



Session III

Workforce, Training &
Education for Global
Surgery

THE LANCET Commission on Global Surgery

Lars Hagander | Commission Launch | May 6, 2015 | Boston, USA

The Surgical Workforce



The Current Picture

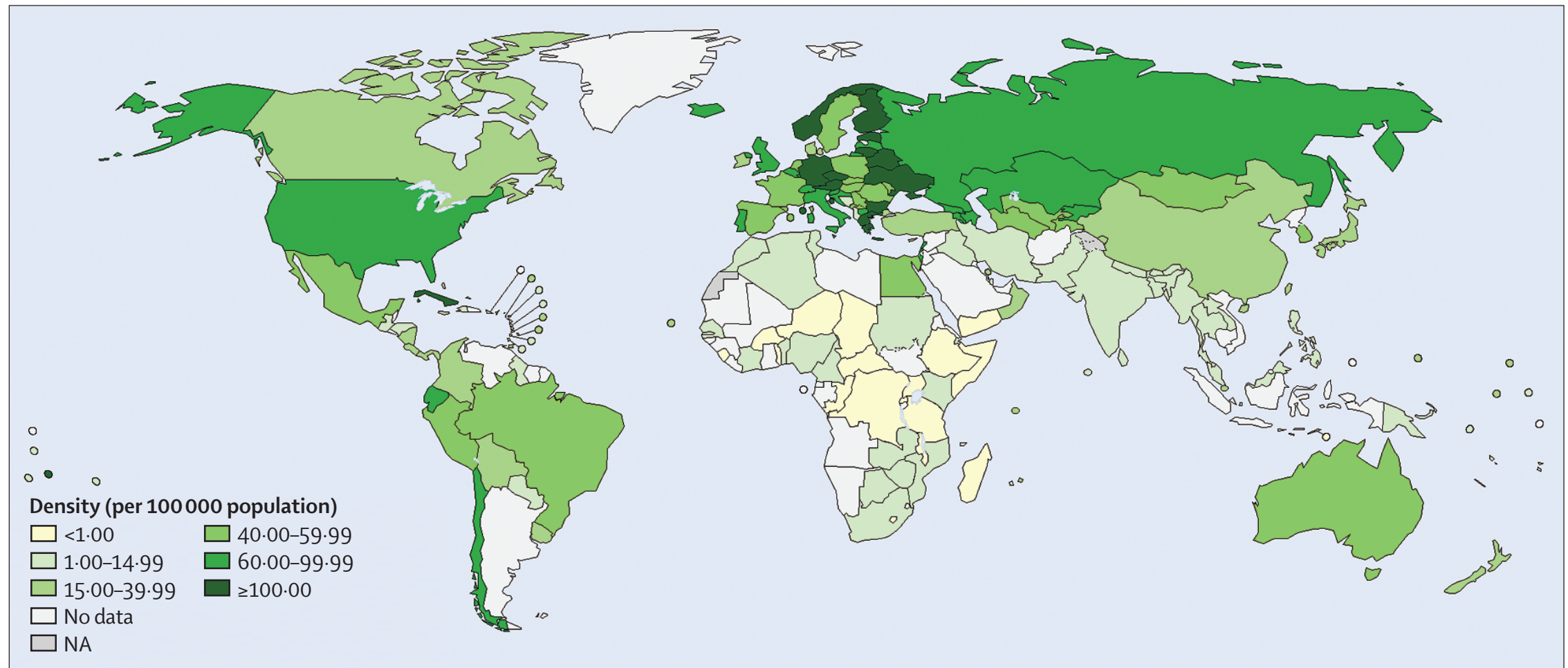


Figure: Global distribution of surgeons, anaesthesiologists, and obstetricians, per 100 000 population

NA=countries or territories that are not WHO members and thus excluded from our data.

Holmer H, Lantz A, Kunjumen T, et al. Global distribution of surgeons, anaesthesiologists, and obstetricians. *Lancet Glob Health* 2015; 3: S9–11.

The Surgical Workforce

There are currently:

1,1 million specialist surgeons

550,000 specialist anesthetists

480,000 specialist obstetricians

worldwide



1/2 of the global population
is served by:

1/6 of anesthesiologists

1/5 of surgeons

1/4 of obstetricians

Distribution



33% of the world's population live in Africa and southeast Asia, where
12% of the specialist surgical workforce works

Distribution

12%

of all specialist surgeons, anesthesiologists, and obstetricians in high-income countries are foreign nationals who have graduated from medical schools in LMICs

68%

of these are from countries with an SAO density of below 20 per 100,000 population

Migration

Rural surgical and anaesthesia care
is underemphasized in graduate and post-graduate surgical and anaesthetic education contributing to the mal-distribution of surgical and anaesthetic providers worldwide

Accreditation, licensing, and continuing professional development
shown to improve quality of the provision of care, are poorly documented around the world

With these findings, is it possible to achieve

“Universal access to safe, affordable surgical and anesthesia care when needed” ?

