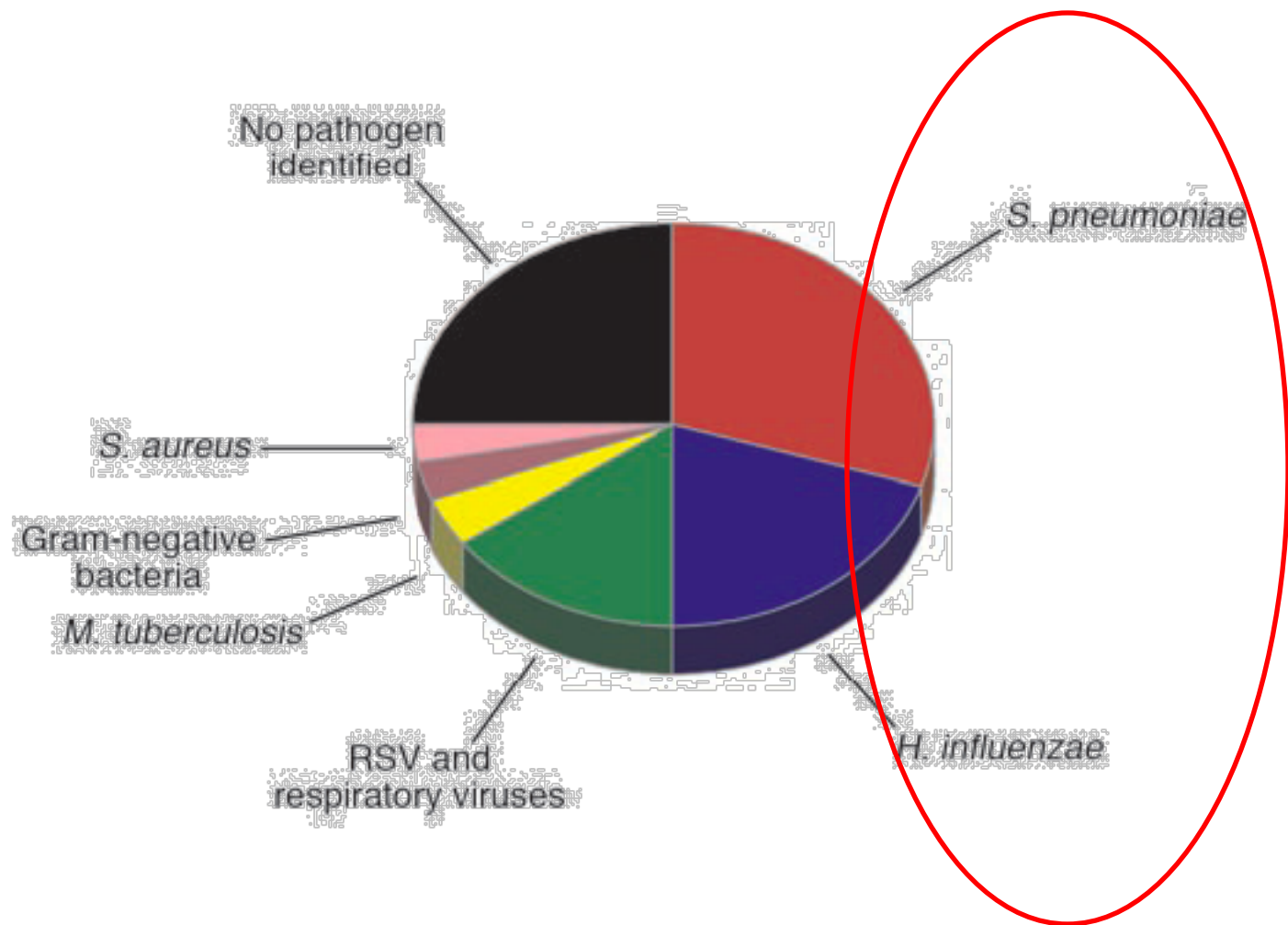


# Current State Of Pneumonia Prevention Through Vaccination

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Johns Hopkins School of Public Health

# The Pneumonia Etiology Pie



Scott JAG et al. *J. Clin. Invest.* **118**:1291–1300 (2008).

