

# **The Surgical Training Program: Increasing access to essential surgical care in Sierra Leone by training Medical Doctors and Community Health Officers**

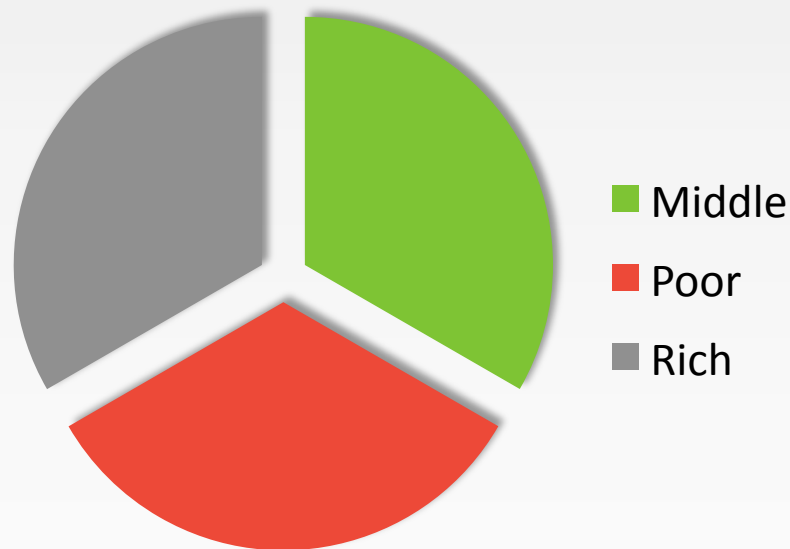


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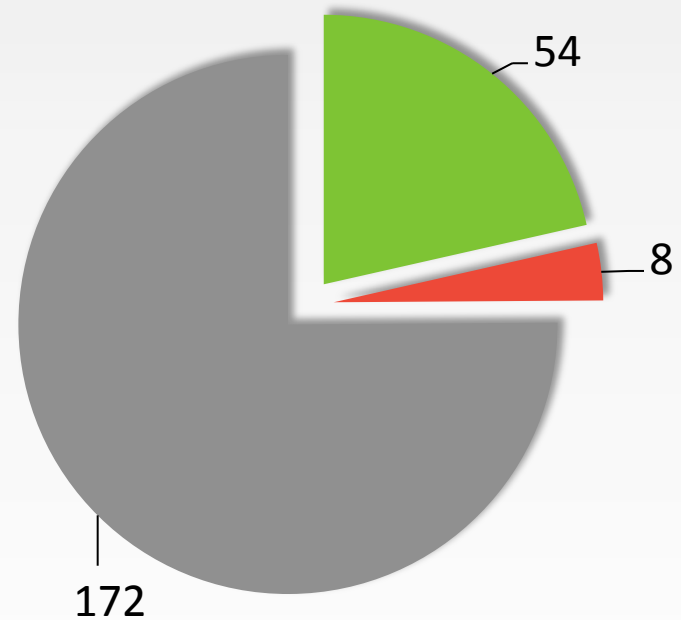


# Surgical Workforce Crisis

World population



234 million annual surgeries



# The Surgical Workforce Crisis

	Freetown	Provinces	Total
Surgeons	12	2	14
Obstetrician/gynaecologist	6	1	7
MD practising surgery	1	3.5	4.5
Surgical Technician	10	4	14

# Surgical Care is Cost Effective

Intervention	Cost-effectiveness (DALY averted)
Rapid-impact package for NTDs	US\$2–US\$9
Measles vaccination	US\$5
Basic surgical services	<u>US\$11 - S\$33</u>
Antiretroviral therapy for HIV	US\$300 - US\$500

# Surgical Workforce Crisis – Sierra Leone

2012 Countrywide community survey (3645 respondents)

- 1352 (37%) reported having a surgical condition
- 575 (31%) households reported at least one household member dying in the previous year
- 237 (33%) deaths were associated with a surgical condition that might have benefited from surgical care

Conclusion:

*There is a large unmet need for surgical interventions*

# Task-Shifting

- Delegation of certain medical responsibilities to less specialized health care workers
- Examples:
  - Ophthalmic nurses doing cataract operations
  - Anesthesia nurses providing general anesthesia
- WHO 2012 Recommendations (high level) associate clinicians:
  - Perform: Manual placenta removal, CS and vacuum extraction

# Surgical Task-Shifting

- Shifting of tasks from surgeons to non- specialists
- Shifting tasks from doctors to non-doctors  
(Non Physician Clinicians – NPC)
- Basic surgical care, especially in rural area.

