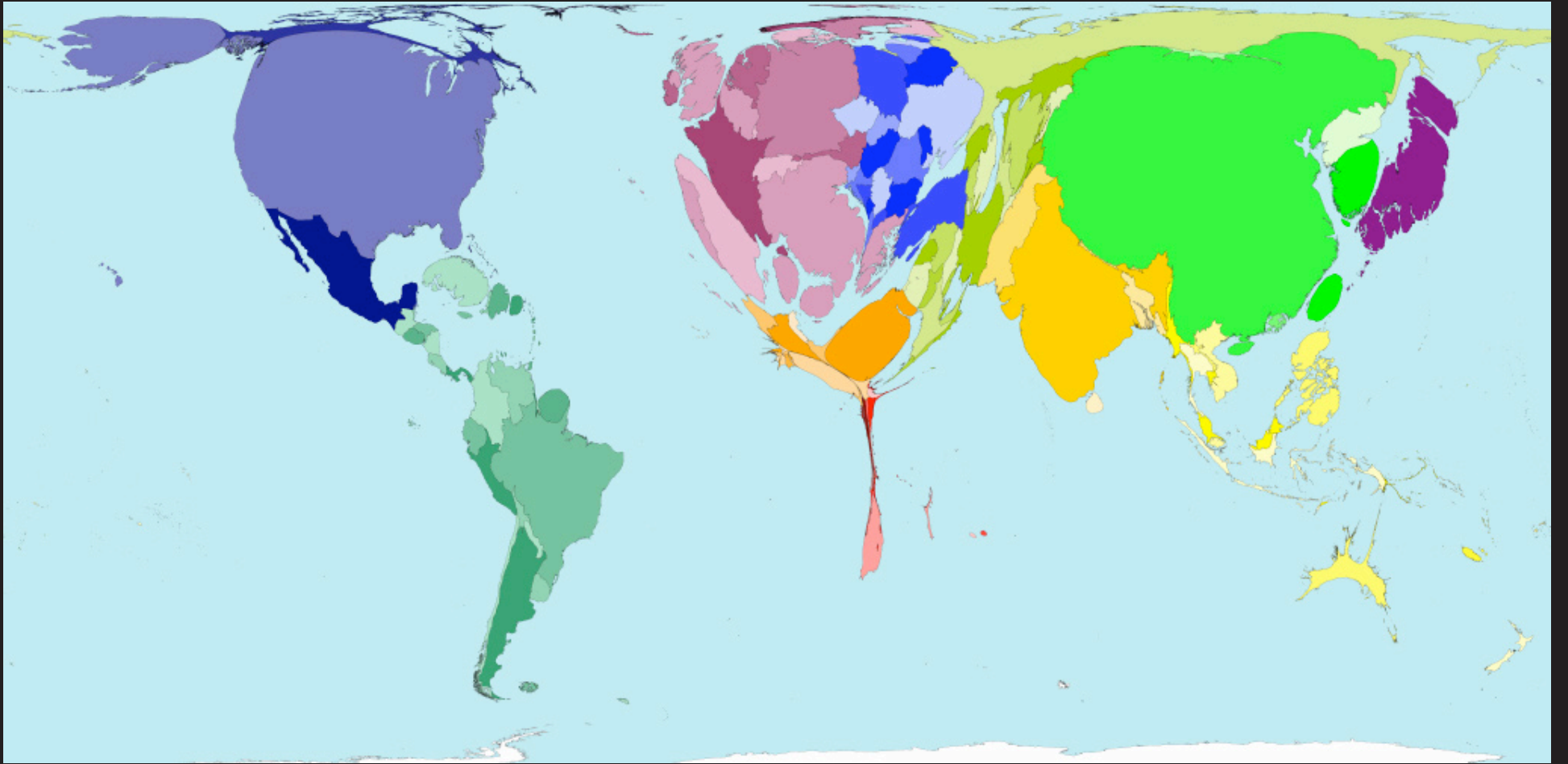
**Impacting Factors in the Design  
of a Teaching Facility in a Low-  
Resource Setting**