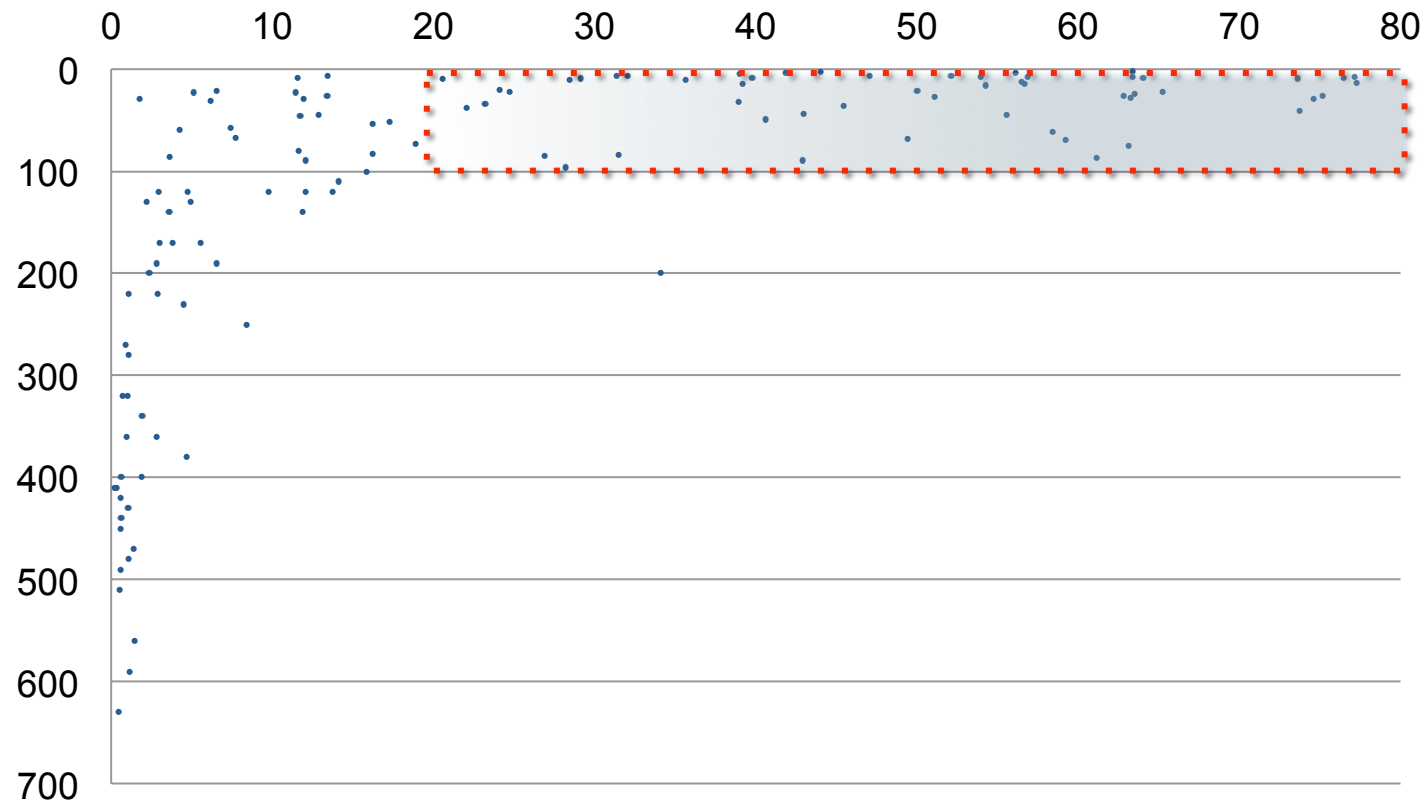
How much is enough?