# **Surgical Task-Shifting**

## *the experience from East-Africa*

- Malawi, 90% of Caesarian sections done by NPC
- Tanzania 84% of Caesarian sections done by NPC
- Mozambique 92% of Caesarian sections done by NPC
  
- Retention is high



# **Surgical Task-Shifting**

## *the experience from East-Africa*

Systematic review with meta-analysis:

- 6 non-randomized controlled studies (16 018 ♀)
- NPCs vs MD - caesarean section.

Results:

- Maternal death: - no significant differences
- Perinatal death: - no significant differences

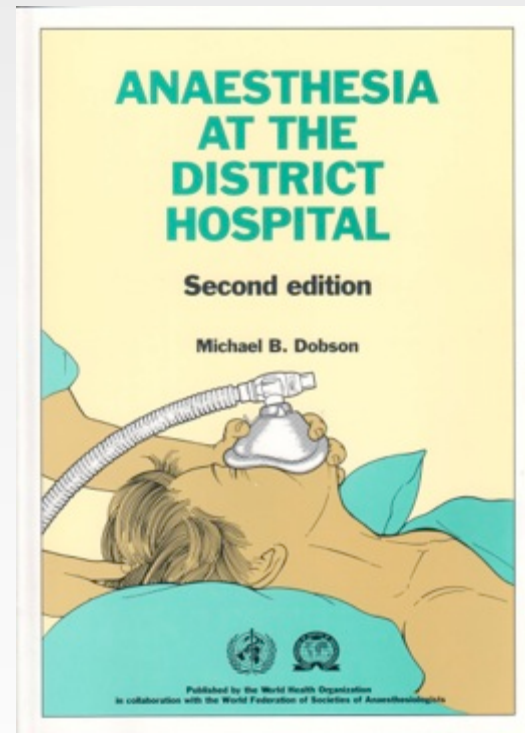
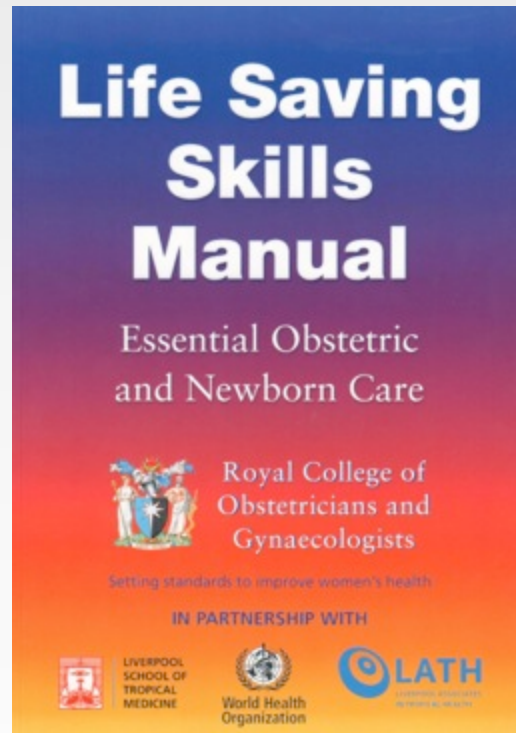
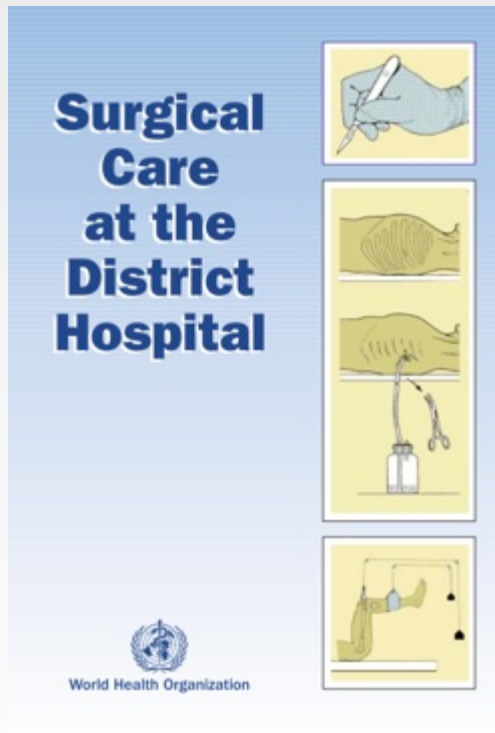
# The Surgical Training Program

- Objective: To increase the surgical capacity in Sierra Leone
- By training Medical Doctors and Community Health Officers in basic life saving surgery and obstetrics
- By having a strong cooperation with the Ministry of Health and Sanitation
- By creating a strong network together with 8 other hospitals
- By using the example of surgical task-shifting from East-Africa