**Master Plan & Comprehensive  
Outpatient Center**

## Conclusion



*-- Tom Furtwangler*



## Ethiopia

**Population** - 85,237,338

**Infant Mortality Rate** - 103  
deaths/1,000 live births

**HIV/AIDS prevalence rate** - 2.1%  
(est. 2007)

**People living with HIV/AIDS** -  
980,000 (est 2007)

**TB prevalence rate** - 578 per  
100,000

**Life Expectancy** - 41.2 years

**GNP per Capita** - \$100

**Percentage of Population with  
Access to Safe Drinking Water** -  
24%

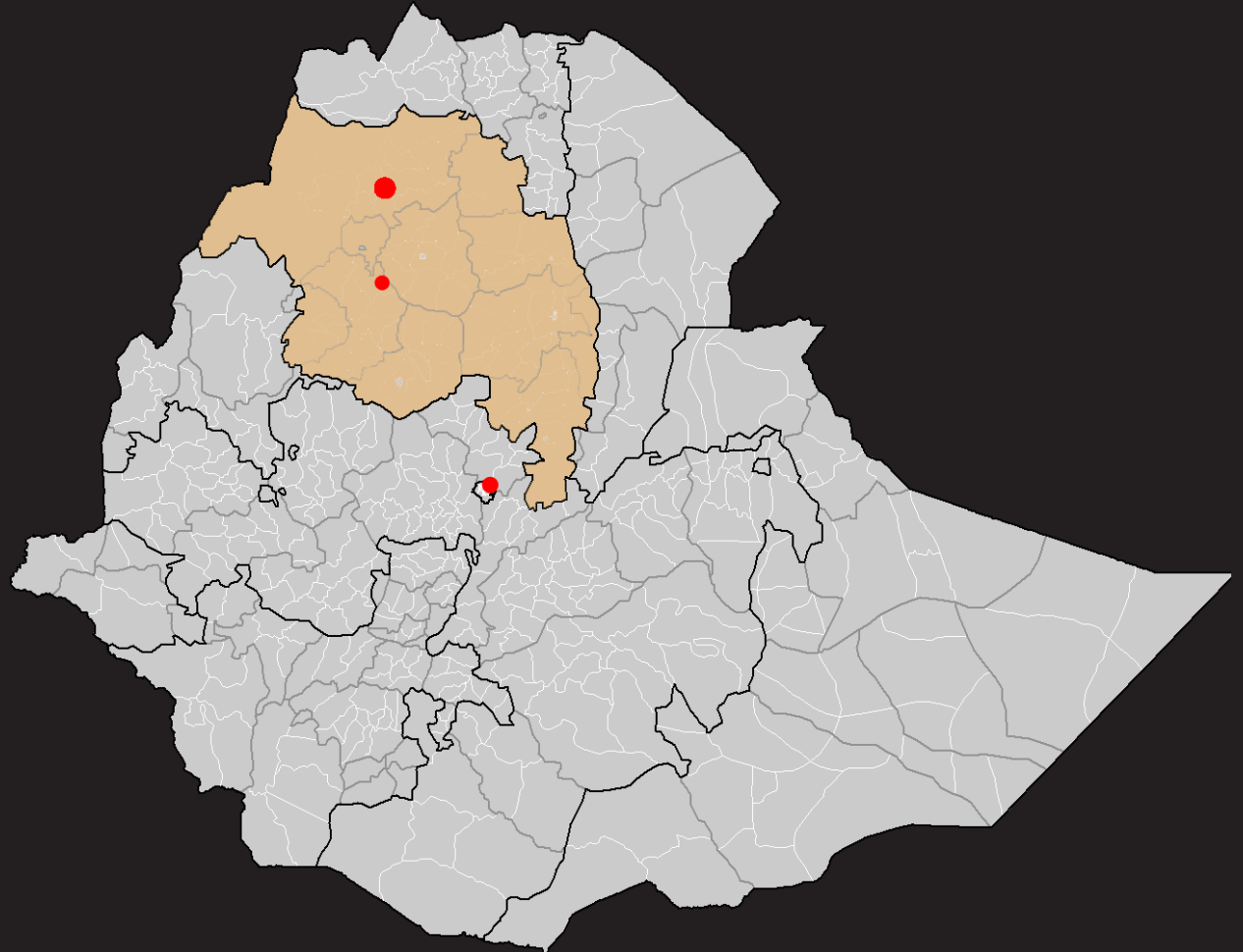


**Amhara Region:**

Ethiopia's Amhara region, north of Addis Ababa and with a population of 18.6 million, is served by 18 hospitals, 130 physicians, and 2,000 nurses. Given the World Health Organization's recommended minimum standard of 2.3 health workers per 1,000 population (2006 World Health Report), the region finds itself short of the bare minimum health staffing figures by about 38,000 health care workers.