The Way Forward

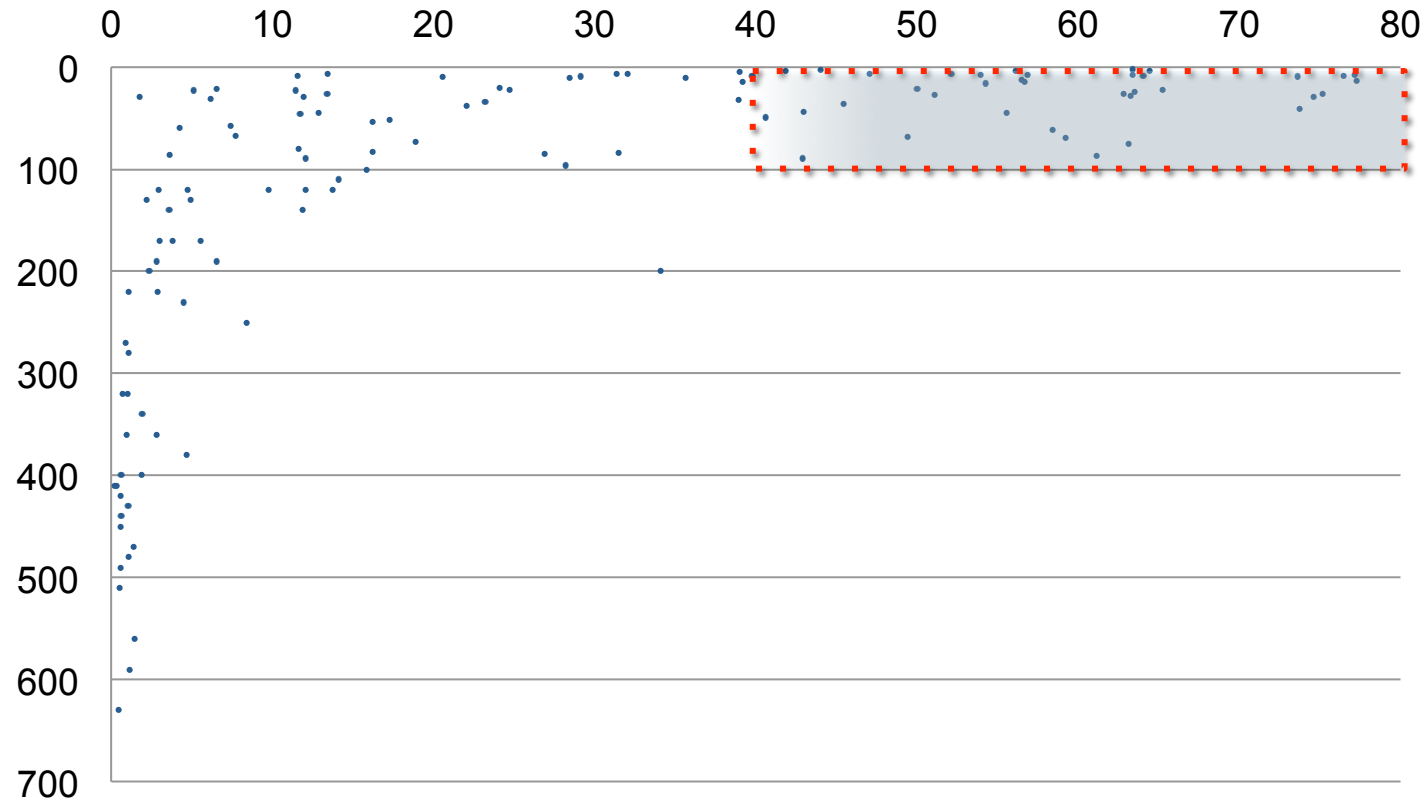
The global surgery indicators and targets

essential surgery	that can do caesarean delivery, laparotomy, and treatment of open fracture (the Bellwether Procedures)	anaesthesia services per country by 2030
Specialist surgical workforce density	Number of specialist surgical, anaesthetic, and obstetric physicians who are working, per 100 000 population	100% of countries with at least 20 surgical, anaesthetic, and obstetric physicians per 100 000 population by 2030
Surgical volume	Procedures done in an operating theatre, per 100 000 population per year	80% of countries by 2020 and 100% of countries by 2030 tracking surgical volume; a minimum of 5000 procedures per 100 000 population by 2030
Perioperative mortality	All-cause death rate before discharge in patients who have undergone a procedure in an operating theatre, divided by the total number of procedures, presented as a percentage	80% of countries by 2020 and 100% of countries by 2030 tracking perioperative mortality; in 2020, assess global data and set national targets for 2030
Protection against impoverishing expenditure	Proportion of households protected against impoverishment from direct out-of-pocket payments for surgical and anaesthesia care	100% protection against impoverishment from out-of-pocket payments for surgical and anaesthesia care by 2030

