

Looking Beneath the Urban Averages: The Effects of Household and Neighborhood Poverty on Health

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Outline

- **Findings from *Cities Transformed* (2003)**
- **Household and Neighborhood Living Standards**
- **The Effects of Living Standards on Health**
- **Conclusions**

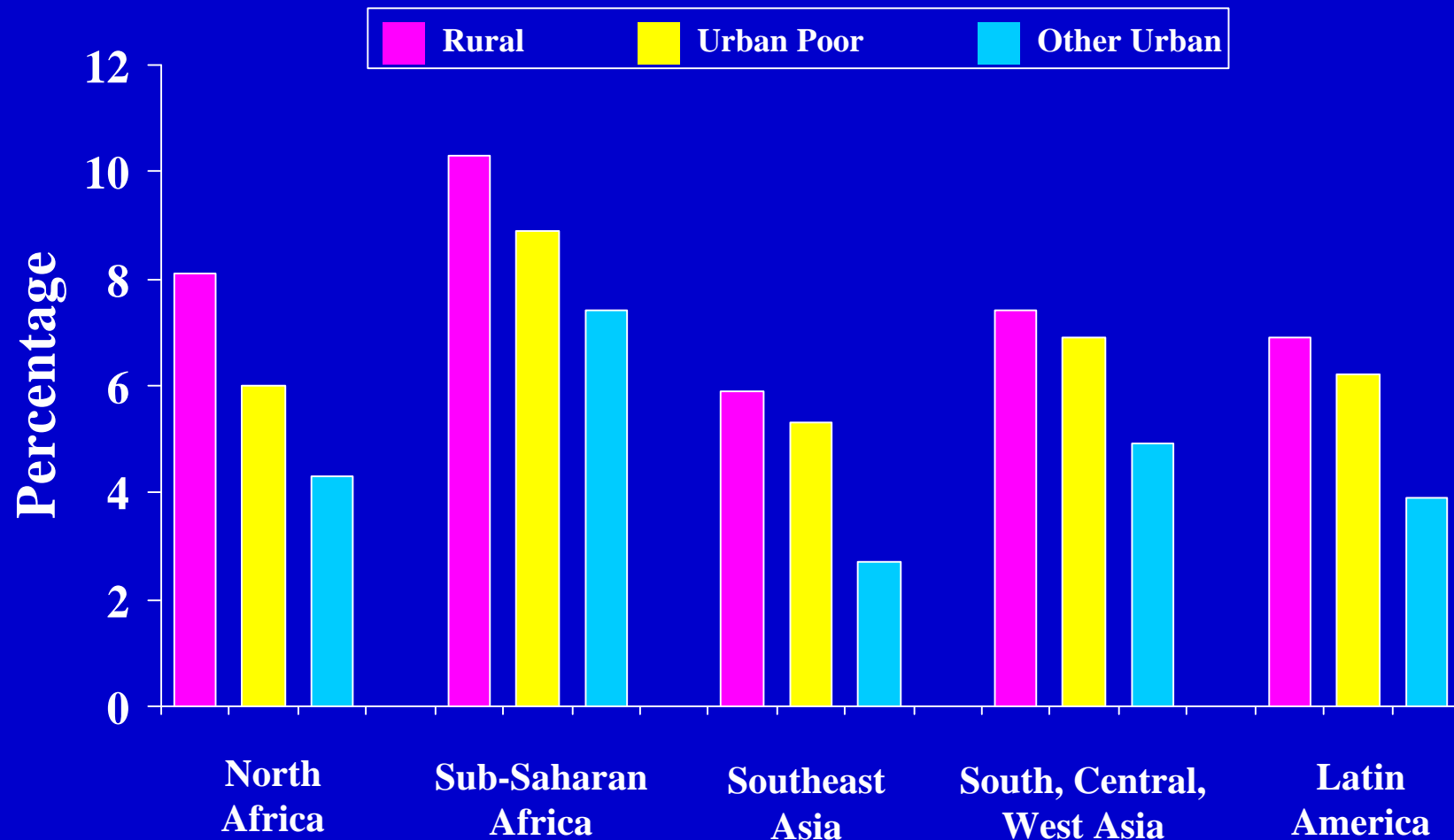
Findings from *Cities Transformed*

**A U.S. National Research Council
Report by the Panel on Urban
Population Dynamics**

National Academy Press (October 2003)