**Gondar:**

Gondar University Medical Center currently serves a catchment area of 5 million.



The President's Emergency Plan for AIDS Relief 2 (PEPFAR 2) calls for the training of 140,000 health care workers in low income settings.

With PEPFAR support through the US CDC and HRSA, the Gondar College of Medicine has partnered with I-TECH Ethiopia and the University of Washington (UW) to establish a Comprehensive Outpatient Center in Gondar, Ethiopia. To meet these goals the new facility is designed to offer 369,259 visits per year and train 2,000 health science students per year.



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**Project Goal: Health Worker Training**



A good health system delivers quality services to all people, when and where they need them. The exact configuration of services varies from country to country, but in all cases requires a robust financing mechanism; a well-trained and adequately paid workforce; reliable information on which to base decisions and policies; well maintained facilities and logistics to deliver quality medicines and technologies.

-- *World Health Organization*



-- *Stefan Gara*

**Project Goal: Healthcare Systems**

**Partners & Stakeholders:**

University of Gondar

Center for Disease Control and Prevention

US Department of Health and Human Resources

Zias & Subconsultants

EF Studio

PEPFAR



I-TECH, United States

I-TECH, Ethiopia

University of Washington

University of California, San Francisco

Ministry of Health, Ethiopia

Ministry of Education, Ethiopia

RPSO

**Partner Relationships**

## Factors and Strategies:

Availability of qualified instructors

Partner

Guest faculty

Fellowships

Senior residents

Exchange programs

Faculty concerns

Housing

Intranet

Location

Faculty Development

Faculty recruitment & retention

Lack of Facilities - Clinical and Classroom

Compensation

Diaspora

Workload

Equipment



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**Factors Impacting Rapid Scale-up of Health Worker Teaching Capacity**

## Objective:

Design a 75 exam room outpatient center and coordinate it with 3 inpatient facilities to ensure an integrated health facility capable of supporting the education of over 288 medical students and 144 nurses or health officers in addition to laboratory and radiology technicians per year and serving a catchment area of 5 million people.