Maternal mortality per density



Maternal mortality per density



Procedures per density

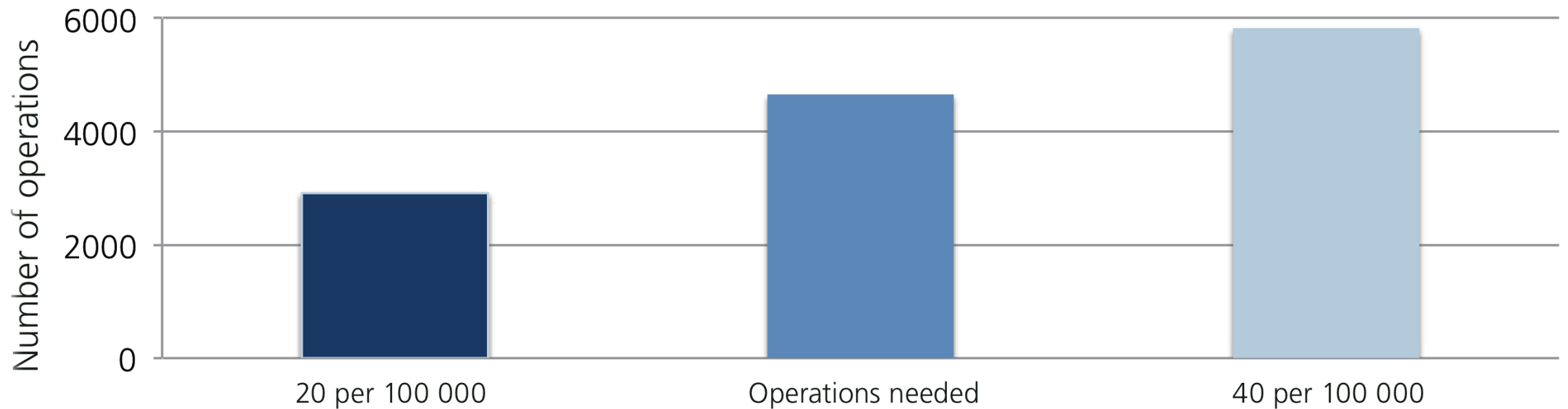
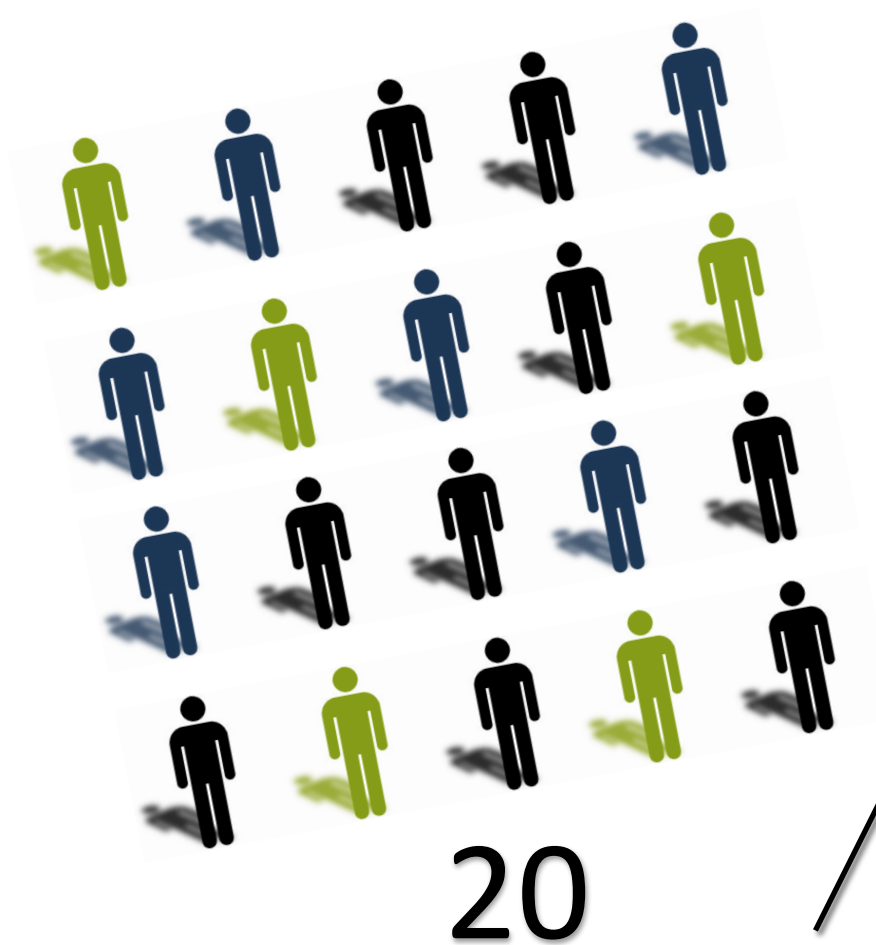


FIGURE 4. The yearly number of surgical operations per 100 000 population corresponding to the proposed thresholds and compared to the estimated global need.⁵ Calculated assuming uniform productivity.