# Training Overview

	Training (2 years)		Exam	Houseman Ships
Practical training	Basics Masanga	Partner hospitals (2-3)		Conaught and/or PCMH
Theoretical / Skills training	Visiting consultant specialists in: - Surgery and orthopedics - Obstetrics and gynaecology - Radiology (Ultrasound) - Anesthesiology			

# Curriculum



# Theoretical Training



# Skills Training – Ultra Sound





# Skills Training – Obstetrics



# Practical training





# Training Overview – Partner Hospitals

Hospitals are selected based upon:

- Surgical capacity
- Supervision
- The student record all procedures in a logbook

# Teaching Facilities



## Primary Training Center

1. Masanga Hospital

## Partner Hospitals

2. Magbenteh, Makeni
3. Holy Spirit, Makeni
4. St John of God, Lunsar
5. Kamakwie Weslian Hospital
6. Lion Hearth Medical Center, Yele
7. Gundama Refferal Center, Bo
8. Serabu Catholic Hospital
9. Aberdeen Womens Center, Freetown

## Housemanship Hospitals

10. Canaught University Hospital, Freetown
11. PCMH Maternity Hospital, Freetown

# Training Overview – Exam

After the two years there is a examination consisting of:

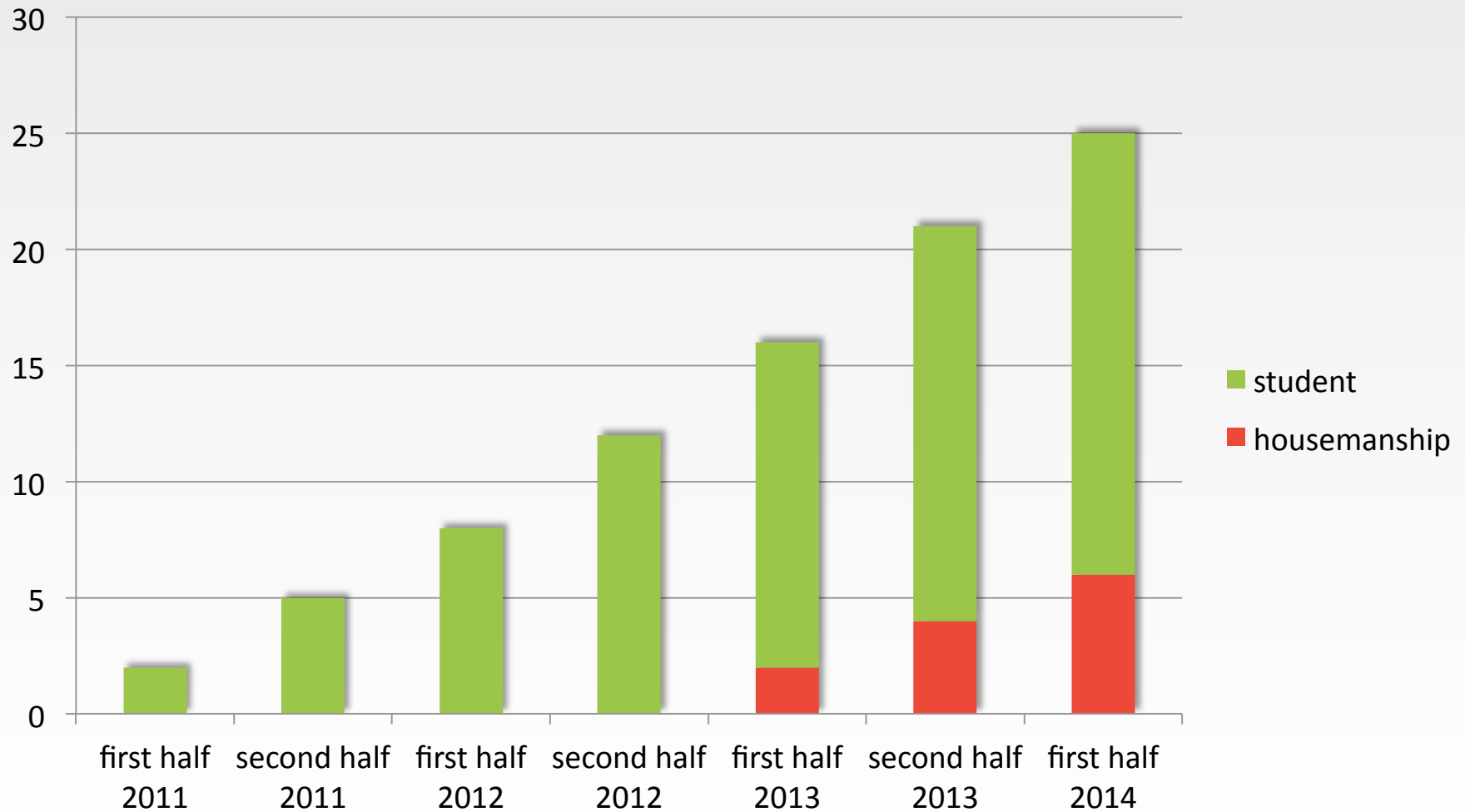
- Logbook
- Written exam
- Oral exam – conducted by the chief surgeon and the chief obstetrician

