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# The sex composition of human resources for health in 204 countries and territories: What role do female health workers play in the health system?

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# Outline

1. Motivation

2. Methods

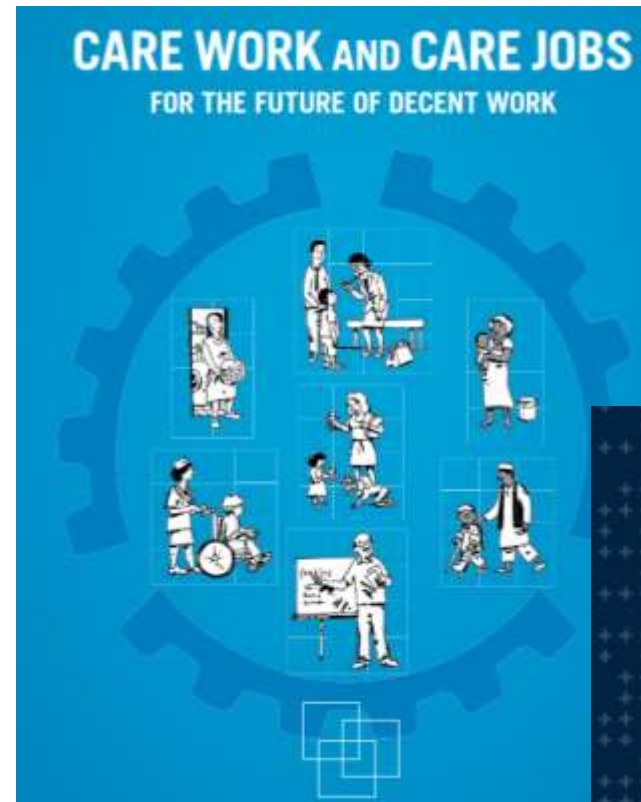
3. Results

4. Summary

5. Questions

# Motivation

- Reliable estimates of women's contributions to the health system are essential to promote equity
- Limited research describing health workers disaggregated by sex, cadre, geography, and time simultaneously
- Aim is to estimate the scale of the global workforce and distribution across 21 cadres by sex between 1990 and 2022
  - Focusing on physicians, nursing personnel and all health workers