100 000

44% of the population
lives in countries with
SAO density < 20
per 100,000



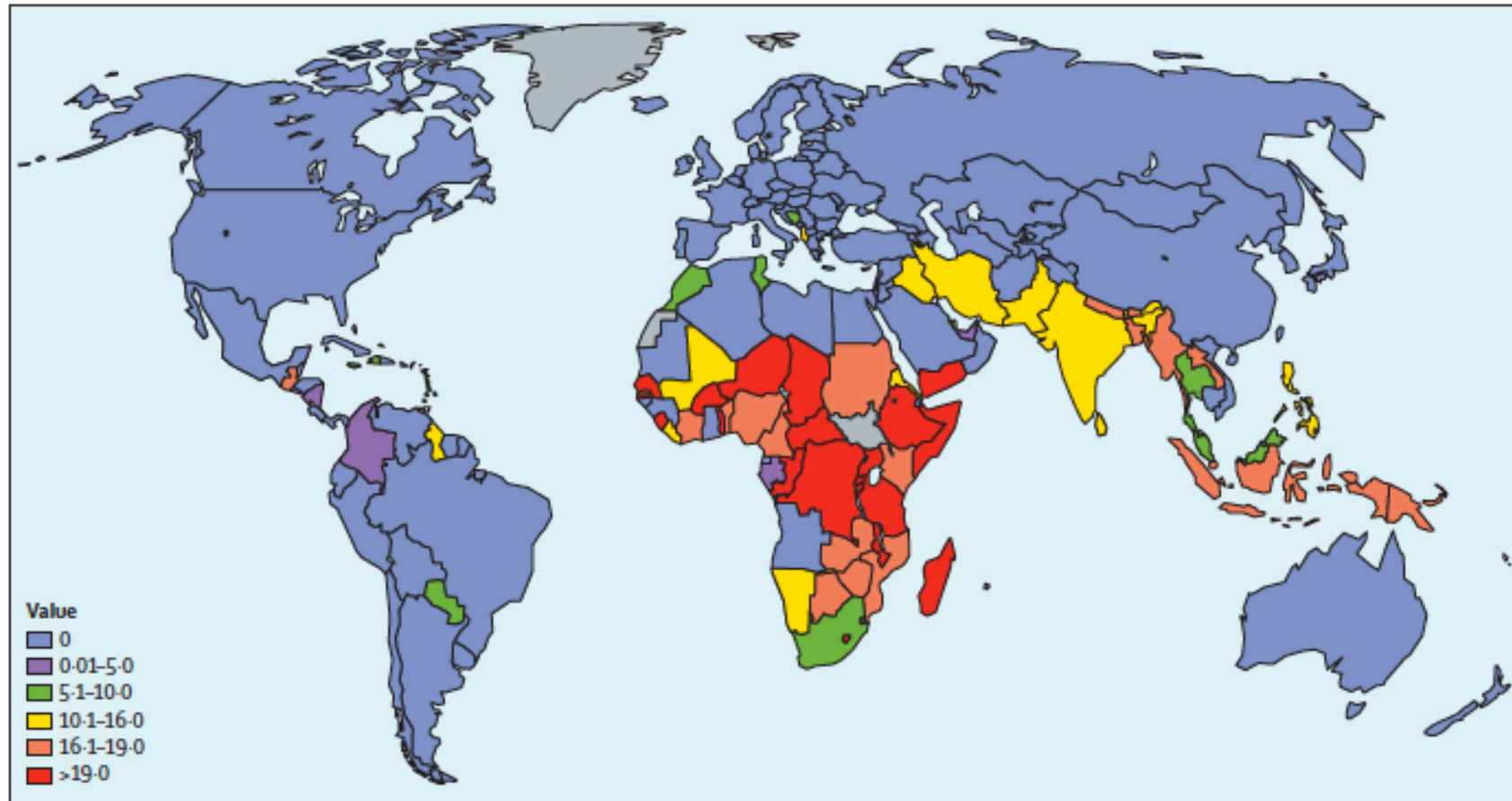
100%
1.27 million
providers needed by 2030
to reach *20 per 100,000*

