Redesigning Ethiopia's Hospitals to Revamp Medical Stores and Pharmacy Services

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Outline

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2. Baseline assessment
3. Methodology
4. Findings of the published studies by GHSC-PSM and Ministry of Health
5. Sample of standardized new design
6. Assessment results
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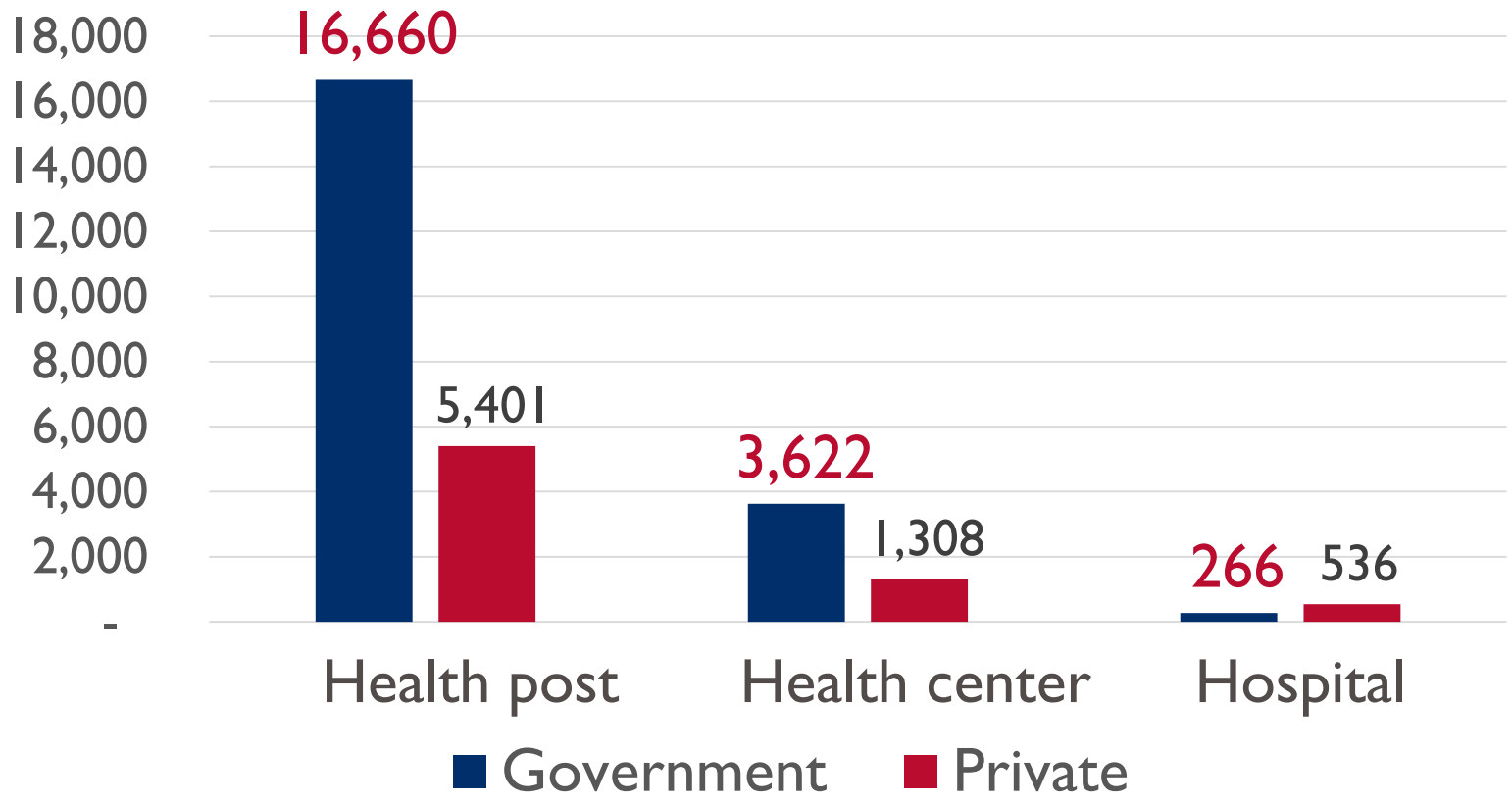
Ethiopian health facilities: Government and private sector



*As reflected in the Ministry of Health's 2017 Annual Performance Report.