5 GENDER  
EQUALITY



Global strategy on  
human resources  
for health:  
*Workforce 2030*

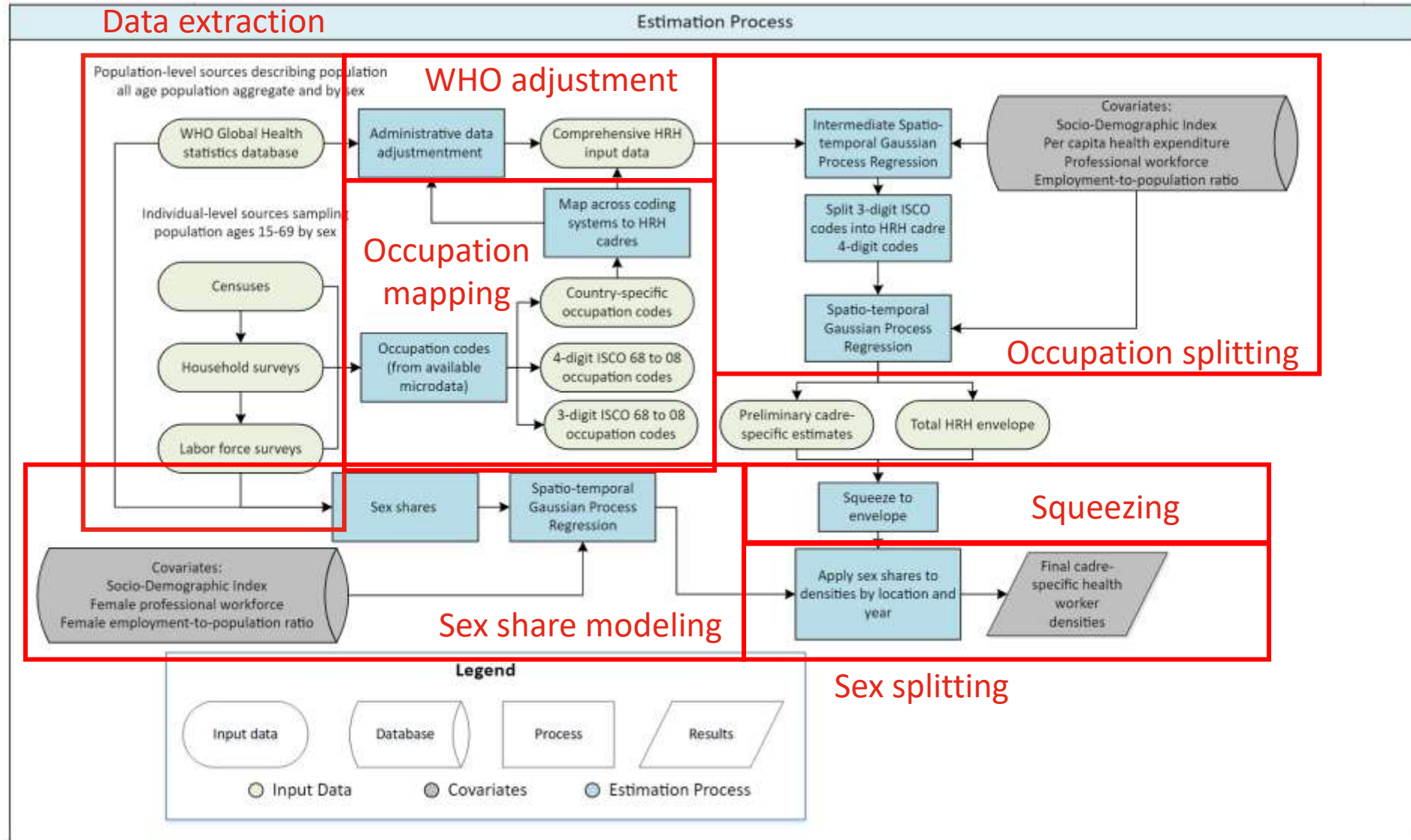
# Data Sources

	Densities	Sex shares
<i>Surveys</i>	3,374	1,692
<i>Censuses</i>	87	86
<i>WHO Global Health statistics database</i>	4,076	1,682