# **Training Overview – Housemanship**

To assess the students in the governmental hospitals in Freetown and give them the final preparation for the work in the district hospitals

Started in March 2013

# Number of students in the program

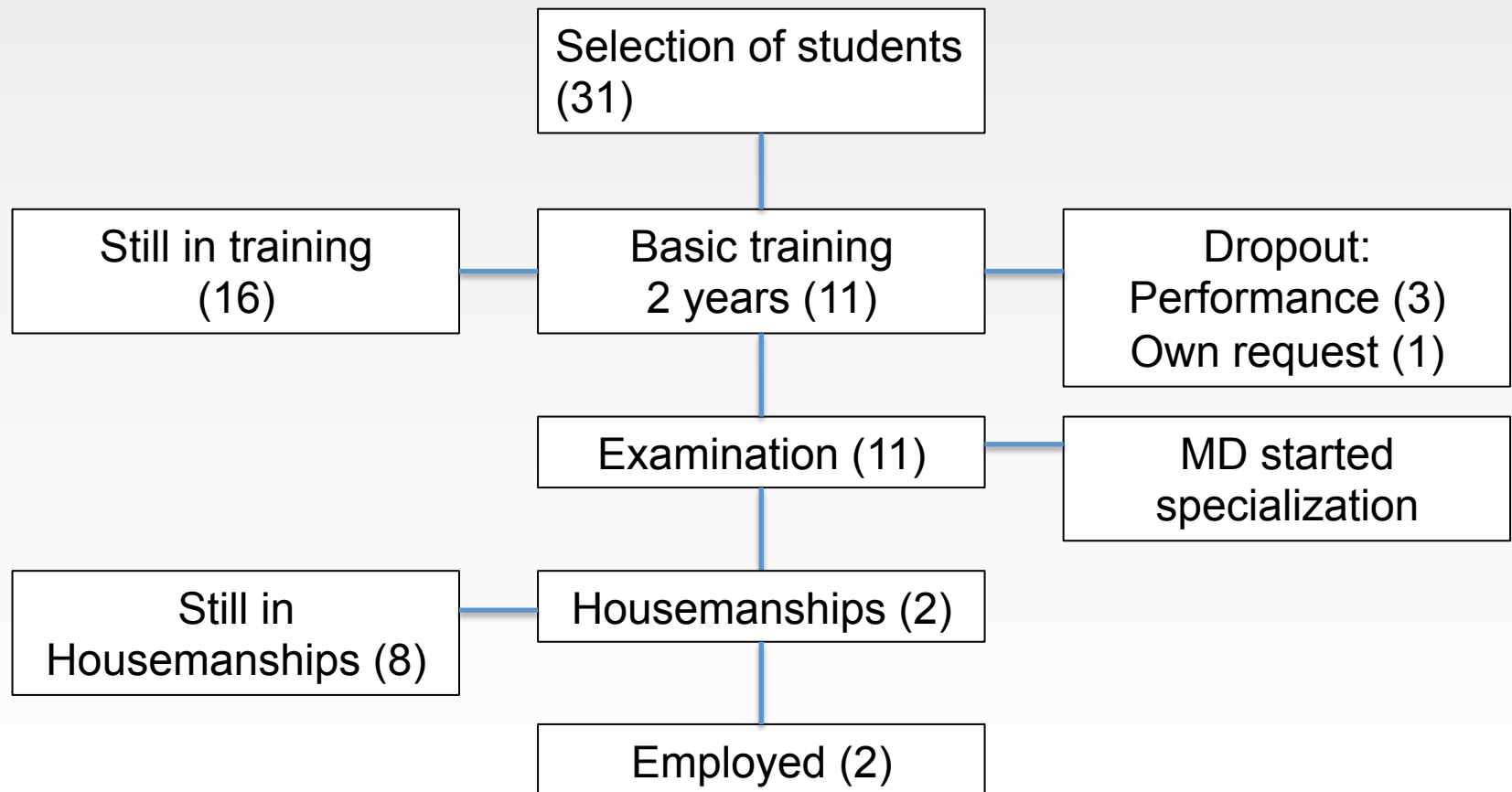


# The Students

- 30 Community Health Officers
- 1 Medical Doctor
  
- 26 males
- 5 females

# The Students

(as by 1<sup>st</sup> July 2014)



