



# **Non-physician Clinicians In 47 Sub-Saharan African Countries**

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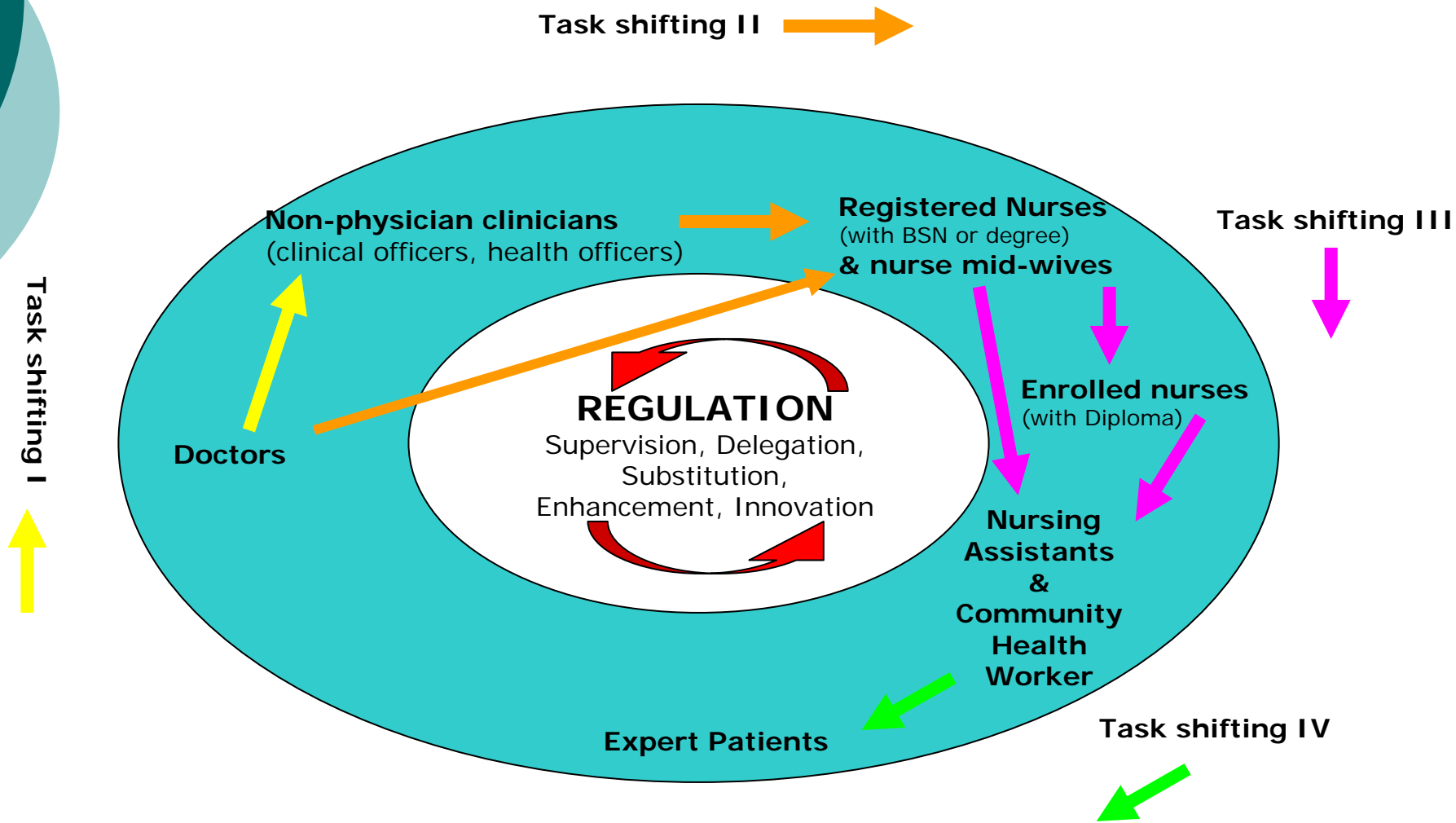
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# Content