72% of the population
lives in countries with
SAO density < 40
per 100,000



100%
2.28 million
providers needed by 2030
to reach *40 per 100,000*

Scale-Up of the Surgical Workforce



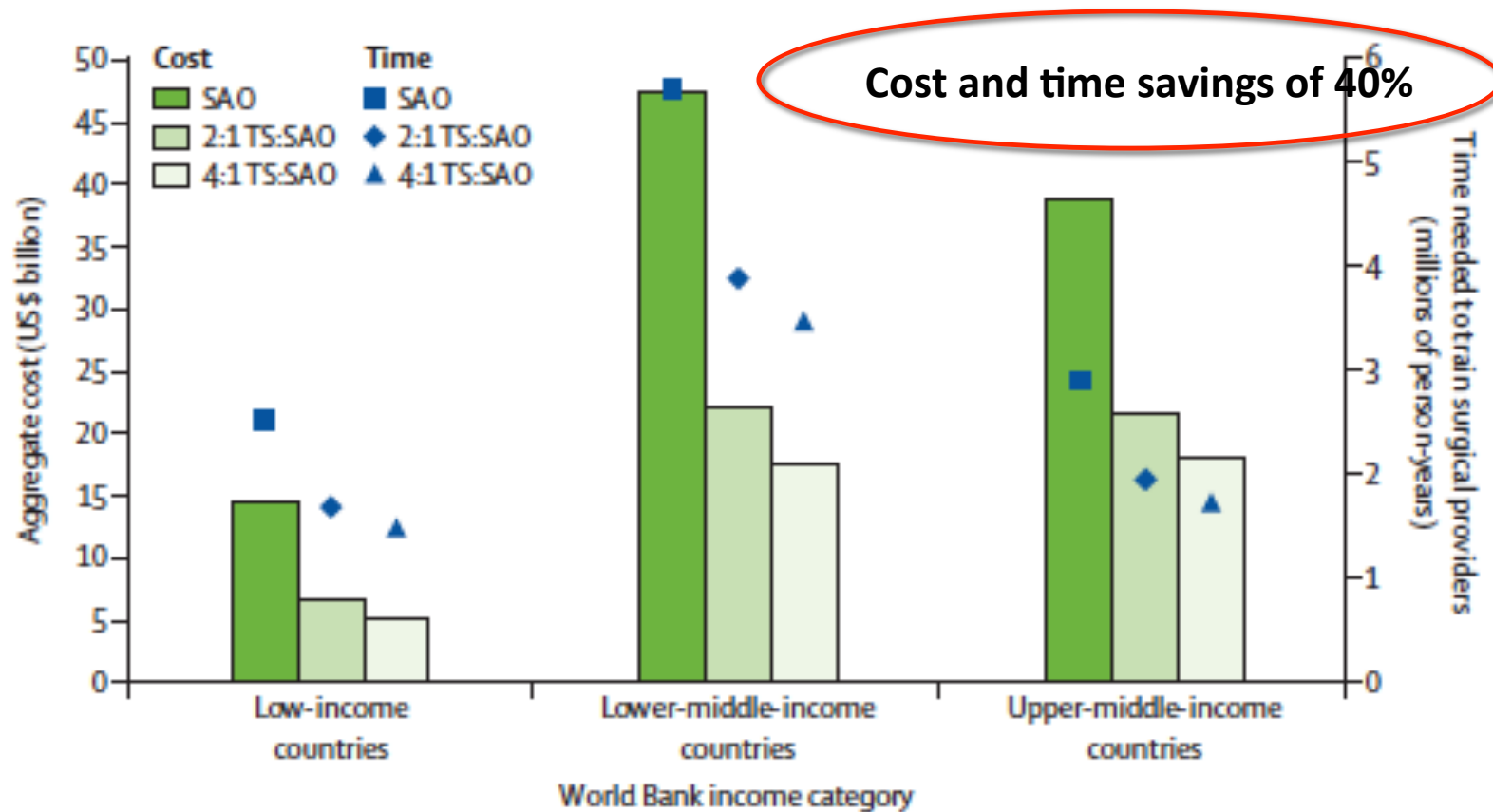
Task ~~Shifting~~ Sharing

At least **30** countries employ surgical task shifting

At least **108** countries employ anesthetic task shifting

Task **Sharing**: tasks are transferred from one professional to another to maximize human resources, but both the specialist provider and the provider with less training **share the responsibility** for a high-quality outcome of the task. A collaborative use of specialist providers and GPs and associate clinicians.

Scaling up - with task sharing?