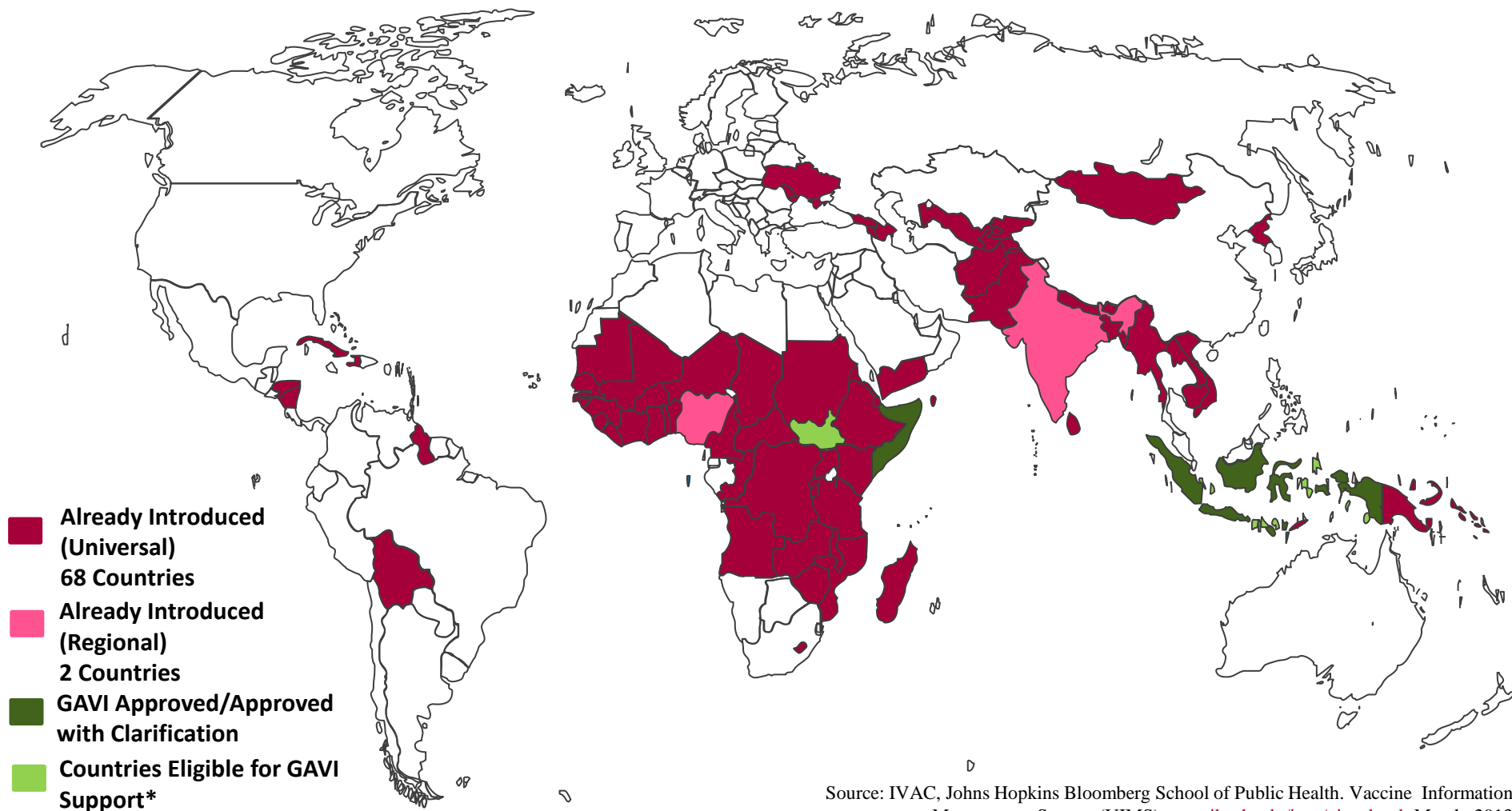
# How Good Are The Conjugate Vaccines?

Endpoints	PCV Efficacy	Hib Efficacy
<b>Bacteremia</b>	<b>80%</b>	<b>86%</b>
<b>CXR-confirmed pneumonia</b>	<b>27%</b>	<b>20%</b>
<b>Clinical pneumonia</b>	<b>6%</b>	<b>4%</b>
<b>Mortality</b>	<b>16% (Gambia)</b>	<b>--</b>