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- **Task-shifting types**
- **Non-physician Clinician — Lancet publication**
- **Regulatory Elements in Non-Physician Clinician Treatment Service**
- **Summary - Non-physician Clinicians Promise and impediments for scale-up**

# Task Shifting Types (To NPC...Task-shifting I)



# Lancet Article...

## Public Health

### Non-physician clinicians in 47 sub-Saharan African countries

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Many countries have health-care providers who are not trained as physicians but who take on many of the diagnostic and clinical functions of medical doctors. We identified non-physician clinicians (NPCs) in 25 of 47 countries in sub-Saharan Africa, although their roles varied widely between countries. In nine countries, numbers of NPCs equalled or exceeded numbers of physicians. In general NPCs were trained with less cost than were physicians, and for only 3–4 years after secondary school. All NPCs did basic diagnosis and medical treatment, but some were trained in specialty activities such as caesarean section, ophthalmology, and anaesthesia. Many NPCs were recruited from rural and poor areas, and worked in these same regions. Low training costs, reduced training duration, and success in rural placements suggest that NPCs could have substantial roles in the scale-up of health workforces in sub-Saharan African countries, including for the planned expansion of HIV/AIDS prevention and treatment programmes.

#### Introduction

Many nations have a history of health-care provision by staff who are not trained as physicians but who are capable of many of the diagnostic and clinical functions of medical doctors. In the 19th century, the French deployed *officiers de santé* (health officers)<sup>1</sup> for rural medical services; in the 20th century Russian *feldshers* and Chinese barefoot doctors were active.<sup>2,3</sup> These types of health workers are now known as health officers, clinical officers, physician assistants, nurse practitioners, or nurse clinicians. We will describe them as non-physician clinicians (NPCs). Non-physician clinicians deliver health services in both developed<sup>4,5</sup> and developing countries.<sup>6</sup> For example, more than 300 000 non-physician clinicians practise alongside physicians in the USA.<sup>7</sup>

NPCs were present in sub-Saharan Africa during the colonial era; the British in particular trained health workers known as apothecaries, who dispensed medicines and often assumed additional clinical duties (Kadama P: Ministry of Health, Uganda, and WHO Health Policy and Strategic Planning; personal communication). In Uganda, an African Native Medical Corps was formed in 1918, with training programmes at the government hospital in Mulago.<sup>8</sup> In Kenya, from the 1920s, health workers known as dressers and dispensers were trained to provide basic surgical and medical care, respectively.<sup>9</sup> Agents *sanitaires* were trained in the Congo and elsewhere in French-speaking colonial Africa.<sup>10</sup>

The rationale for development of NPC programmes before and after independence was the need for personnel to deliver medical services in poorly served regions.<sup>11</sup> But despite the practical benefits of educating Africans for increasingly senior clinical duties, some physicians were concerned that training of such personnel would result in professional dilution.<sup>12</sup> This tension was evident in the titles used to designate African NPCs between the 1920s and 1960s, which included subassistant surgeon, subdispensary attendant, senior native medical assistant, senior African medical assistant, medical assistant, medical auxiliary, and clinical officer.<sup>9</sup>

Ethiopia initiated education of health officers at the University of Gondar in 1954.<sup>13</sup> In countries such as

Mozambique the exodus of physicians during war prompted initiation of NPC cadres.<sup>13</sup> After independence in Ghana, a commitment to primary health care delivery led to the establishment of the Rural Health Service, which trained health-centre superintendents, who were later known as medical assistants.<sup>6</sup> Much of rural health care in northern Ghana is now provided by these medical assistants.<sup>14</sup>

Robust information on national health workforces is not available in many countries. Reasons for this include different data collection agencies for trainees and workers; employment by both governments and non-governmental organisations; the difficulty of tracking retirements, deaths, and emigration; and the cost of maintaining accurate workforce data. To obtain primary data about NPCs, we used a key informant tree, whereby we surveyed individuals in all 47 countries, including officials in ministries of health and education, academicians, health programme directors, local government officials, and members of non-governmental organisations and faith-based organisations. NPC registries were also available in seven countries (Ethiopia, Ghana, Kenya, Malawi, Tanzania, Uganda, and Zambia).