-- Julia Sheburne

Objective

## Background:

Architecture is not a recognized profession in Ethiopia

No use rate for major disease burdens

No health care planners

Community infrastructure

Equipment maintenance

Materials - Local production vs imported

Local labor skill sets

Quality control

No campus masterplan

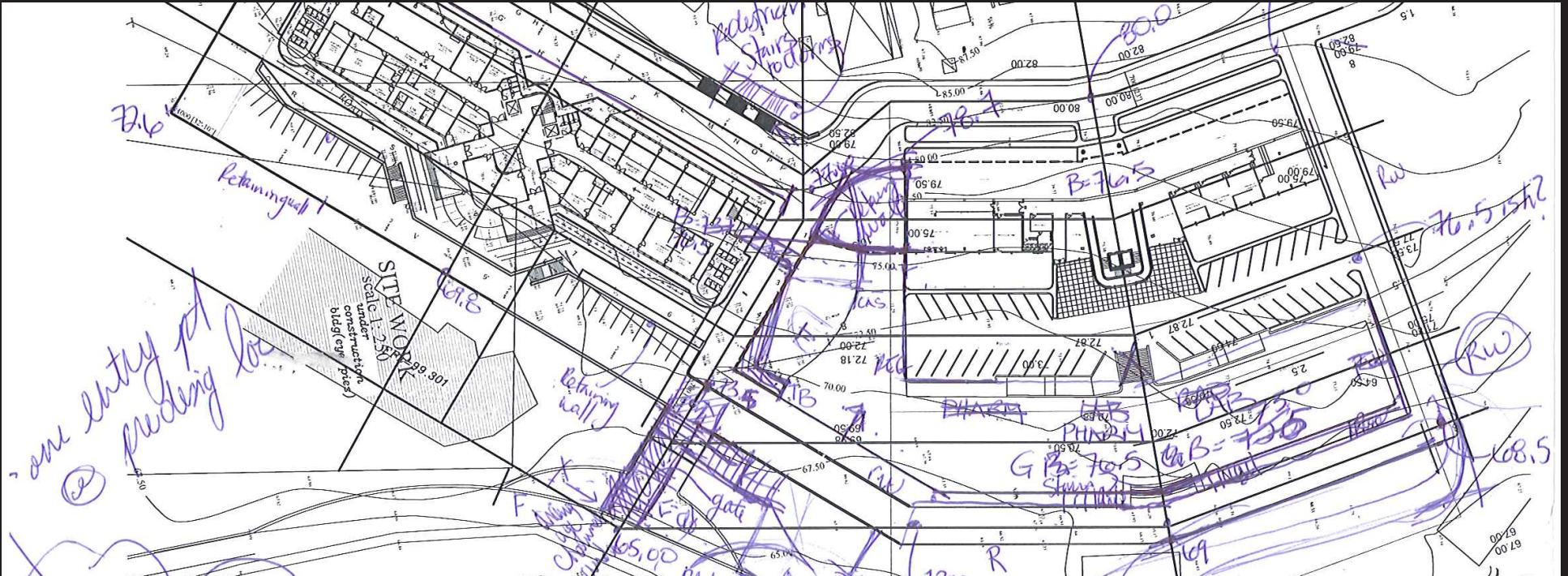
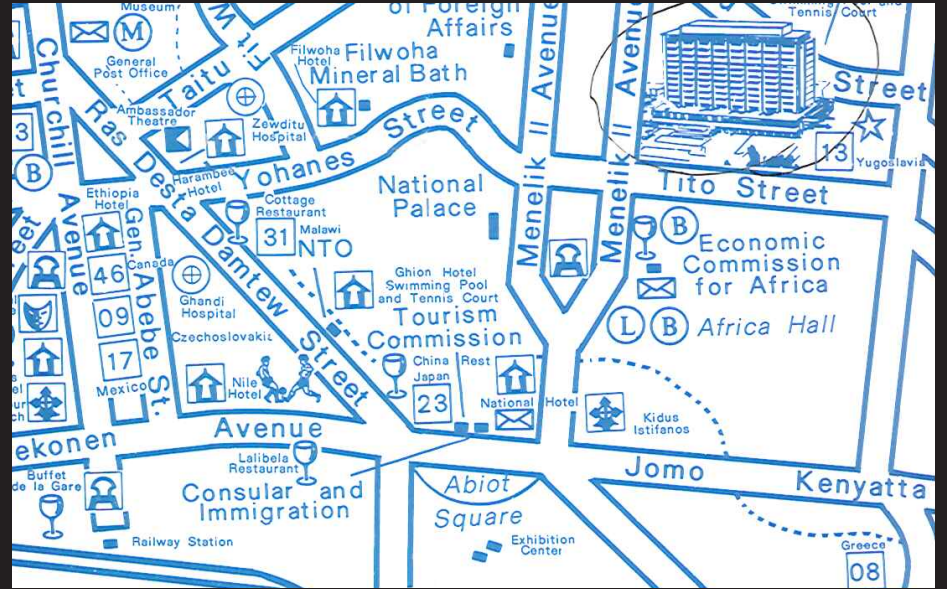
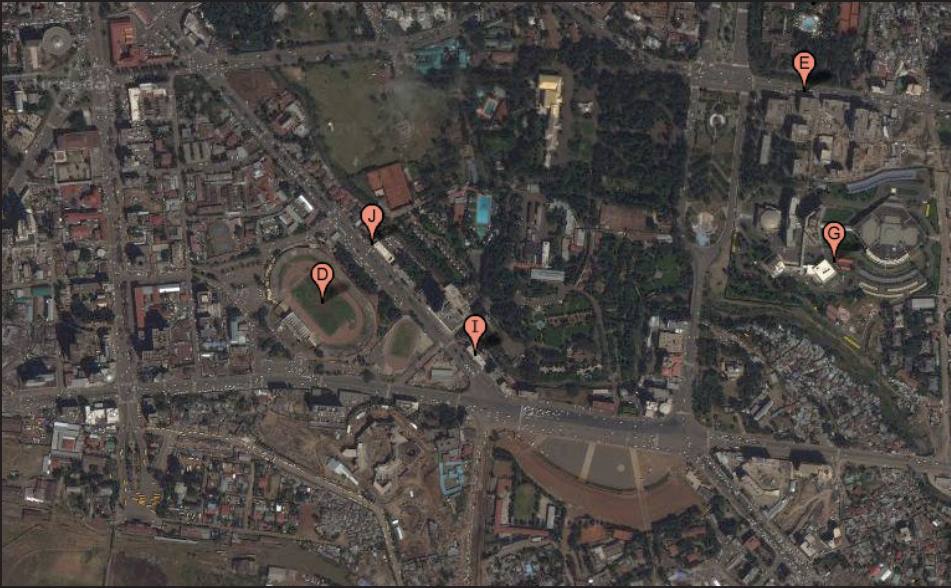
Life cycle costs

