

# Barriers to Essential and Basic Neurosurgical Care in the Public Sector throughout Peru

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## Background

- In Andean Latin America, an estimated 60% of the population is without access to safe, affordable, timely surgical care.<sup>1</sup>
- Peru is an upper-middle-income country with over 32 million inhabitants.<sup>2</sup> The insured population rose steadily from 2004 to 2017 (37.3% to 76.4%).<sup>3</sup>
- In 2019, it is estimated that 854,795 surgeries were performed nationwide, which represented only 2,631 surgeries per 100,000 inhabitants, which is significantly less than the 5,000 major surgeries per 100,000 inhabitants recommended by LCoGS<sup>4</sup>
- Access to basic and essential neurosurgical care remains a significant barrier for many Peruvians

## Research Objectives

Evaluated public health hospitals of the Peruvian Ministry of Health (MINSA) through site visits and formal interviews to determine barriers to basic and essential neurosurgical services.

## Methods

- Cross-sectional, descriptive study included site visits at MINSA facilities throughout Peru between August to December 2019.
- Semi-structured interviews were performed among neurosurgeons to assess surgical capacity & a qualitative analysis using ground theory was performed, NVIVO software
- Data on equipment and supplies, infrastructure, and human resources were collected for all sites and descriptively summarized.

## Results

- Twenty-five hospitals were visited as part of the evaluation, 13 hospitals located in the capital, Lima (52%).
- 158 neurosurgeons work in the 28 MINSA hospitals, representing 1 neurosurgeon: 82,656 inhabitants.
- Twenty recorded interviews were conducted with 23 participants.