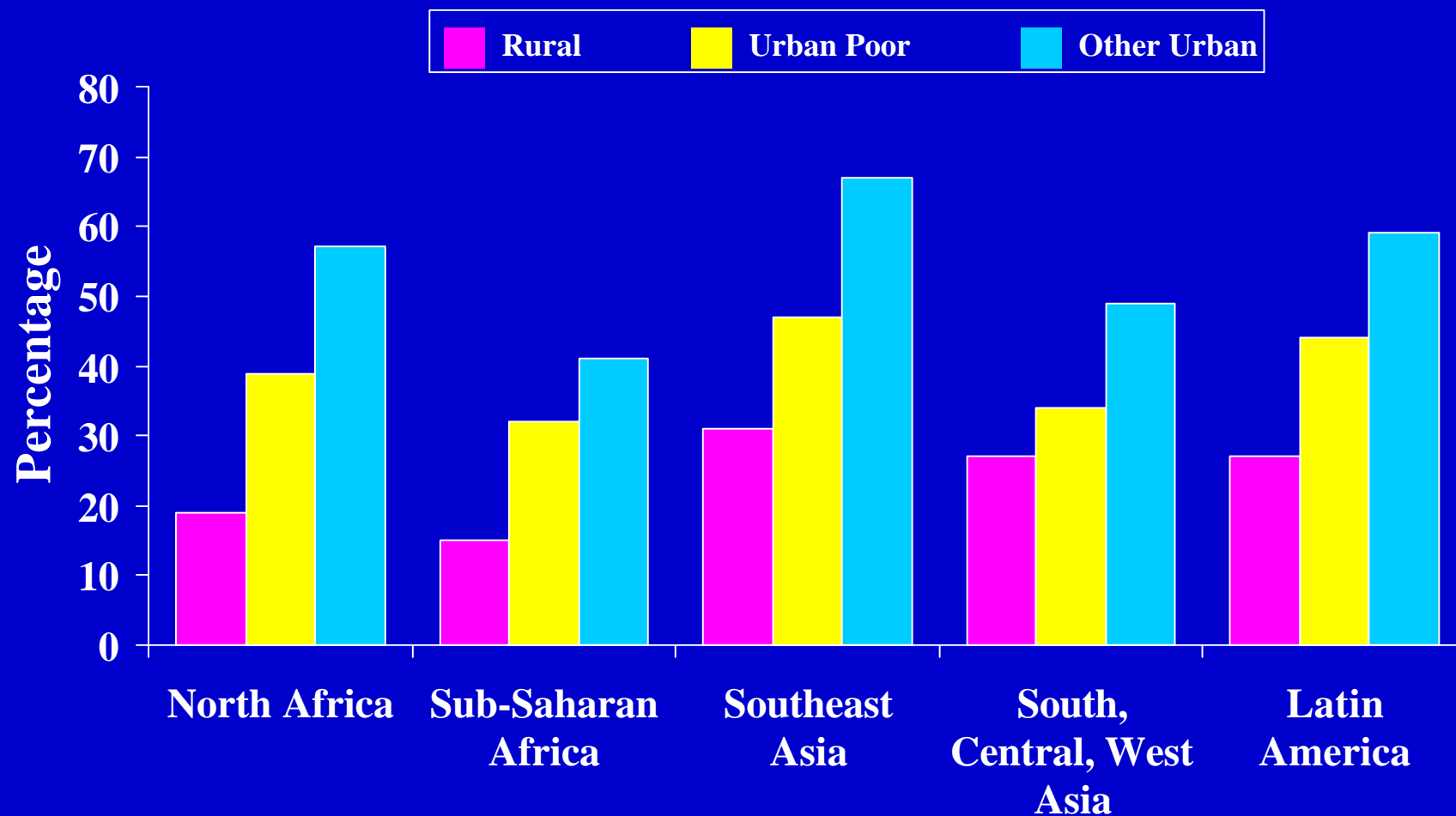
Mark Montgomery and Richard Stren, co-chairs