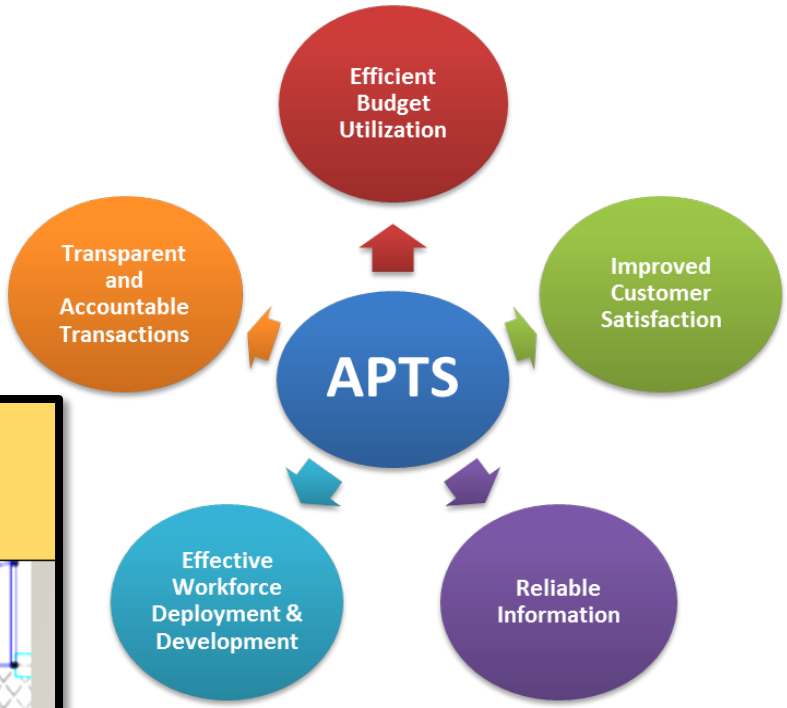
BASELINE ASSESSMENT FINDINGS

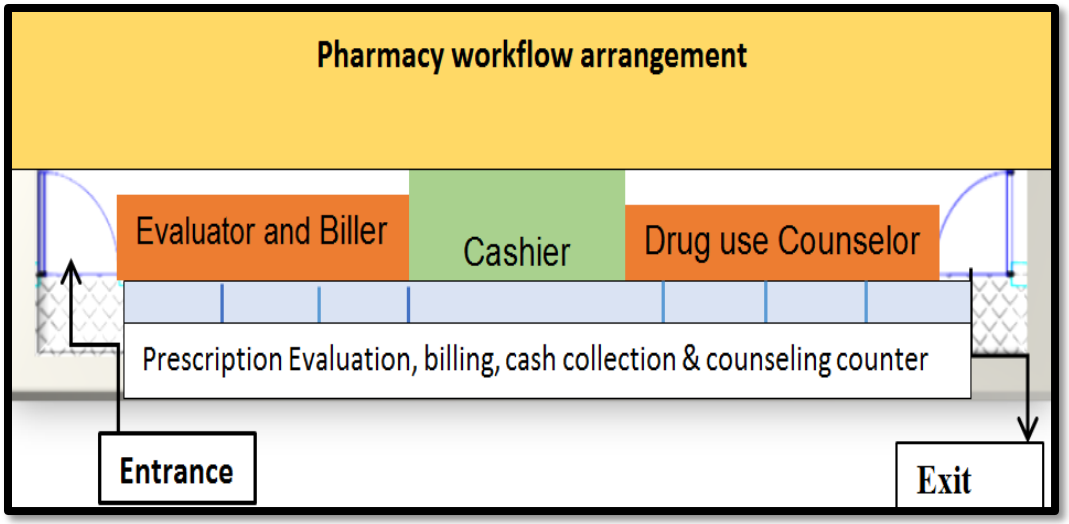
Background on design of premises

- **Before Auditable Pharmaceuticals Transactions and Services (APTS), patients had to queue up at least 3 times:**
  - 1st time: Prescription price confirmed
  - 2nd time: To pay at the finance counter (usually outside the pharmacy)
  - 3rd time: To collect medicines by coming back to the dispensary
- As a result:
  - Long wait times, but short care times
  - Patient dissatisfaction and poor knowledge of dosage
  - Disproportionately impacts disadvantaged populations, such as mothers and children

Auditable Pharmaceuticals Transactions and Services (APTS)

- Strategic government initiative (2015-2020)
- Enacted by regulation in all regional states of Ethiopia
- Five result area goals (see infographic)
- Currently being implemented and growing





Implementation results

From this…

…to this

METHODOLOGY

Comparison of sources

Baseline assessment

- 47 sample hospitals selected (17 hospitals in 2017 and 30 hospitals in 2018).
- APTS principles were validated by studying the Ethiopian context using anthropometry (for customer) and ergonomics (for staff comfort, efficiency, and safety) principles