Communication

Infection control



Background



# Communication



## Infection Control: Beird

“Beird” (directly translated “cold”) stems from a deep rooted fear of moving air that usually results from two consecutive openings, ie. a door and a window or two consecutive windows. “Cross ventilation,” the very same concept, is a primary method of passive TB infection control.

“The term “Beird” or “cold” has been traditionally used to describe anything from pneumonia to TB to malaria. We sometimes joke that when a local doctor does not know what is going on he or she diagnoses it as “Beird” especially to older, uneducated patients. There is an obsession with still, warm air especially when one is sick.”

--Daniel Assefa



--Steve Evans

**Infection Control**



## Factors:

Spaces sized appropriately for teaching format

Variety in types of teaching spaces; informal vs formal

Guest faculty offices

Schedule & rotations

Technology - Library, ISIS & Equipment

Sufficient patient load for hands-on training

Appropriate ratio of types of disciplines

Proximity between classroom and patient care

Multiple disciplines training in same space

Understandable continuum of care



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**Impacting Factors in the Design of a Teaching Facility**

## Master Plan

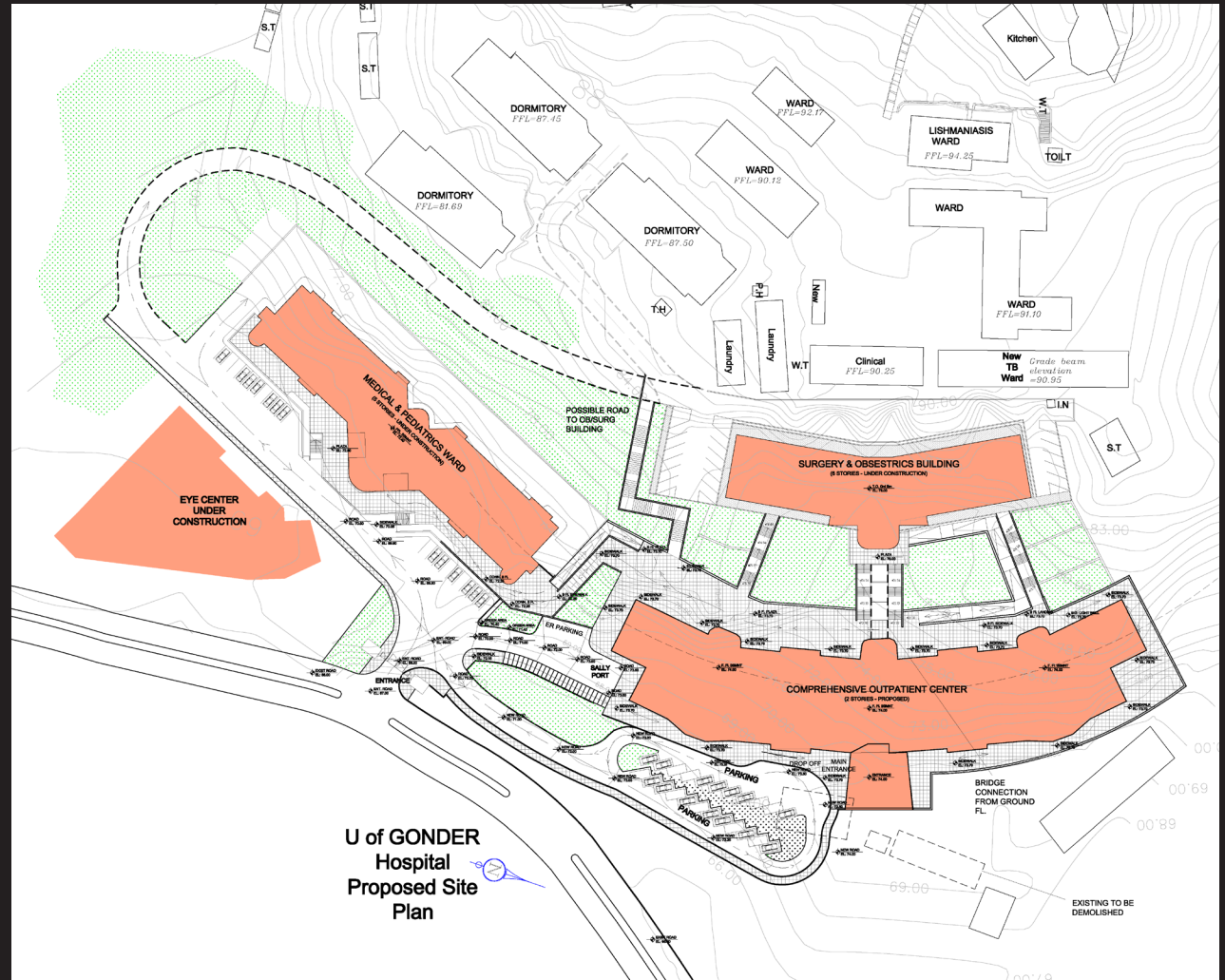
Coordinate clinical facilities and services, including ancillary services to ensure maximum efficiency and avoid duplication of facilities and services