# Procedures – Students Role

(as by 1<sup>st</sup> July 2014)

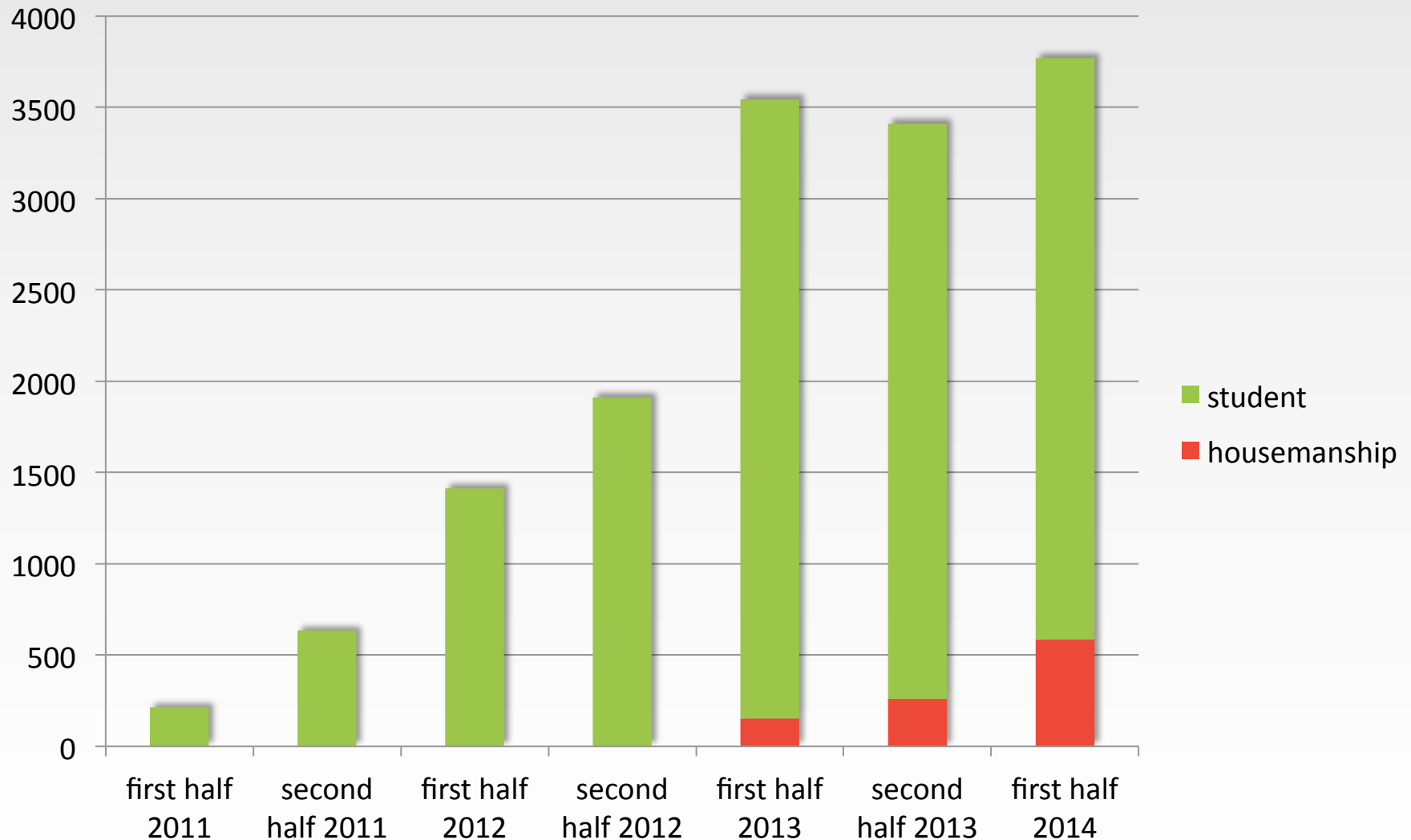
Role	Number	Percentage
Observer	3085	20.7%
Assistant	6046	40.6%
Surgeon direct supervision	3022	20.3%
Surgeon indirect supervision	2749	18.4%
<b>Total</b>	<b>14902</b>	<b>100%</b>