We investigated the background, role, and status of NPCs in the 47 countries of sub-Saharan Africa (Angola, Benin, Botswana, Burkina Faso, Burundi, Central African Republic, Cameroon, Cape Verde, Chad, Comoros, Côte d'Ivoire, Djibouti, Democratic Republic of the Congo, Equatorial Guinea, Eritrea, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritius, Mozambique, Namibia, Niger, Nigeria, Republic of the Congo, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Sao Tome & Principe, Swaziland, Tanzania, Togo, Uganda, Zambia, and Zimbabwe).

#### Non-physician clinicians

NPCs cannot be easily delineated from other health workers with a simple legal or practical test, since many categories of health workers have taken on diagnostic and treatment functions that were traditionally the domain of physicians. We defined NPCs as health workers with training beyond the secondary school

# Study Methods

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- **Literature Synthesis**
- **Environmental Scan**
  - developed our own data base in 47 SSA countries
  - interviewed in 47 SSA countries, 124 officials in MOH, Academia, NGOs, FBOs, embassies, hospitals, clinics, etc.

# Definition

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## Non-Physician Clinicians

Cadres (in between a physician and a registered nurse) with post secondary education who to some extent can perform the duties of a physician under or in lieu of a physician supervision

- Trained in basic diagnosis and medical treatment and have prescriptive authority.
- Deliver a range of personal clinical health services

# Nomenclature & Scope of Practice

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## Nomenclature\*

Clinical Officers (CO); Health Officers (HO); Assistant Medical Officers (AMO); Medical Assistants (MA); Physician Assistants (PA); Nurse Officers (NO); Nurse Clinicians (NC)

## Scope of Practice\*

- Multiple SOP: Medicine (including HIV/AIDS T&C),  
Obes/Gynae (including c/s), orthopedics,  
anesthesia, ophthalmology, minor surgery,  
dermatology, ENT
- Single SOP: Medicine

# NPC Presence

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**25** SSA countries where NPCs are present

<b>Angola</b>	<b>Ghana</b>	<b>Mauritius</b>	<b>S. Africa</b>
<b>B. Faso</b>	<b>G-Bissau</b>	<b>Mozambique</b>	<b>S. Sudan</b>
<b>Botswana</b>	<b>Kenya</b>	<b>Rwanda</b>	<b>Tanzania</b>
<b>Cape Verde</b>	<b>Lesotho</b>	<b>Senegal</b>	<b>Uganda</b>
<b>Ethiopia</b>	<b>Liberia</b>	<b>Seychelles</b>	<b>Zambia</b>
<b>Gabon</b>	<b>Malawi</b>	<b>Sierra Leone</b>	<b>Zimbabwe</b>
<b>Togo</b>			