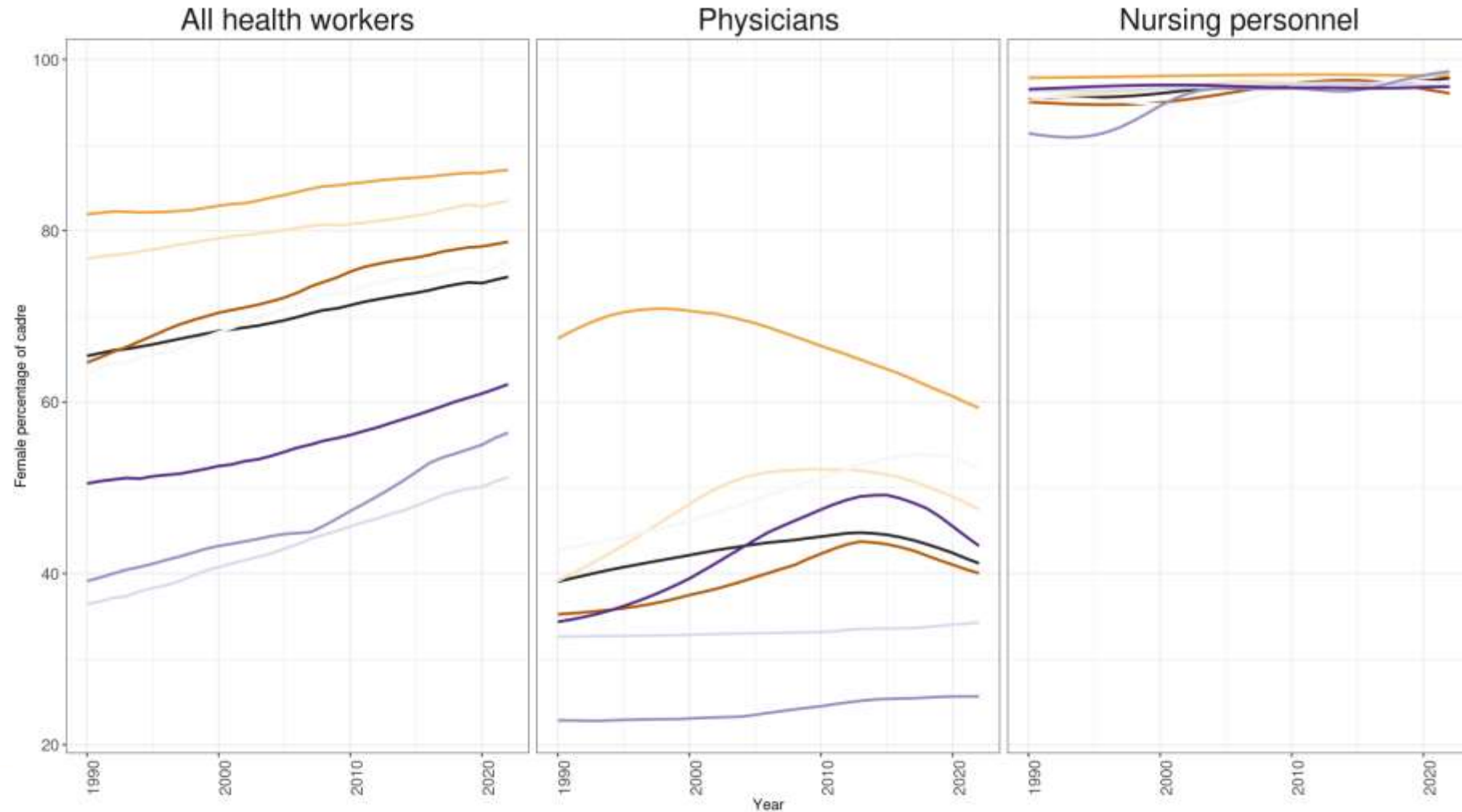
- Three different types of data sources informing densities or sex shares
- More coverage for data sources describing aggregate densities vs sex shares
- High levels of data coverage
  - Years 1980 to 2021
  - 7 super-regions
  - 21 regions
  - 170 countries and territories