Coordinate multiple project teams to deliver a unified campus - Comprehensive Outpatient Center (COC), Medical & Pediatrics Ward (MPH), Surgery & Obstetrics Building (SOH), and Eye Center

Coordinate operational patient, staff and material flow between buildings

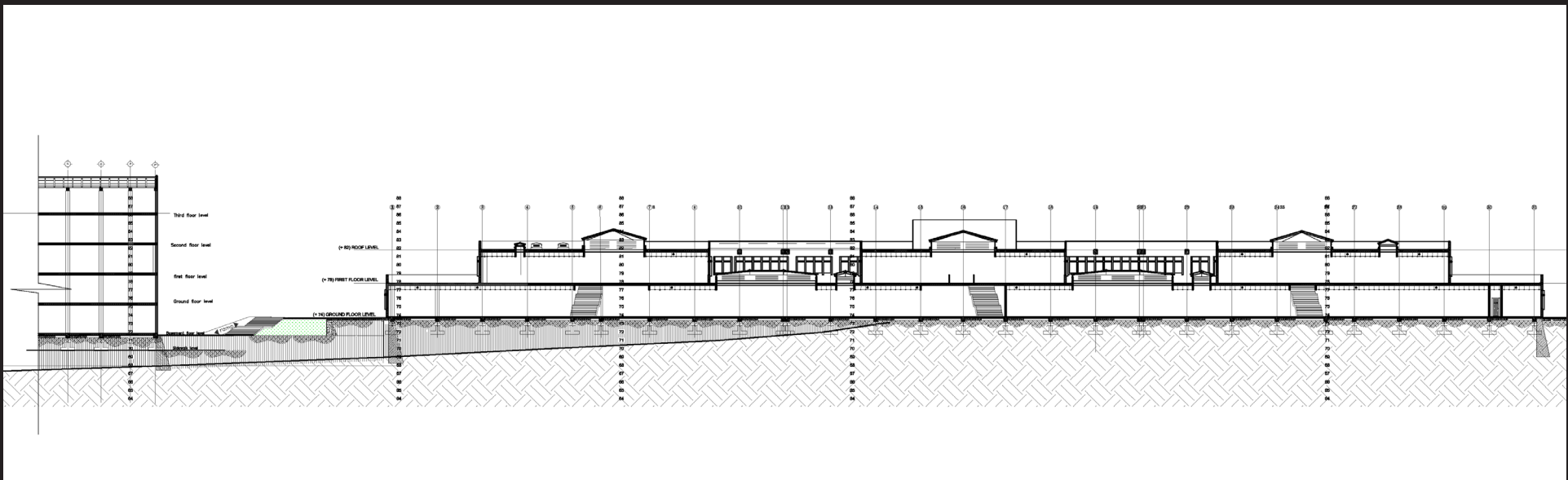
Analyze existing building programs and teaching and clinical needs to determine program of COC