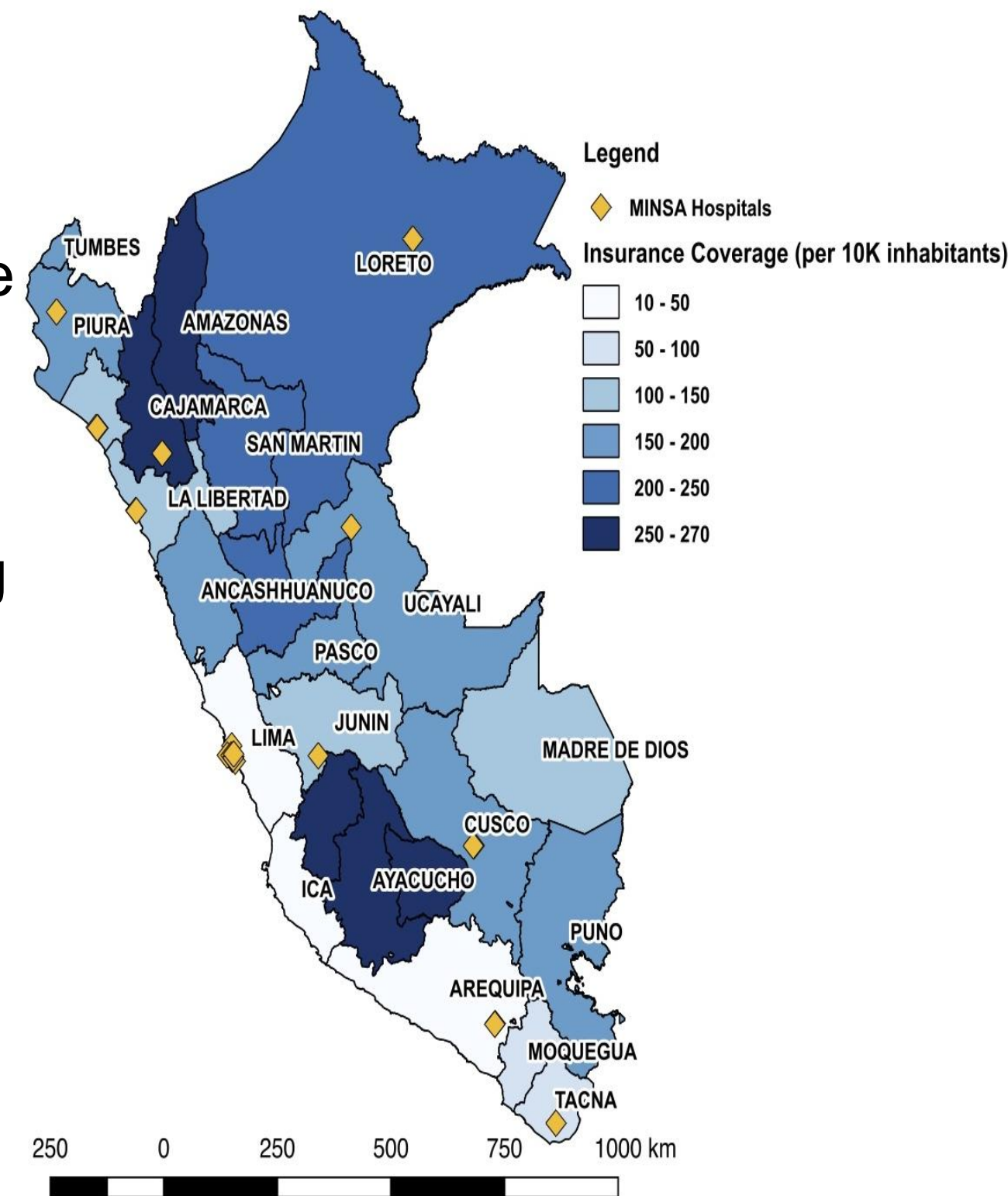


Figure 1: Map of Peru Demonstrating Sites with MINSAs Hospitals Nationally

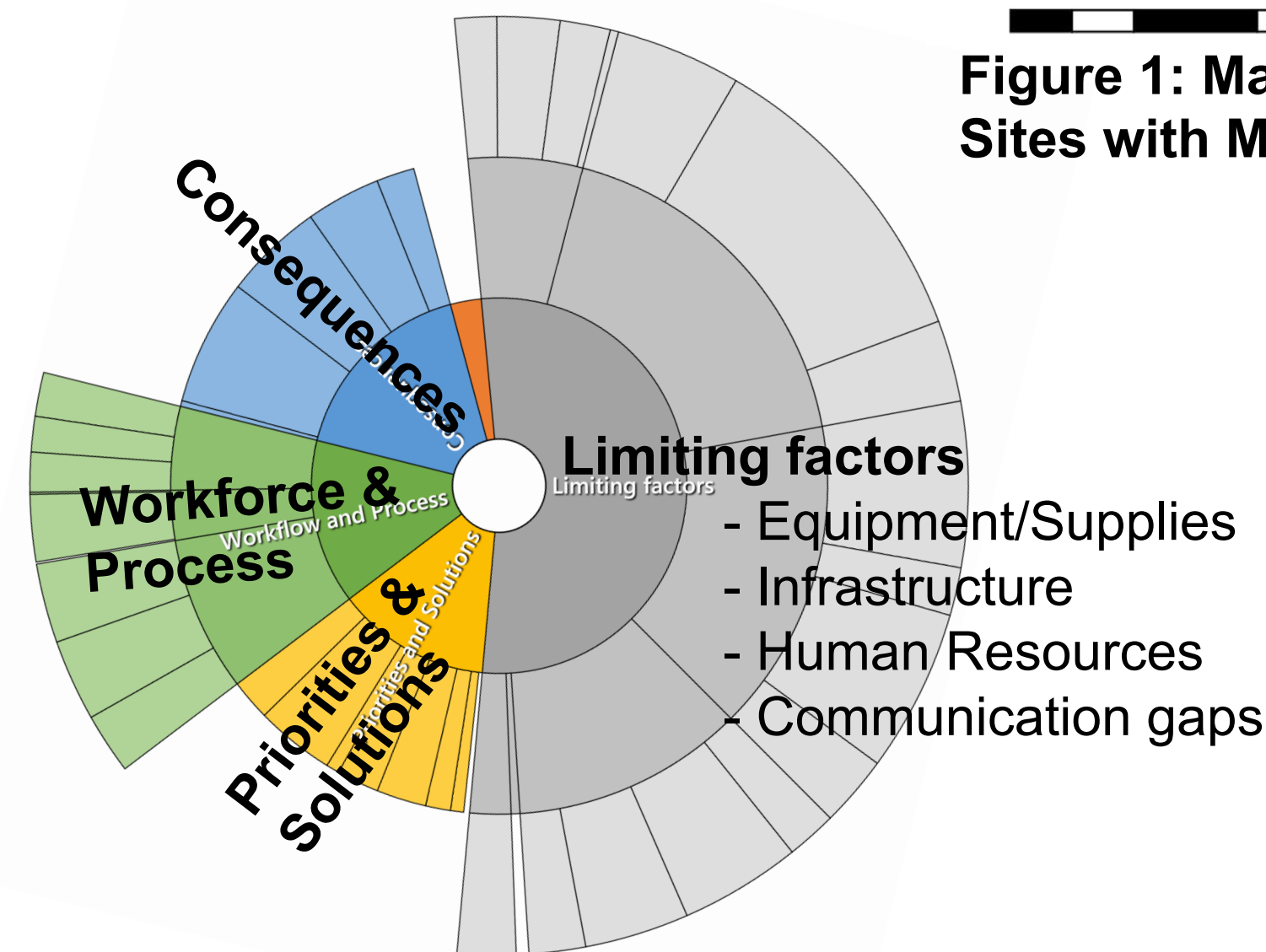


Figure 2: Interview Analysis Hierarchy Chart Identifying Major Themes Serving as Barriers to Neurosurgical Care

## Essential/Baseic Neurosurgical Equipment & Supplies:

### CT Scanner

- ✓28% (n = 7) hospitals did not have immediate
- ✓20% (n = 5) reported CT was non-functional
- ✓48% (n = 12) reported CT did not belong to hospital

MRI: 76% (n=19) did not have immediate access

Angiography: 48 % (n = 12) did not have immediate access

Microscope: 36% (n = 9) did not have functional scope

Fluoro: 24% (n=6) did not have immediate access

Neuroendoscope: 52% (n=13) did not have immediate access

Drills: One hospital did not have any

n= 28 manual n= 15 electrical. n= 22 pneumatic

### Themes influencing access to neurosurgical care

- lack or poor maintenance of equipment and supplies
- insufficient hospital beds and operating rooms
- poor distribution of neurosurgeons and surgical staff
- **Significant consequences** of limitations were significant delays to surgical intervention, & poor patient outcomes
- **Priorities included** increasing the neurosurgical budget and providing more in country training opportunities.

## Discussion/Limitations

- This study serves as a baseline evaluation neurosurgical capacity among public hospitals throughout Peru.
- Important context-specific factors were identified among the majority of hospitals that provide healthcare to nearly 70% of the population.

Limitations- small sample size, not generalizable