**Table 1.** Country-years of input data by source and measure

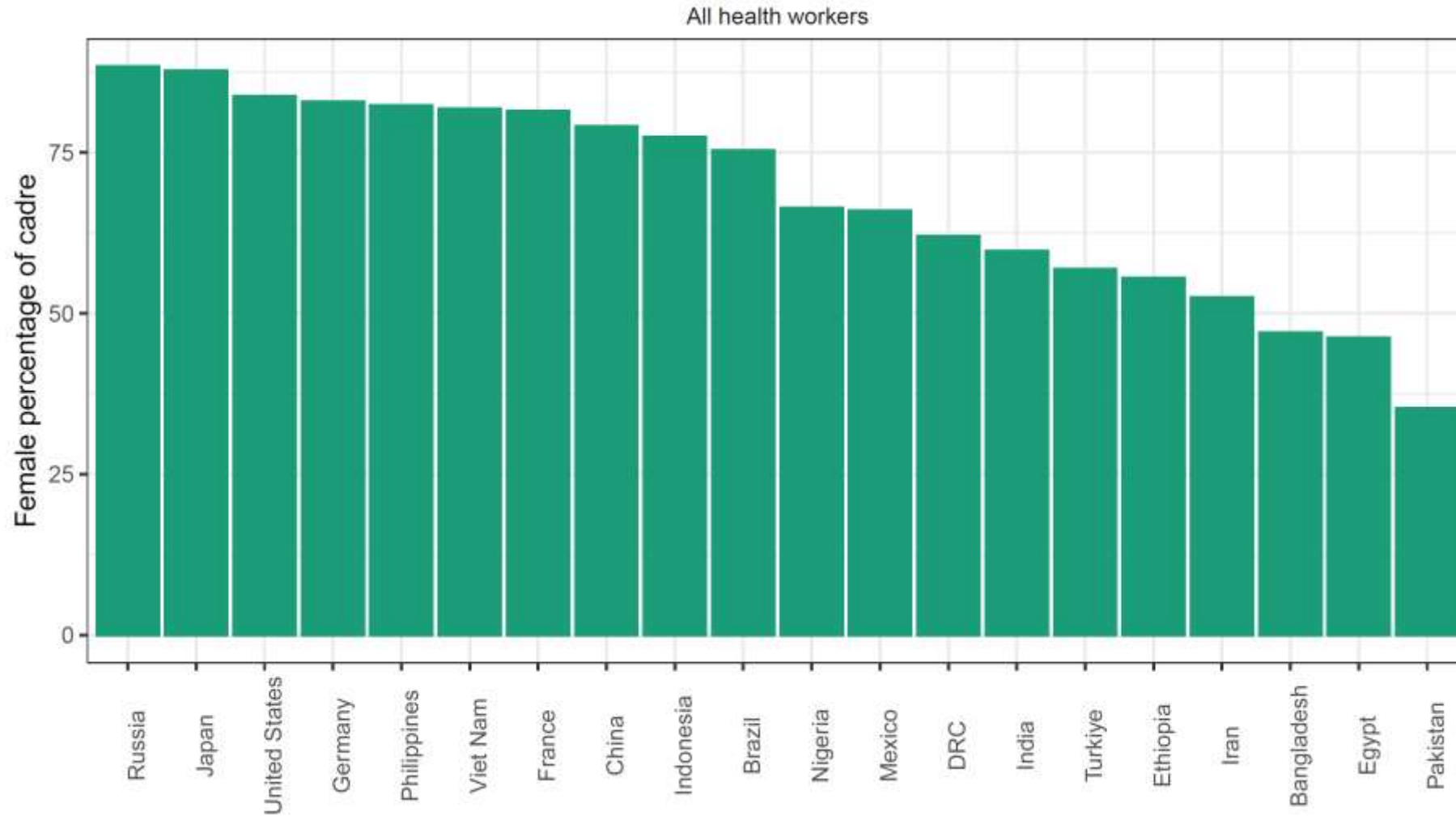
# Modeling Strategy



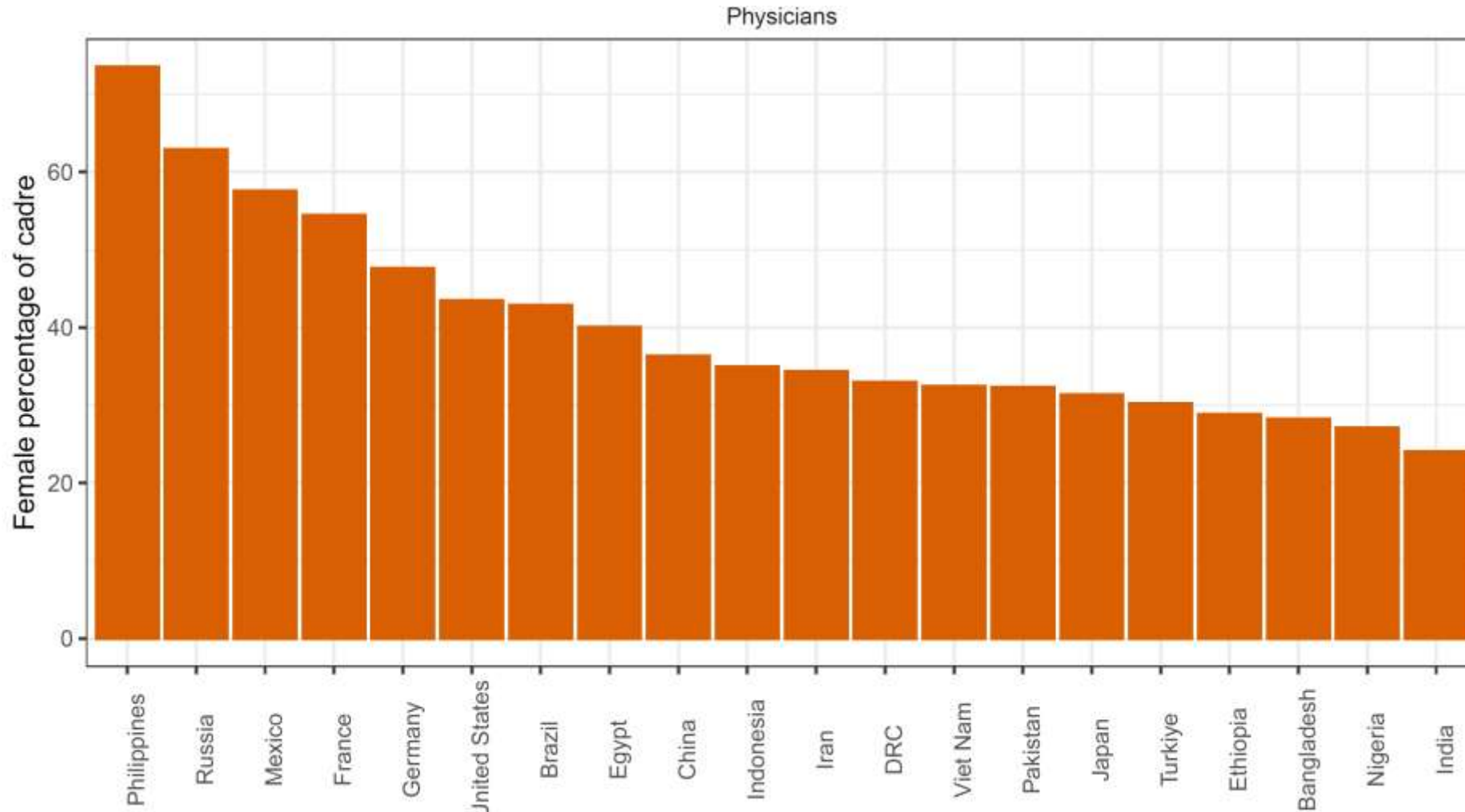
# Trends by cadre and GBD super region, 1990-2022