# Distribution According to the Language Spoken

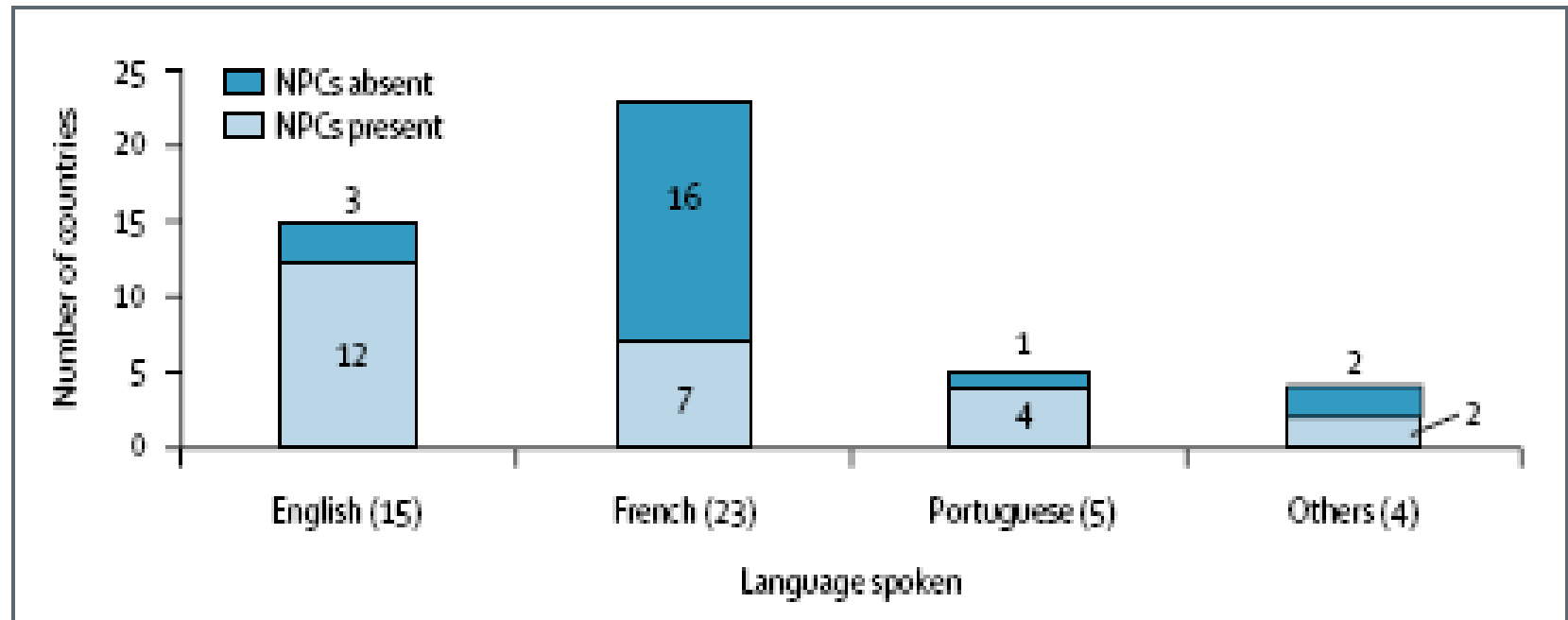


Figure: Number of sub-Saharan African countries with NPC status by universal language

# NPC Base-Types

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## 2 Base-types (according to Basic Schooling)





# Schooling

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## **Pre-Service Education**

Mostly 3 years (ranges from 1( for RNs) to 4 years)

## **Post-basic Education (Internship)**

Mostly 12-18 months



# Training Features

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## **Training**

Curriculum focused on host country's national (indigenous )clinical problems

## **Training Program**

Training curricula & program developed and run by the host government

## **Exception**

S. Sudan program run for 15 years by AMREF

# NPC Quantity

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## Annual # Graduating

Range is between **30** (in Sierra Leone) to **862** (in Kenya)\*

## Total # in Practice

Range is from **90** (in S. Sudan) to **5,000** (projected by Ethiopia)