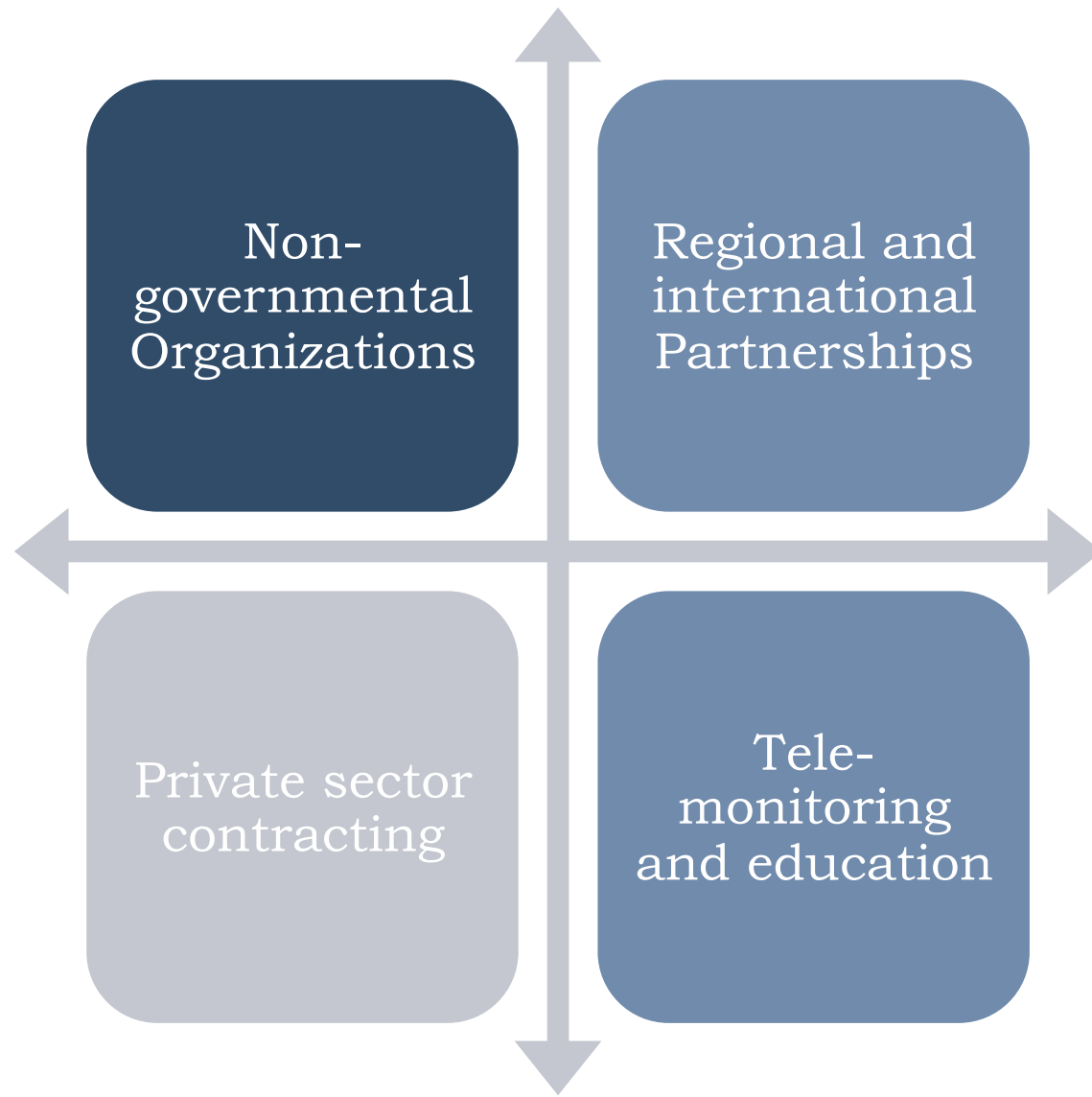
Task Sharing

Each country should decide whether task sharing is appropriate for their needs

Clear scopes of practice should be defined

Associate clinicians and general practitioners should be held to high standards of accreditation, licensing, and relicensing

Associate Clinicians and General Practitioners are not meant to replace specialist providers