# Female share of all health workers among 20 most populous countries, 2022

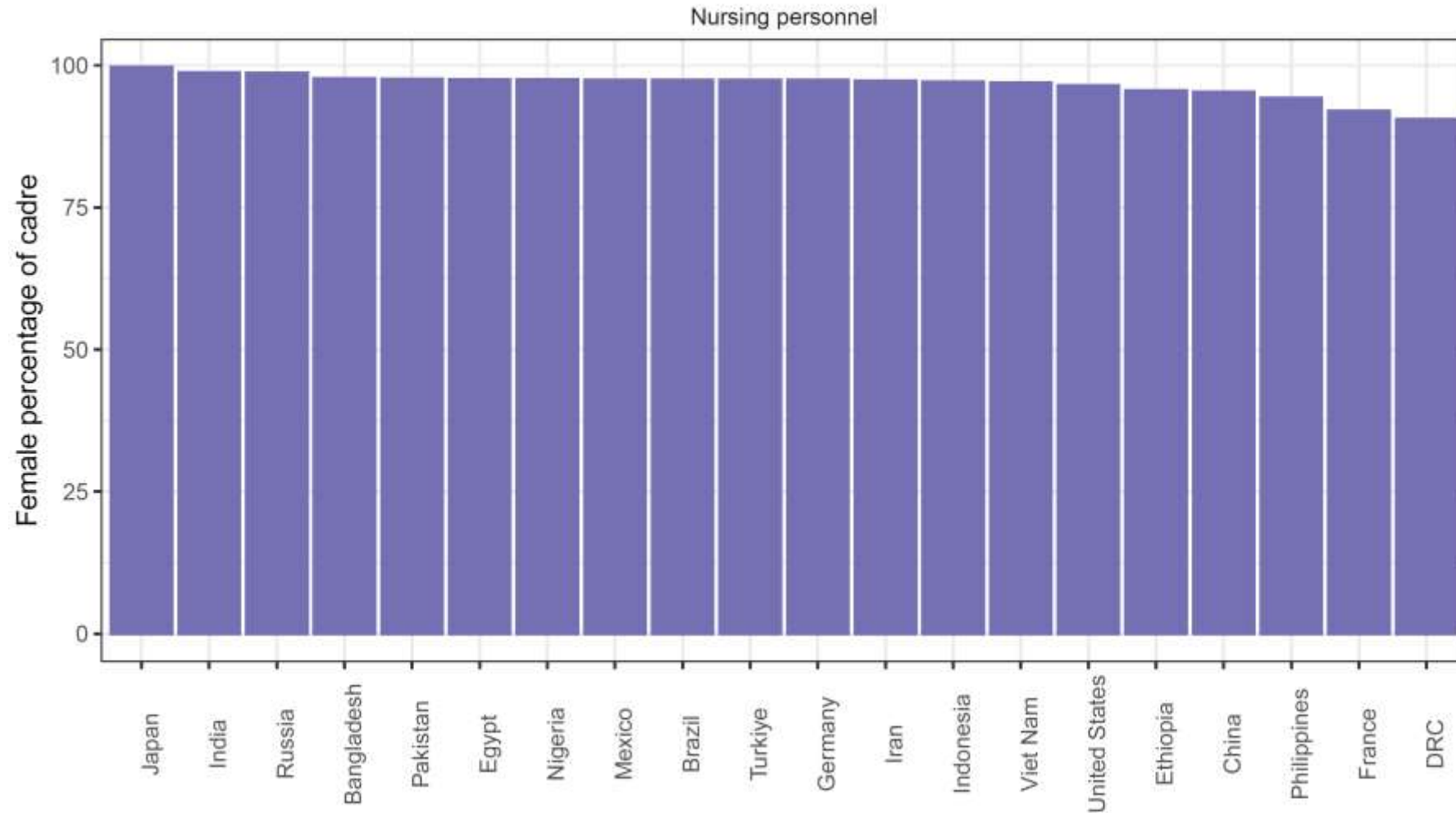


# Female share of physicians among 20 most populous