\* In 9 countries, NPC # greater or equal to the # of physicians

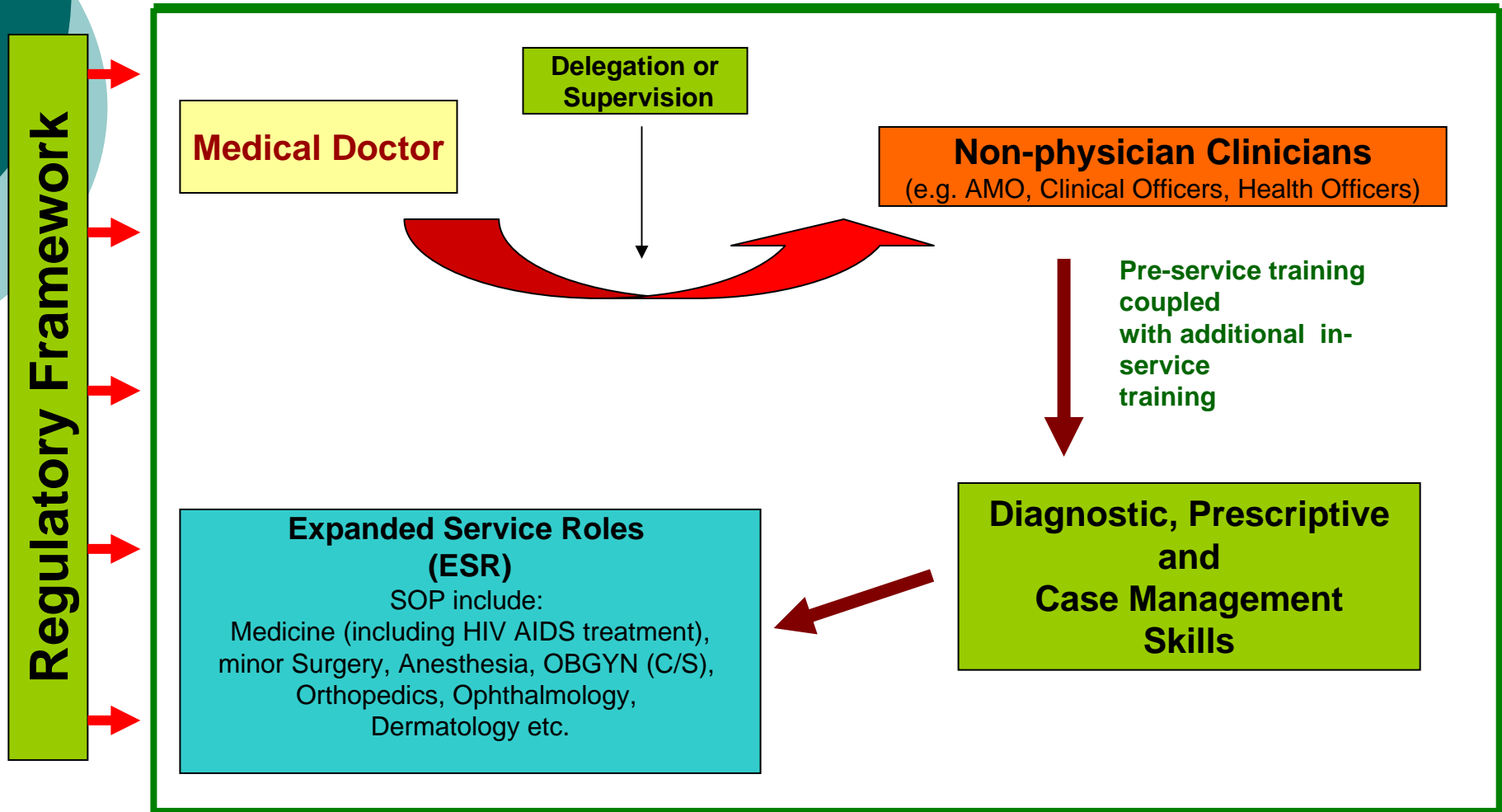
# Cost—Tuition and Board

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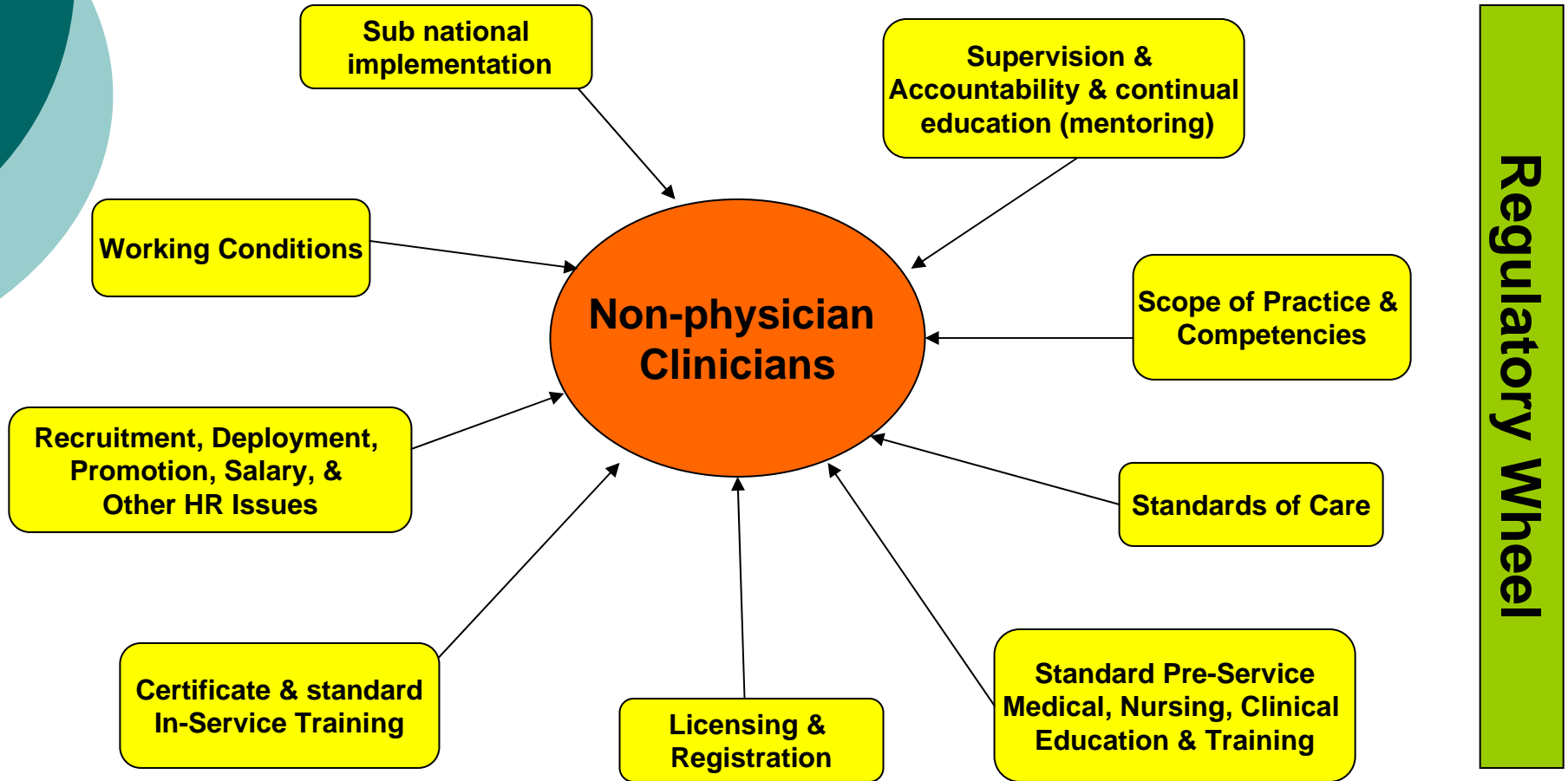
Countries	Training cost per year (Tuition + Room and Board)	Length of training (years)
Ghana	\$4,000 per year	1
Malawi	\$2,000 per year	3
Tanzania	\$1,300-\$2,000 per year	3
Zambia	\$1000- \$1,500 per year	3

\* \$-US\$.

# Non-physician Clinicians: Roles Played in Scale-up



# Regulatory Elements in Non-Physician Clinician Treatment Service



# Potential Impact of Expanded Use

<b>The Non-physician Clinician Promise</b>	<b>Impediments</b>
<ul style="list-style-type: none"><li>○ <b>Established history &amp; effective presence in many countries</b></li><li>○ <b>Demonstrated effective role in various clinical services and surgical clinical services</b></li><li>○ <b>Instrumental in addressing the HRH urban/rural maldistribution problems</b></li><li>○ <b>Trained in less time and with less expense than physicians</b></li><li>○ <b>Stable placement in rural area and</b></li><li>○ <b>Indigenicity</b></li></ul>	<ul style="list-style-type: none"><li>○ <b>Cost of training and employment</b></li><li>○ <b>Insufficient faculty for training</b></li><li>○ <b>Medical profession resistance</b></li></ul>



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**Thank You**