Site Coordination

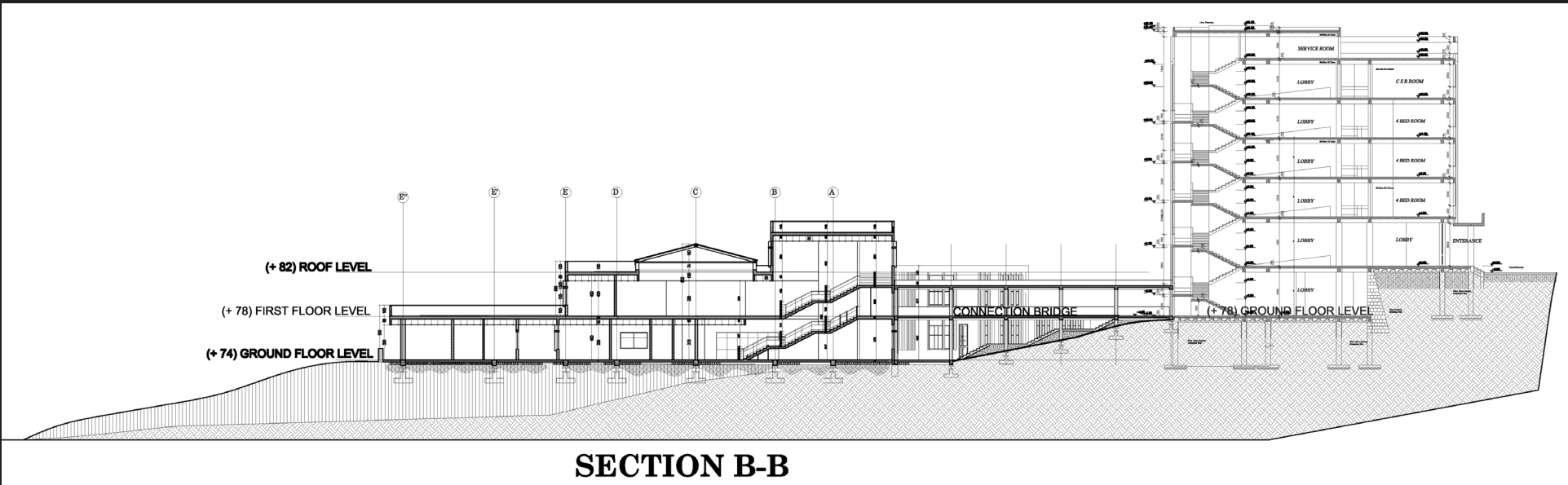


-- Zias AE

## Master Plan



-- Zias AE



**SECTION B-B**

-- Zias AE







-- Zias AE

## Comprehensive Outpatient Center

### Clinics

Adult Medicine  
Surgical and Surgical  
Specialties  
Pediatrics  
TB & Infectious Diseases  
OB/GYN & ANC  
Adult ART