# How Is The Rollout Of PCV And Hib Vaccine Going?

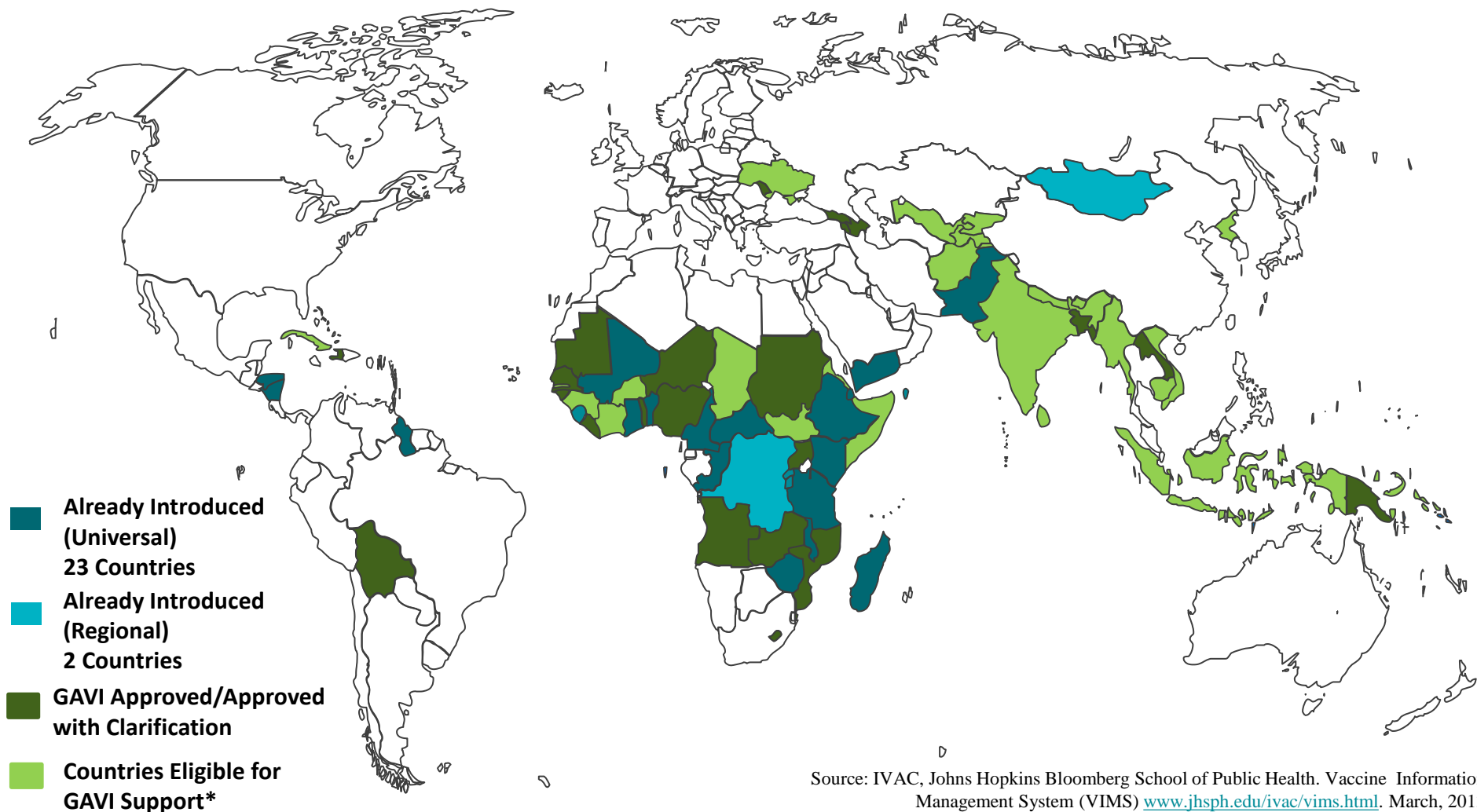


# GAVI Countries Introduction Status of Hib Vaccine



Source: IVAC, Johns Hopkins Bloomberg School of Public Health. Vaccine Information Management System (VIMS) [www.jhsph.edu/ivac/vims.html](http://www.jhsph.edu/ivac/vims.html). March, 2013

# GAVI Countries Introduction Status of PCV



Source: IVAC, Johns Hopkins Bloomberg School of Public Health. Vaccine Information Management System (VIMS) [www.jhsph.edu/ivac/vims.html](http://www.jhsph.edu/ivac/vims.html). March, 2013