Related studies

- Findings from19 hospitals, published in the 2017 Ministry of Health annual review meeting special bulletin, including:
  - queue modeling/workflow
  - counter height and sizes
  - shelves and stores have been evaluated

FINDINGS

Model 1

- **Specifications**
  - Height (1.20 meters)
  - One door only
- **Findings**
  - Height is not appropriate for all patients
  - One door is not suitable for entrance and exit

BEFORE

AFTER

Bonga Hospital 1.05 meter height counter

Before

After

Model 2

- **Specifications**
  - Same counter width and height as Model 1
  - Closed window with a narrow hole
  - Pharmacy with no lines
  - Store that can handle 4 MOS
- **Findings**
  - Closed window can lead to poor communication
  - Store cannot contain 4 MOS
  - No. of counters is not enough for patient load
  - Implemented in few health facilities (e.g. Dilla and Gondar

Model 3

- **Specifications**
  - Height of table = 70 cm for pharmacists
  - Pharmacists are seated and patients are standing
- **Findings**
  - Not comfortable for pharmacy professionals nor patients (no arm rest, curved back because of short tables)
  - Only implemented in a few hospitals

Model 4

- **Specifications**
  - Two counter levels
  - Height 0.75 meter
  - Pharmacists can sit and patients can stand
- **Findings**
  - Allows computers to be kept on the counter
  - Allows patients to comfortably rest their arms

Bule Hora Hospitals: assisted by GHSC-PSM

Kuyu Hospitals: assisted by GHSC-PSM

Model 5: Seated service for chronic patients

(This was after APTS)

- **Specifications**
  - Height 75 cm table
  - Pharmacists and patients are seated
- **Findings**
  - Comfortable for chronic patients. Example: Lalibela chronic pharmacy

Gaps identified

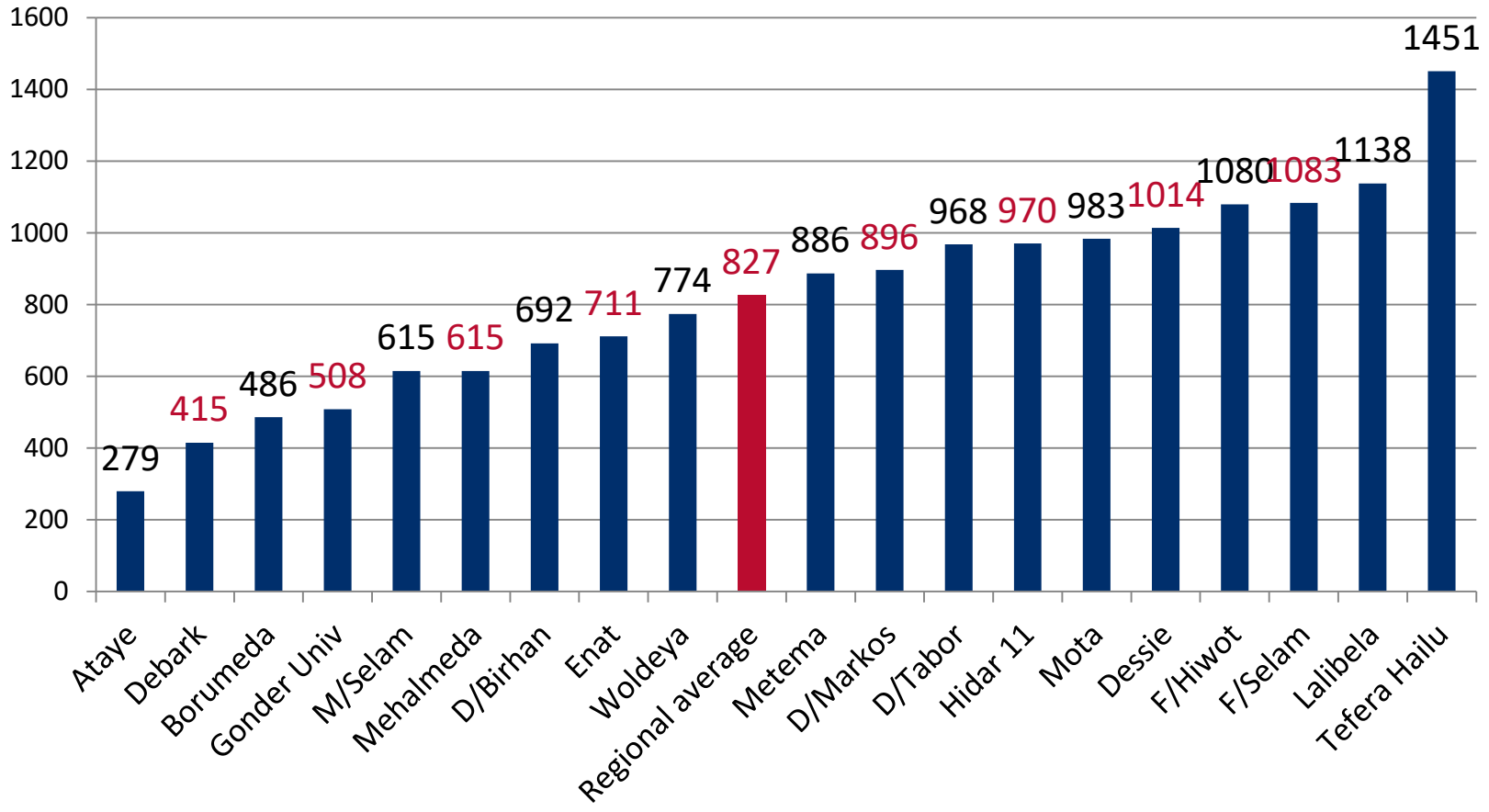
Before APTS:

- No separate entrance and exit doors in dispensaries
- No counter at all (only closed window)

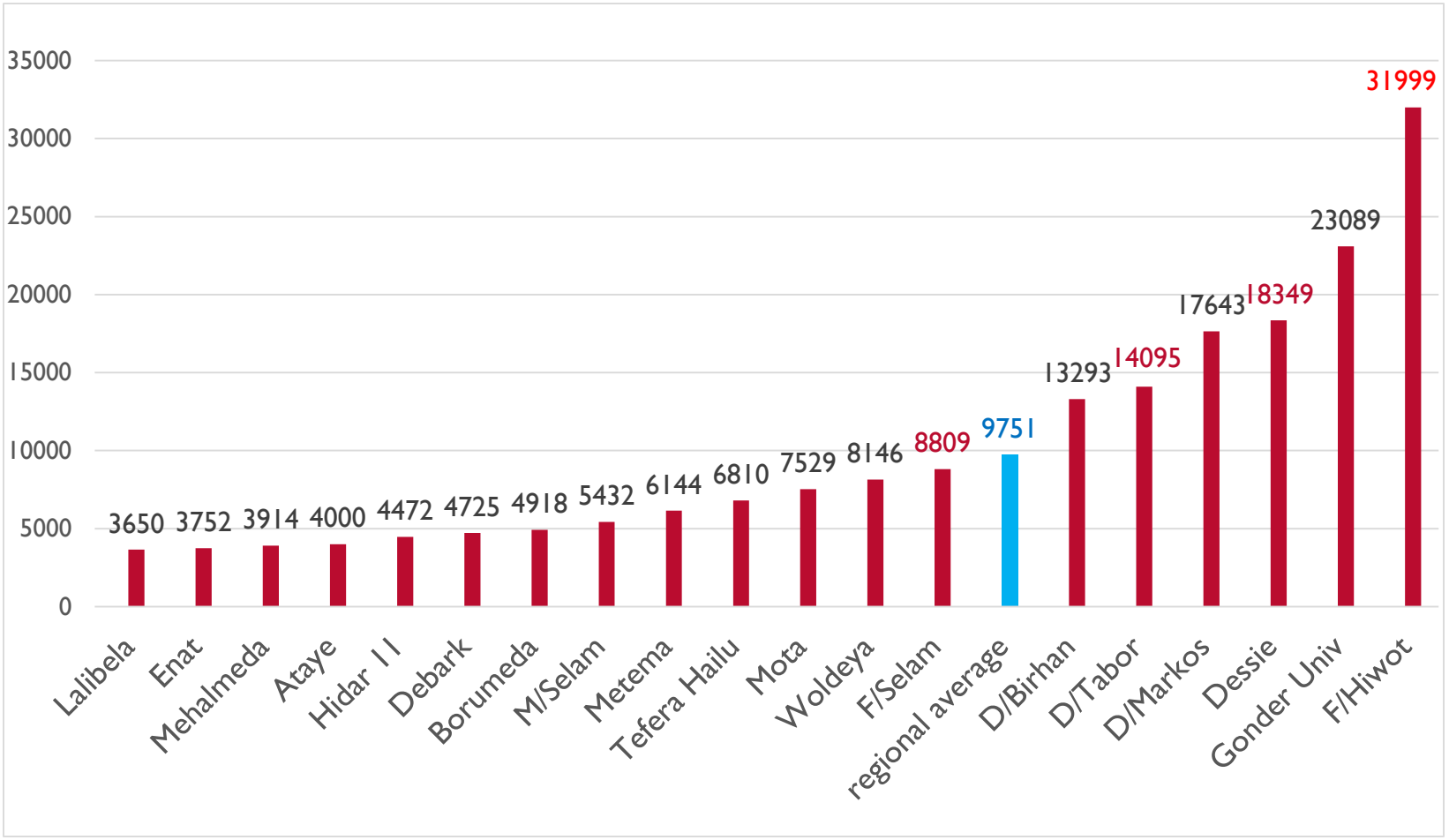
After APTS:

- The width and height of tables, counters, cubicles, and chairs used for patients with prescription evaluators, cashiers, counselors, and patients were not standardized
  - Made it difficult to utilize computers to deliver service
  - Some facilities went back to closed windows again
- Stores were unable to store 4 months of stock
- Waiting times and queues were still long, which resulted in health professionals developing varicose veins due to standing for long periods

Average number of clients served monthly, per dispenser (July 2016-May 2017 in Amhara hospitals)



Monthly patient visits per month to pharmacies (July 2016-May 2017 in Amhara hospitals)



No of counters calculation: e.g. for hospital= 203 pts/day

Evaluator $\frac{203\ persons}{8\ hrs*5\ person/\ hours}$ =5 (5 counters needed)

Casher $\frac{203\ person}{8\ hrs*32person/\ hours}$= 0.8 (1 counter needed)

Counselor =$\frac{203\ perons}{8\ hrs*6persons/\ hours}$= 4.2 (4 counters needed)

So if 10 counters/ professionals = Minimized waiting time except peak hours

Maximum No of counters based on peak hours service

Evaluator: $\frac{101\ persons}{3\ hrs*5\ person/\ hours}$ =6.6 (7 counters)

Casher: $\frac{101\ person}{3\ hrs*32person/\ hours}$= 1.05 (1 counter)

Counselor: =$\frac{101\ perons}{3hrs*6persons/\ hours}$= 5.6 (6 counters)

14 counters will minimize waiting time even during peak hours

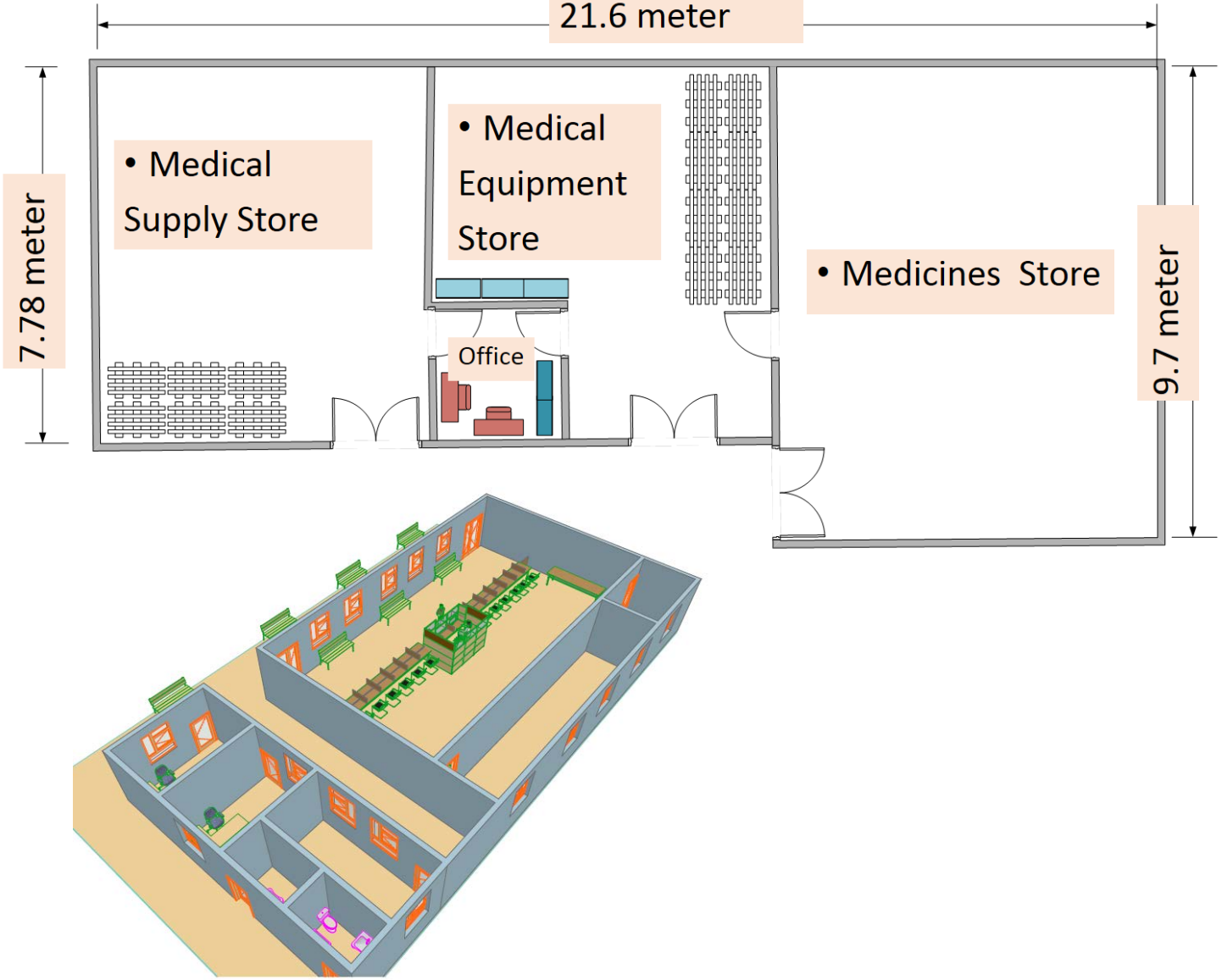
Note: Half of the 24-hour patients come during 3 peak hours (2 in the morning and 1 in the afternoon).