### Casualty Unit

### Pharmacy

### Laboratory

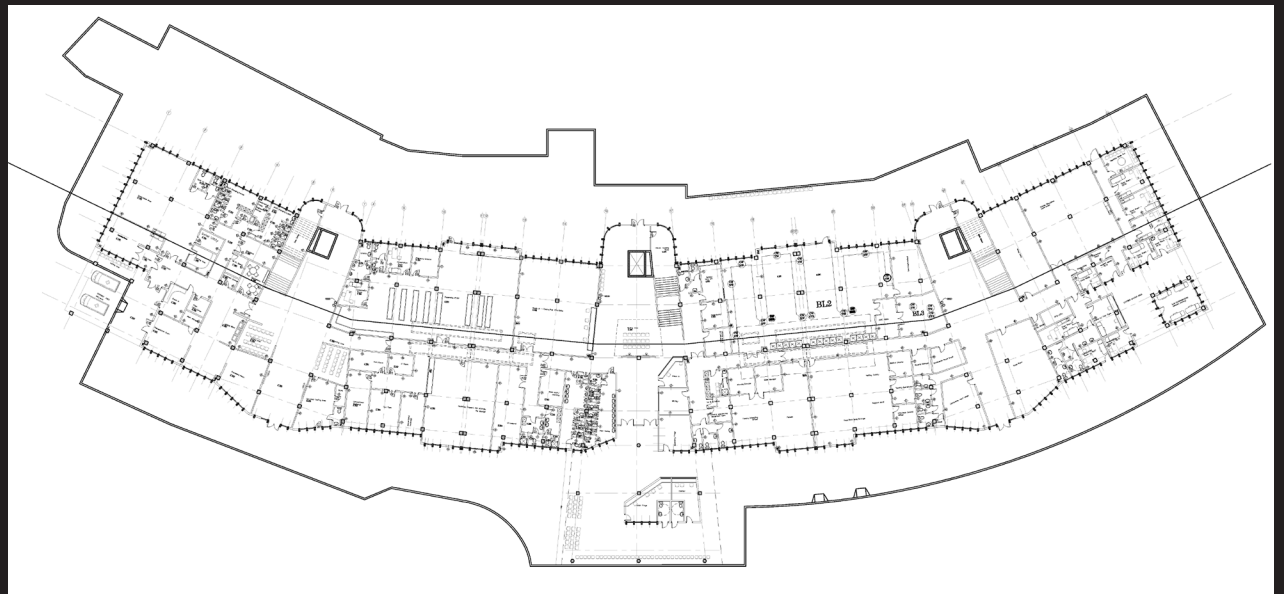
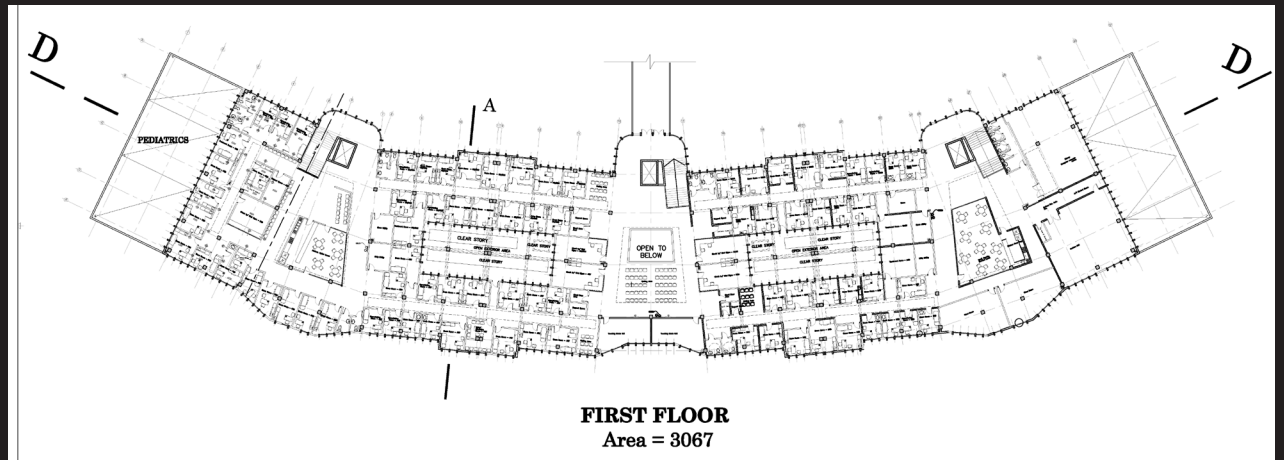
### Radiology

### Check-in & Triage

### Quality Control & Data

### Education

### Administrative & Faculty Offices



-- Zias AE

## Comprehensive Outpatient Center

## Conclusion

Major institutional master planning has a key role to improve coordination, care and cost-effectiveness.

Training institutions must link clinical care with teaching and research.

Multidisciplinary teams are needed to meet the clinical, infection control and architectural constraints of any new building.



-- [maternalhealthbbis.com](http://maternalhealthbbis.com)

**Conclusion**