Additional means
to expand the
surgical workforce

Improving Workforce Distribution

Rural exposure

Local training

Rural incentives



Beyond Numbers: Quality of Training

Competency-based training

Curriculum based on community need

Mentoring, information, and simulation

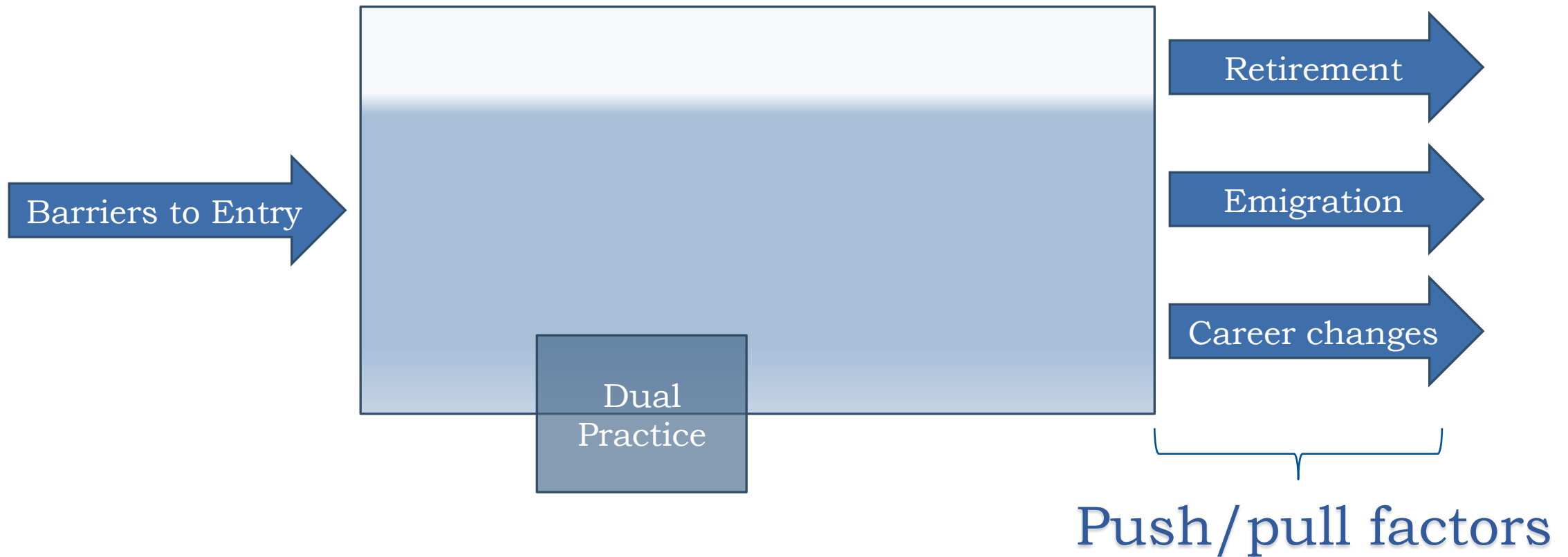
Accreditation of all training programs

Licensing and re-licensing for all cadres

Continuing Professional Development



National surgical plan - workforce





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Density per world-bank class

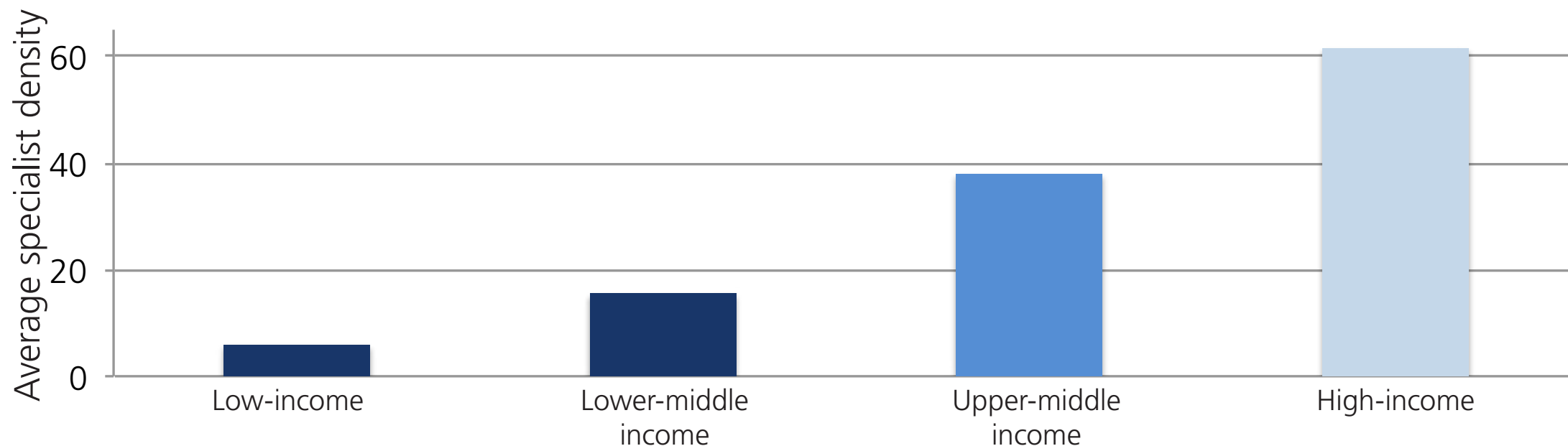


FIGURE 3. The average density of surgeons, anaesthesiologists and obstetricians per World Bank country income group. Calculated based on estimated total number of specialists per group,² divided by population.