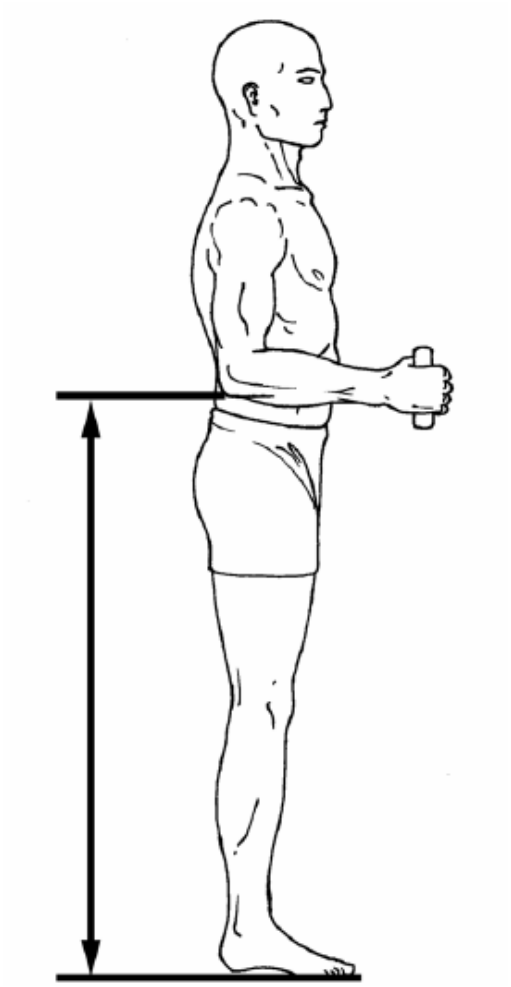
STANDARDIZED NEW DESIGN DEVELOPMENT

Development of new design

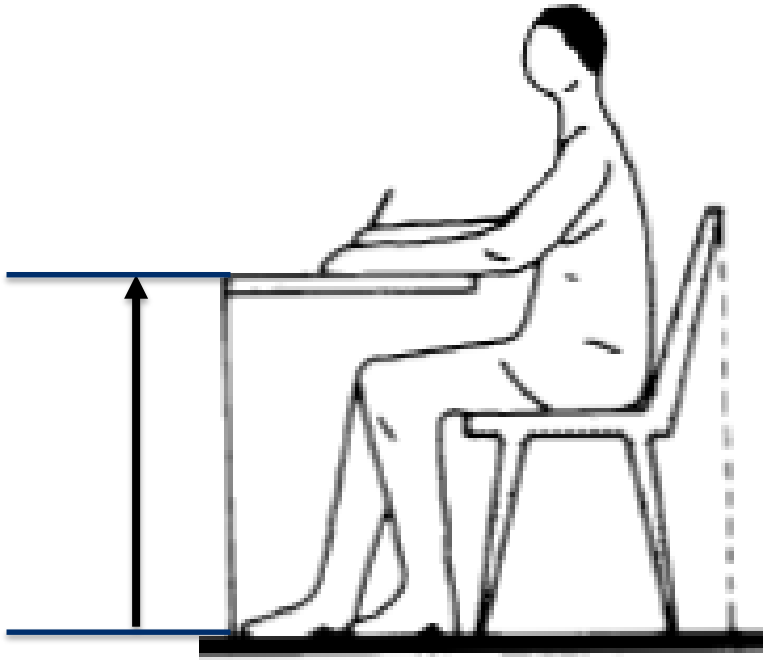
- The Federal Ministry of Health (FMOH) in collaboration with GHSC-PSM used the findings to develop new designs for dispensaries and medical stores
- FMOH approved the design for primary hospitals
- FMOH and regional health bureau (RHB) implemented the standardized design in 65 hospitals from 2017 to 2018 with technical assistance from GHSC-PSM
- 54 hospitals were newly inaugurated (in May and June)
  - 15 standardized with support of GHSC-PSM and an additional 15 underway