# Important Issues Remain!



# Geography

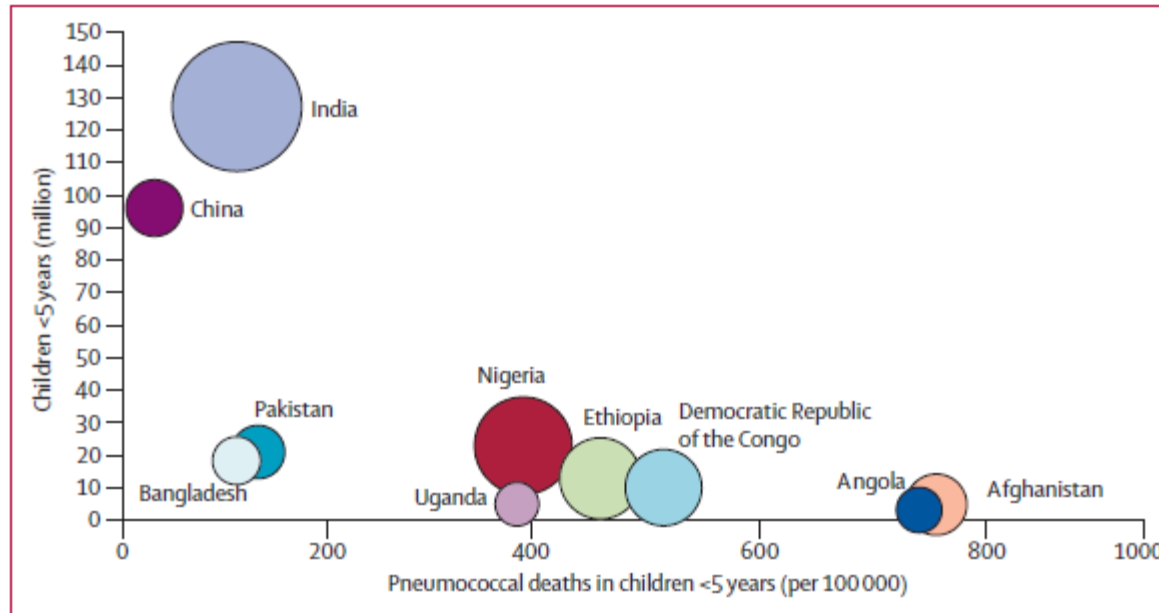


Figure 3: Ten countries with the greatest number of pneumococcal deaths in children aged 1–59 months\*



# Dosing Schedule And Catch-up

- Are 3 doses better than 2 doses?
- Is a booster dose necessary?
- Is a catch-up campaign necessary?



# Measuring Impact

- New vaccines
- New regions with different epidemiology
- Mortality impact hard to measure

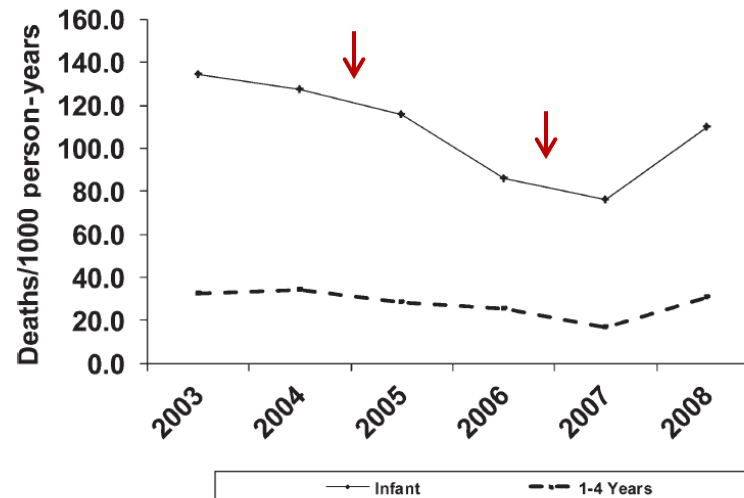


FIGURE 1. All cause childhood mortality in the Kenya Medical Research Institute/Centers for Disease Control and Prevention Health and Demographic Surveillance System, 2003–2008.

# Non-vaccine Pneumonia Prevention

- Household air pollution
  - Relative risk 1.8 (95% CI 1.5-2.2), Dherani 2008.
- Exclusive Breastfeeding
- Prevention of malnutrition
- Handwashing
- Cotrimoxazole prophylaxis in HIV infection

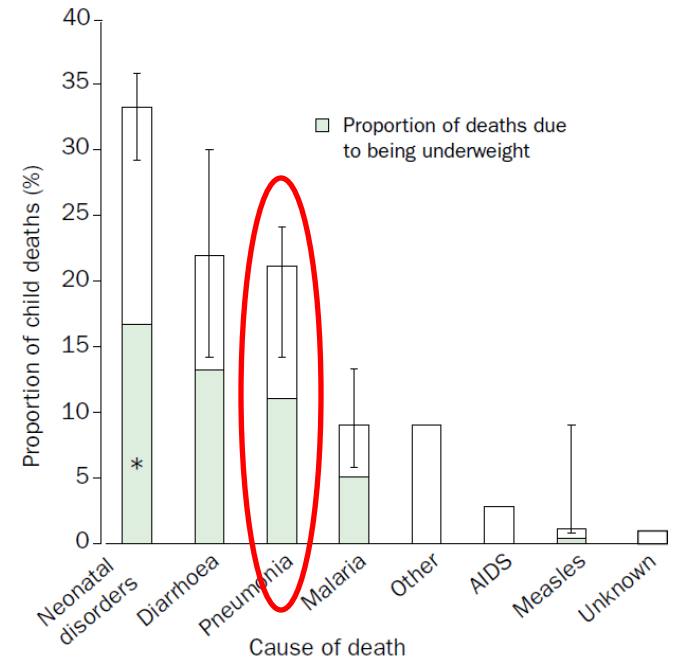


Figure 3: **Distribution of global child deaths by cause**  
Bars=uncertainty bounds. \*Work in progress to establish the cause-specific contribution of being underweight to neonatal deaths.