## Top 10 procedures

Procedure	Number	Percentage
1. Inguinal hernia repair	3895	26.1%
2. Cesarean section	3144	21.1%
3. Explorative laparotomy	672	4.5%
4. Appendectomy	497	3.3%
5. Scrotal hydrocele	494	3.3%
6. Tubal ligation	489	3.3%
7. Hysterectomy	443	3.0%
8. Dilation and curettage	437	2.9%
9. Incision and drainage	431	2.9%
10. Obstetrics and gynecology other	400	2.7%

# Number of attended procedures



# Ebola in Sierra Leone

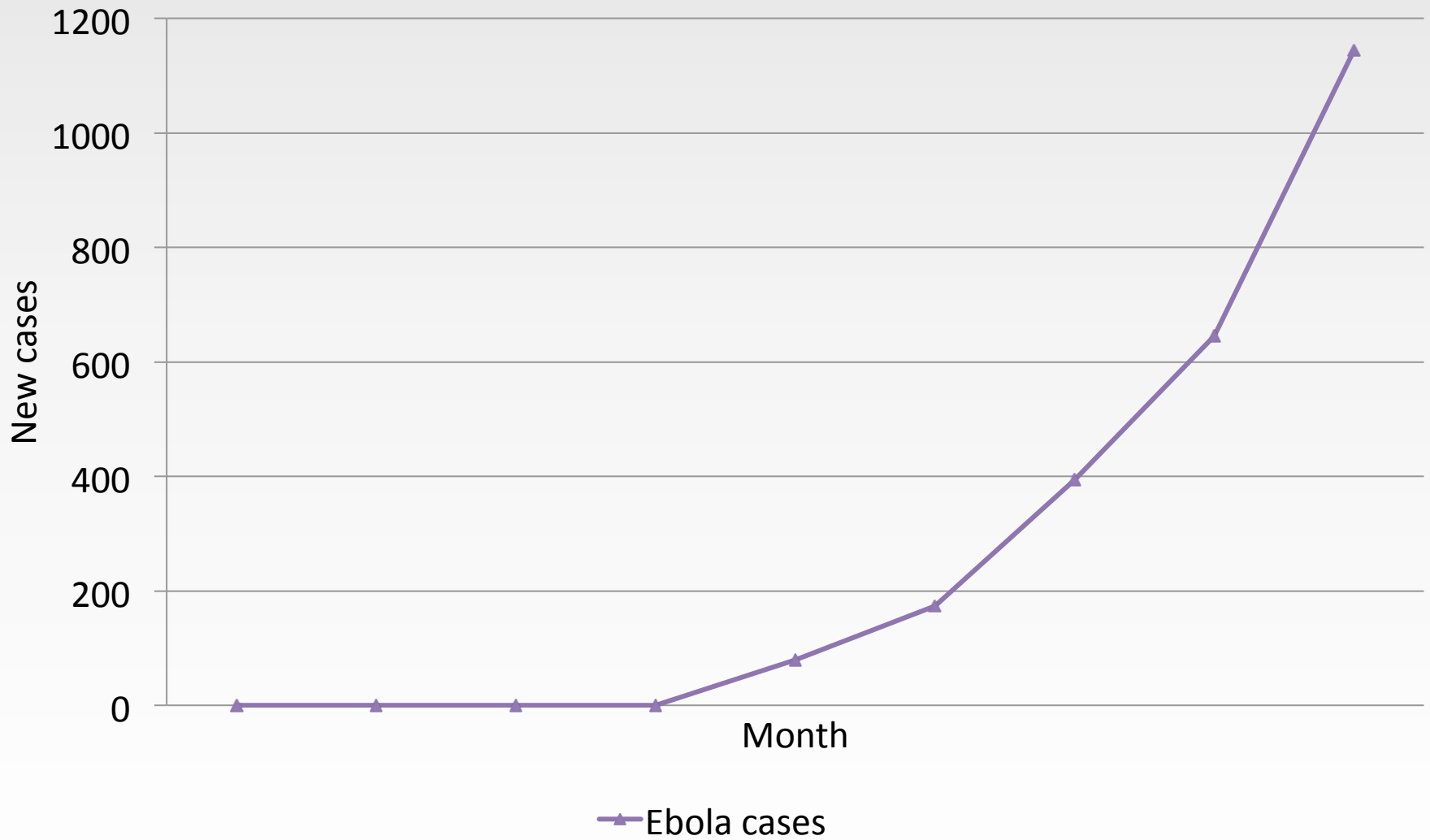
First case in Sierra Leone in May 2014

Latest data:

- Sierra Leone: Cases 4862 / Deaths 1130
- Total: Cases 13,241 / Deaths 4950



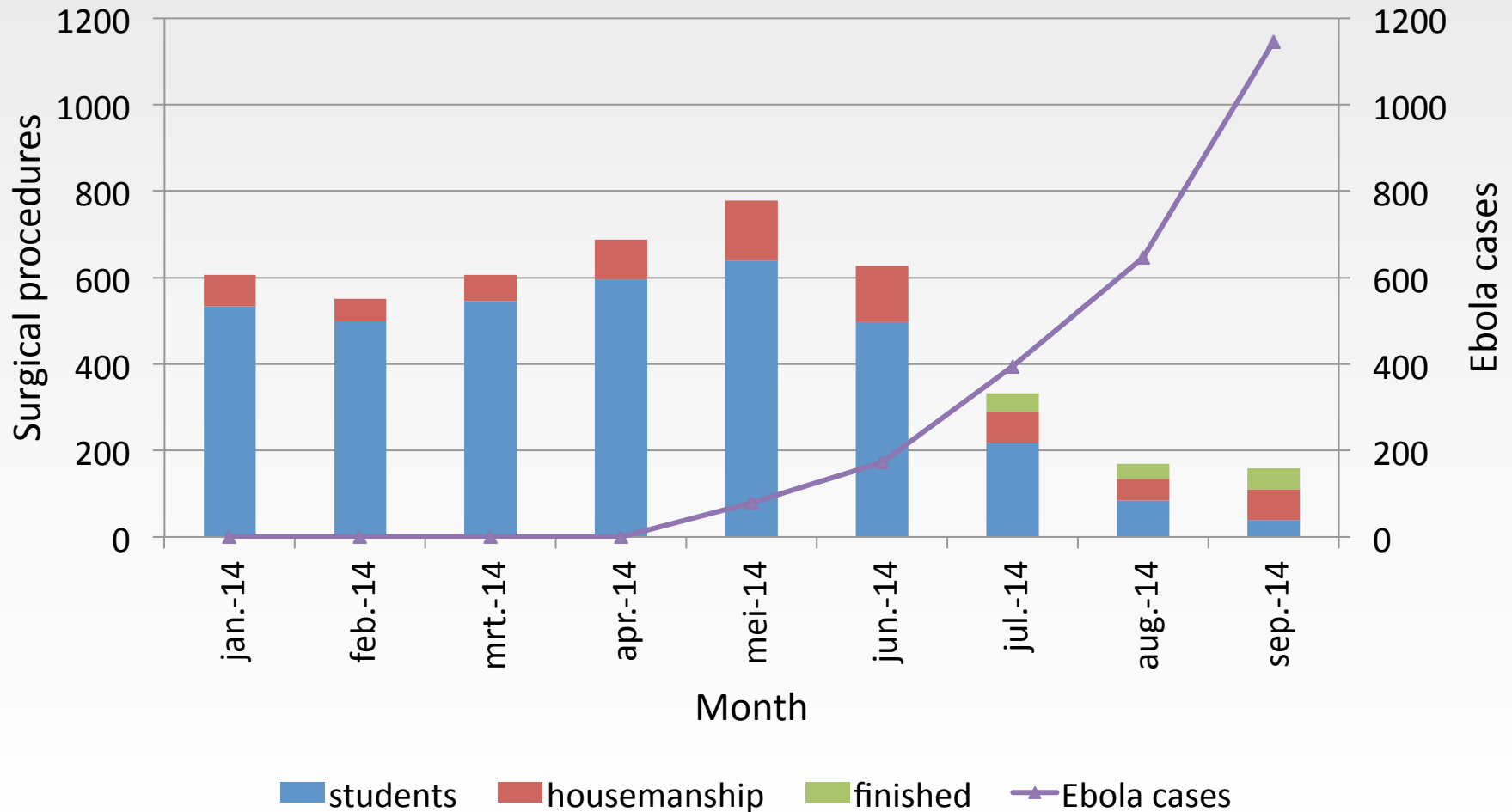
# Ebola in Sierra Leone



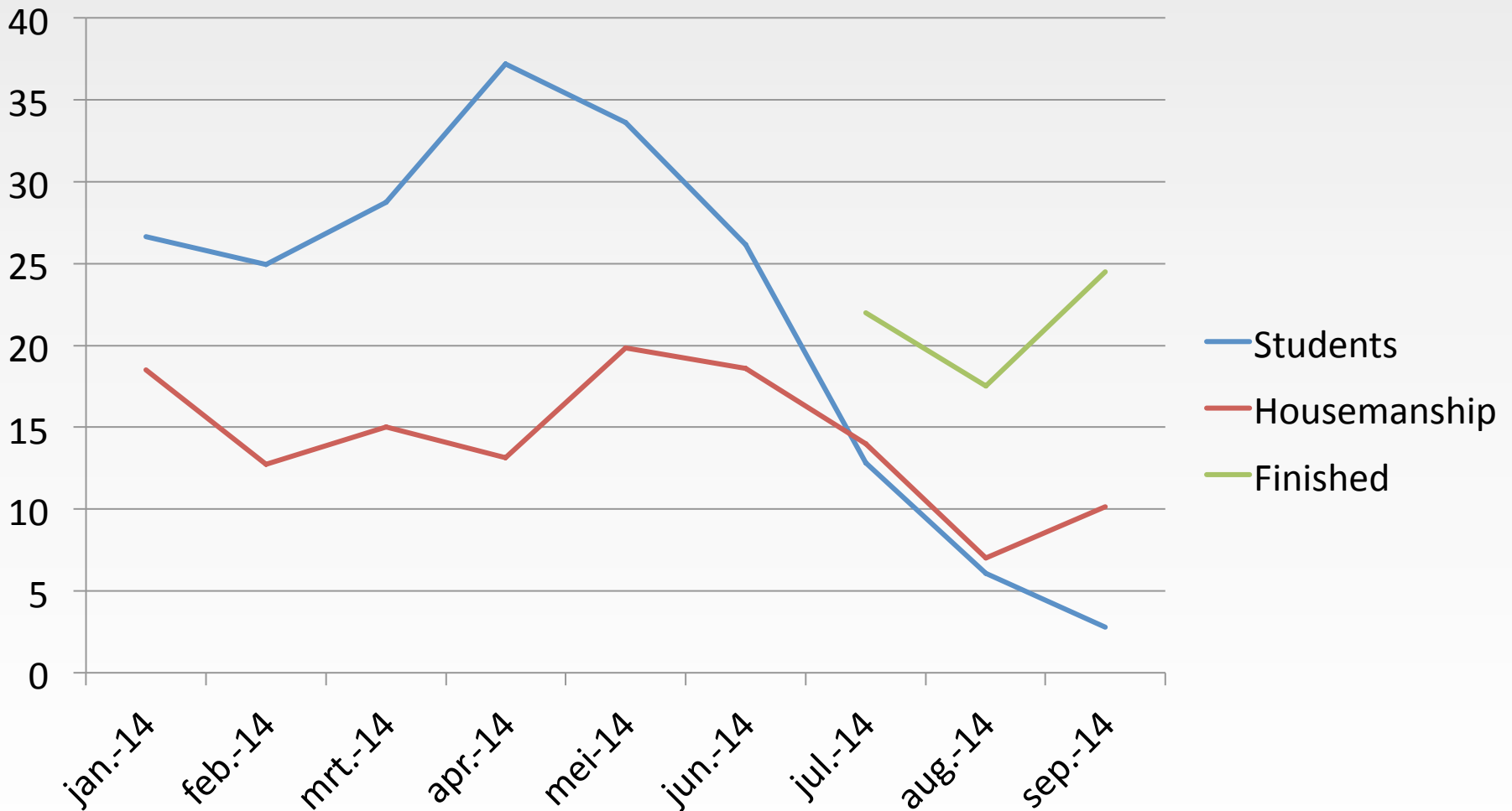
# **Ebola in Sierra Leone**

- Under registration
- Indirect mortality
- Weakening of the healthcare system

# Surigical procedures / Ebola cases



# Surigcal procedures per student



# Teaching Facilities



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# **Ebola, Impact STP**

- Evacuated expat doctor
- Stopped with sending trainers
- No start-up of new students

# Joseph Heindilo Ngegba

† 22nd August 2014



# Discussion

## Strengths:

- Involvement with the Ministry of Health and Sanitation
- Close contact with the students
- Network with partner hospitals

## Challenges:

- Quality control
- Legal framework
- Ebola is the biggest challenge

# Conclusion

Short course training of MDs and CHOs are feasible in Sierra Leone and can contribute to address the unmet need for surgical and obstetrical care within a short timeframe. Good cooperation between MOHS and the NGO CapaCare towards common goals is essential.

The current Ebola outbreak has major negative impact on the Sierra Leonean health care system and the program. As soon as the Ebola epidemic is under control the program will continue to train health workers in basic life saving surgery and assist in rebuilding the Sierra Leonean healthcare system

**More information:**



[www.CapaCare.org](http://www.CapaCare.org)