Batu Primary Hospital Pharmaceutical Store

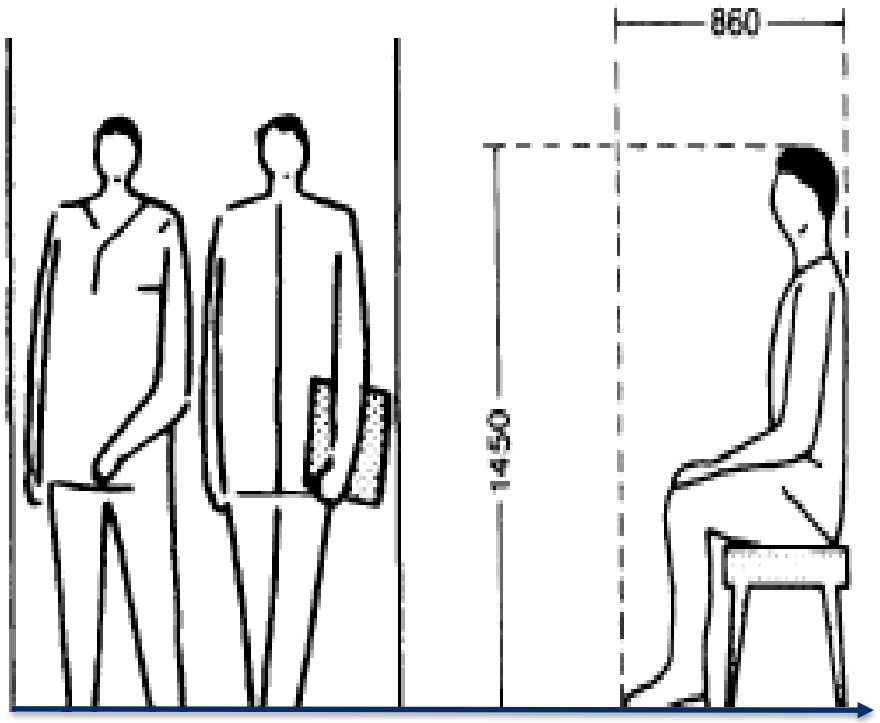




The most comfortable height to rest arms while sitting is 75 centimeters



The most comfortable height to rest arms while standing is 1.10 meters



70 Cm x 3= 2.10 meter

- Consider the sum of distance of two people walking and one person seated ➔ to 2.1m (70cm x3 = 2.1meters)
- Therefore, the distance between the waiting area and dispensing counter should be at least 2.1 meters.

Examples

Sample shelves

Double counters

Best bin management (Shahsemene Hospital)

Best counter and trolley for pharmacists (Gondar)

Best medical store that can store 4 MOS (Injibara Hospital, supported by GHSC PSM)