countries, 2022

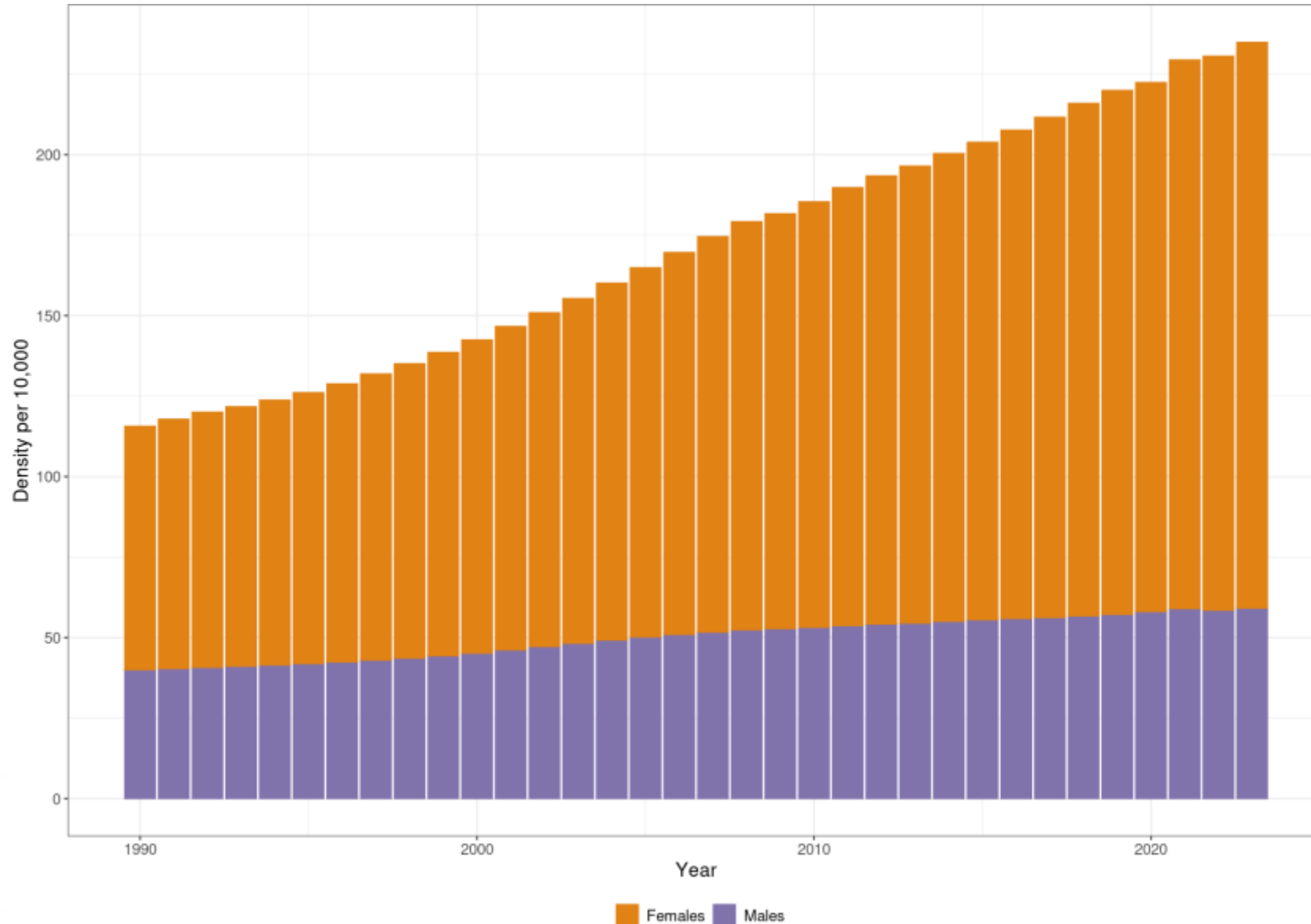




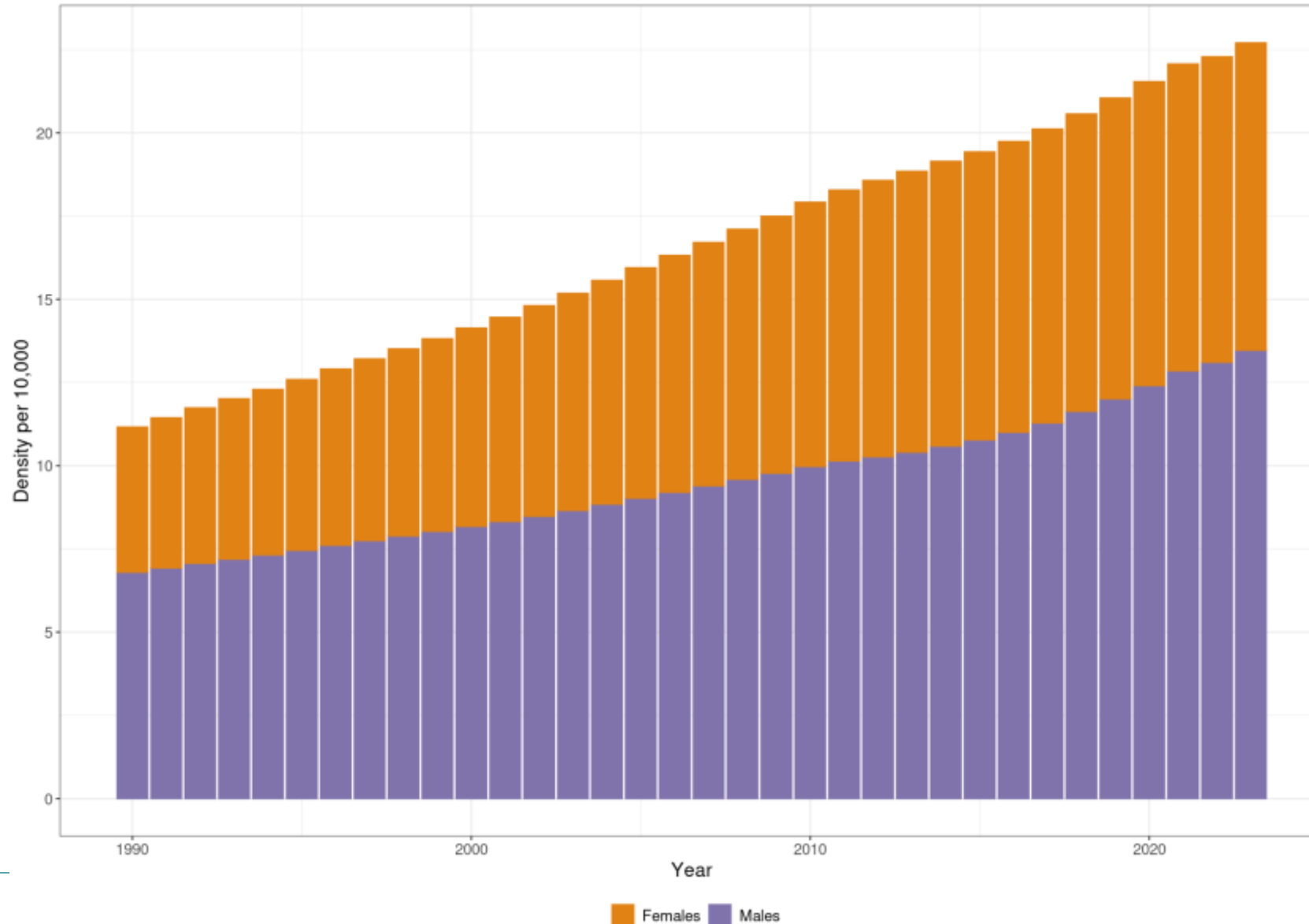
# Female share of nursing personnel among 20 most populous countries, 2022



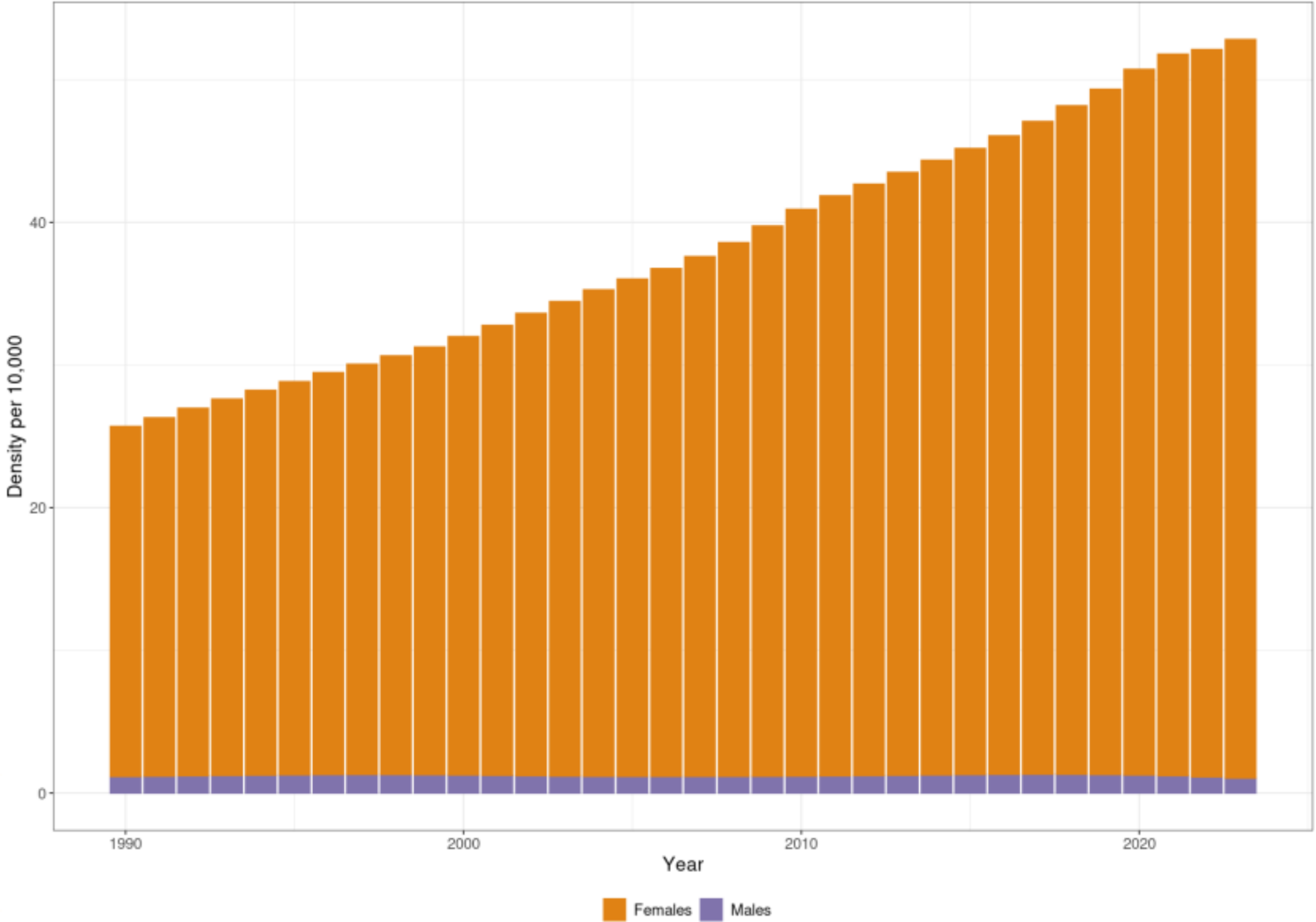
# Global sex-specific densities of all health workers, 1990-2022



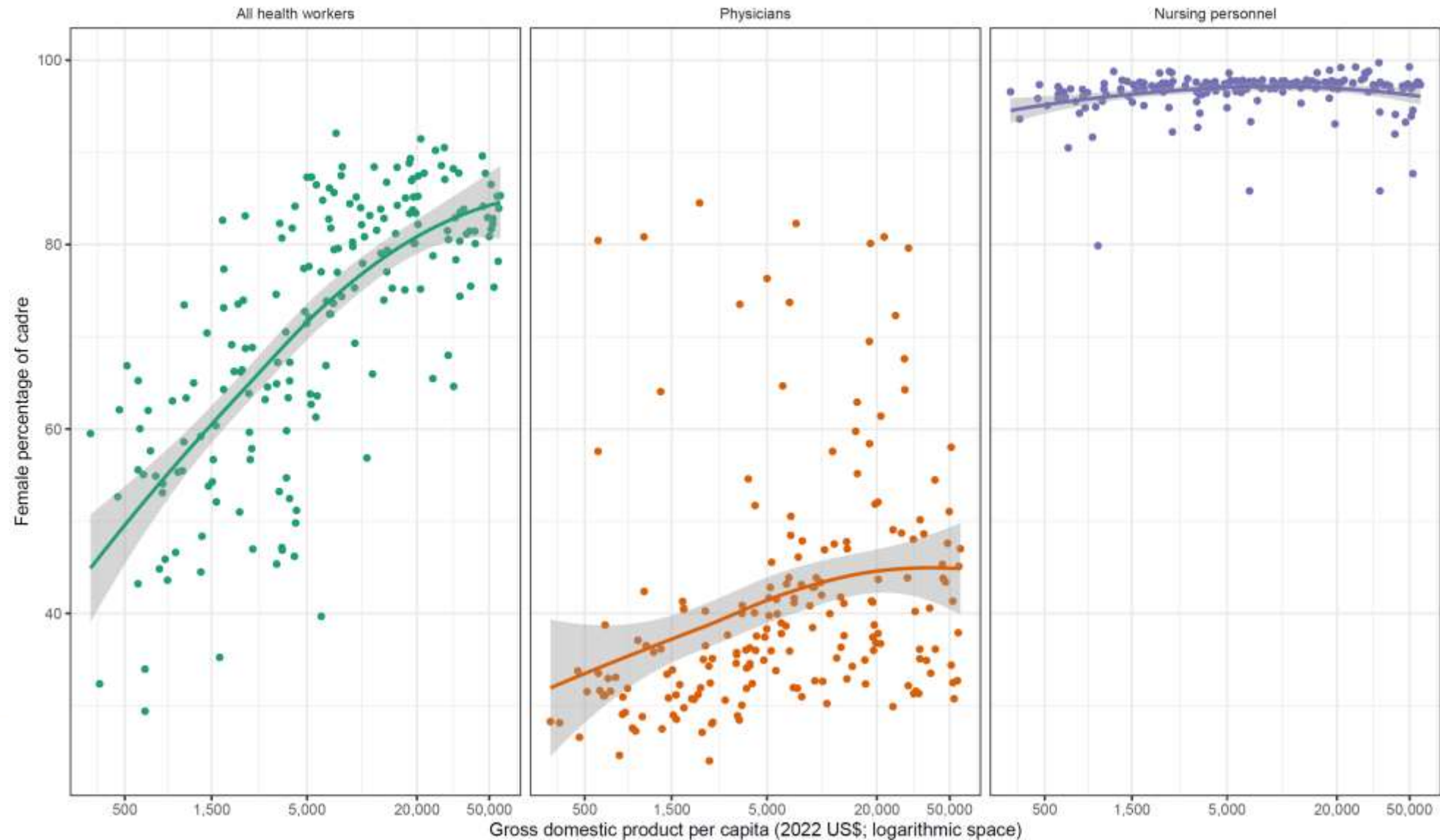
# Global sex-specific densities of physicians, 1990-2022