Patients getting service at Afar region in 2017 with the new design

- Proper counter height
- Short lines and waiting times

ASSESSMENT RESULTS

Results

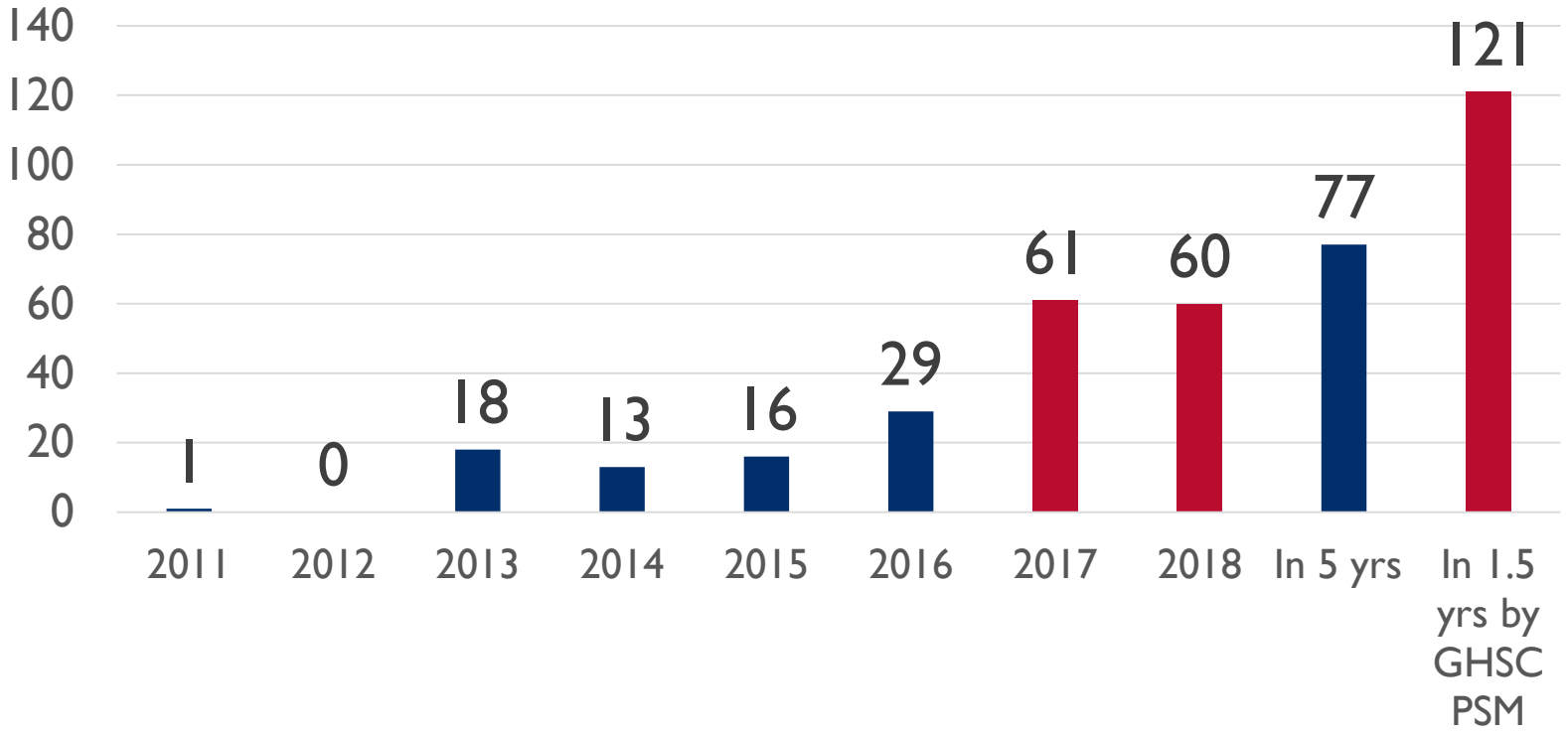
- The appropriate counter height that satisfied the majority (among 1,000 patients) was found to be 1.10 meters
- All-in-one line queue modeling: Evaluation found reduced waiting time and increased care time in dispensaries with two doors (entrance and exit)
  - Patient flow from evaluator➔ biller➔ cashier➔ counselor
- Suitable swivel chair height for health professionals to reduce varicose veins was 75 centimeters
- Stores that can store 4 months of stock; based on catchment area patient load is mandatory
- Shelves were standardized with a 2 meter height

Therefore, REDESIGN IS VERY IMPORTANT!

Reference: Adjusted odds ratio analysis, published on WHO essential medicines portal

Speed of APTS Implementation

No of Health Facilities Implementing APTS, 2011 to 2018



INAUGURATION CEREMONIES AND CERTIFICATION

APTS in Ethiopia

- One of the basic strategic initiatives in health sector transformation plan (HSTP from 2015-2020)
- Major area in hospital service transformation guidelines (HSTG – 2016-2020)
- Top priority for Federal Ministry of Health (MOH –since; 2012 (National Annual Performance Review reports)
  - **APTS is an issue of good governance in health supply chain and service**

APTS inauguration ceremonies

Inauguration of APTS

Ribbon-cutting by Minister of Health and First Lady of Ethiopia at Ayder Referral Hospital

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The purpose of the USAID Global Health Supply Chain Program-Procurement and Supply Management single award indefinite delivery indefinite quantity (IDIQ) contract is to ensure uninterrupted supplies of health commodities to prevent suffering, save lives, and create a brighter future for families around the world. The IDIQ has four global health area task orders that directly support the U.S. President's Emergency Plan for AIDS Relief, the President's Malaria Initiative, and USAID's maternal and child health, and population and reproductive health programs.

We provide health commodity procurement services and systems-strengthening technical assistance that address all elements of a comprehensive supply chain.