# Global sex-specific densities of nursing personnel, 1990-2022



# GDP and female share of workers by cadre, 2022



## Key takeaways

1. Distinct sex compositions stemming from different histories of occupational segregation
2. Evidence of “feminization” in the health workforce globally, particularly among auxiliary cadres
3. Increases in the supply of health workers between 1990 and 2022
  - Sustained throughout COVID-19 pandemic

# Limitations and Next Steps

## Limitations

1. Binary sex categorization
2. Standard occupation codes restrict estimation of some distinct professions or subspecialties

## Next steps

1. Expand analysis to include additional key characteristics
2. Role of informal labor force participation
3. Association between health workforce composition and health system performance

# Questions

- Thank you for your attention!
- Feel free to contact me with further questions if they arise:

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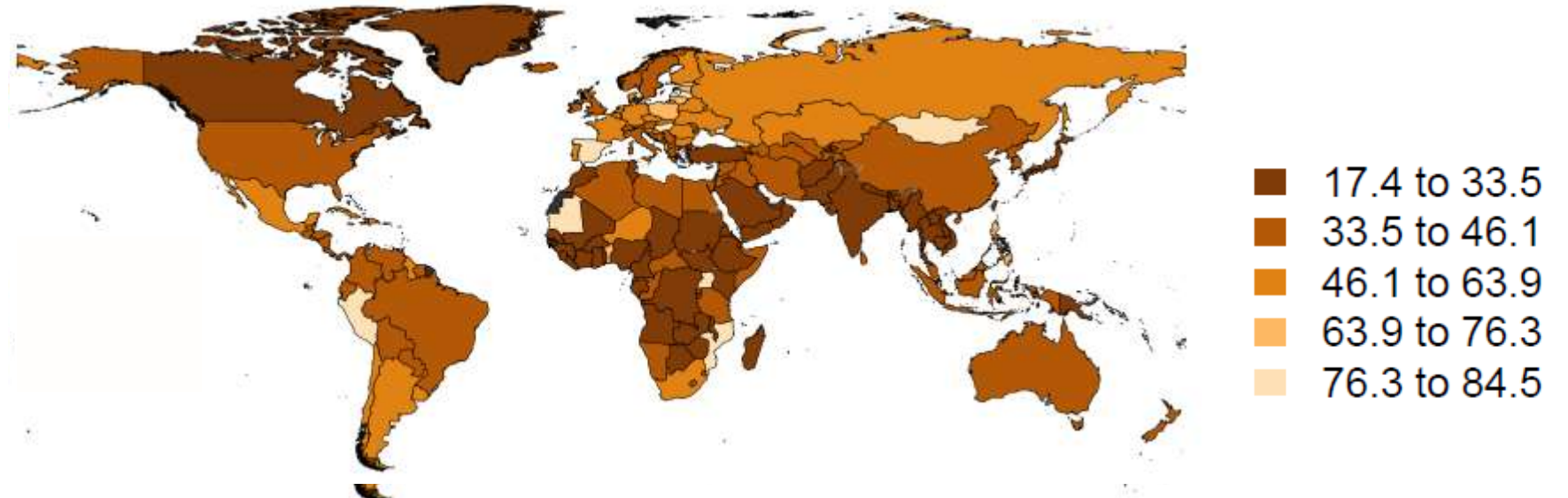
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# APPENDIX

# Female share of workers by cadre, 2022

**Physicians**



**Nursing  
Personnel**