Infant Mortality Rates



Source: *Cities Transformed*

Percentage of Women With Recent Births Attended by Physicians or Nurse/Midwives

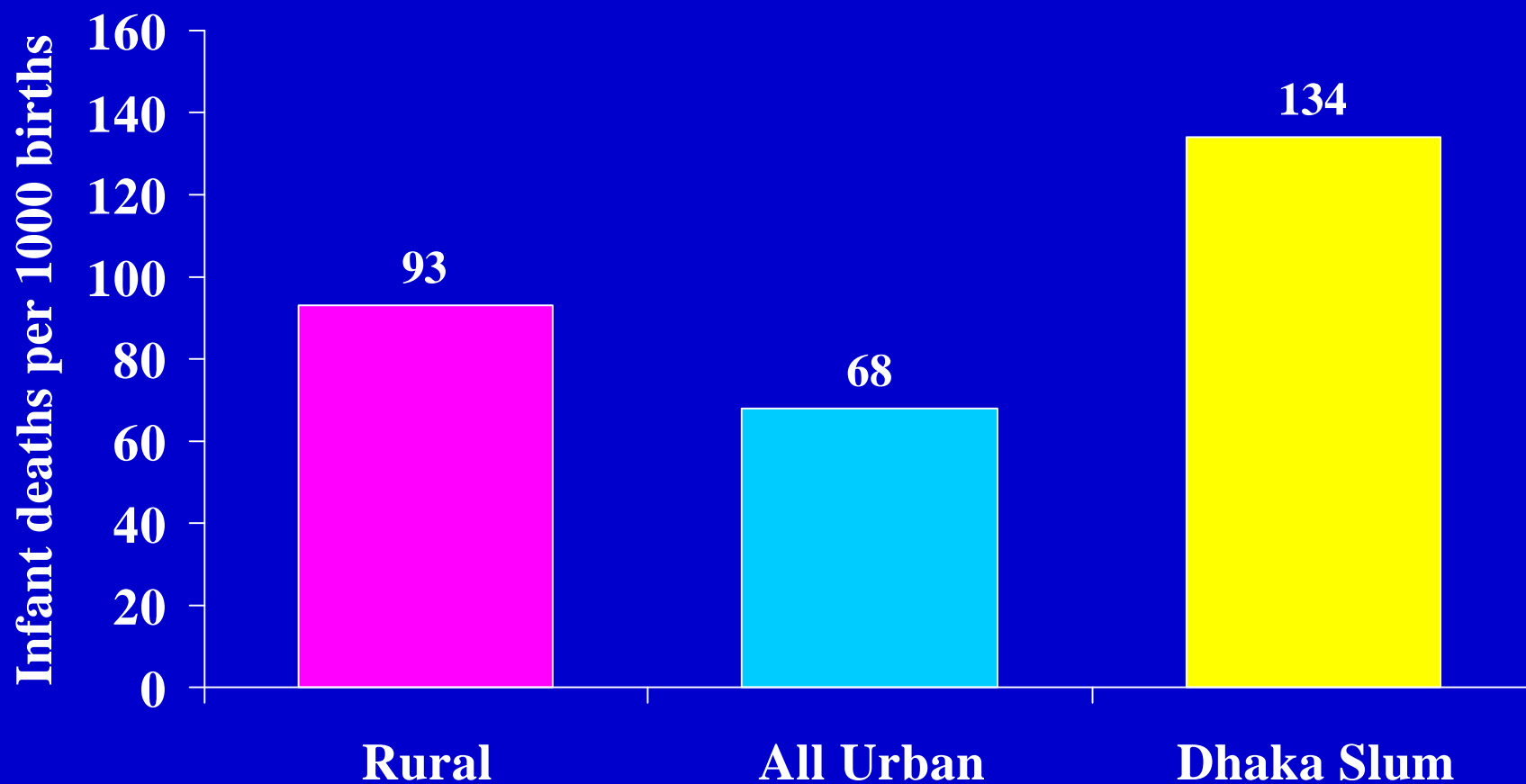


Source: *Cities Transformed*

Elevated Risks from Spatial Concentration of Poverty:

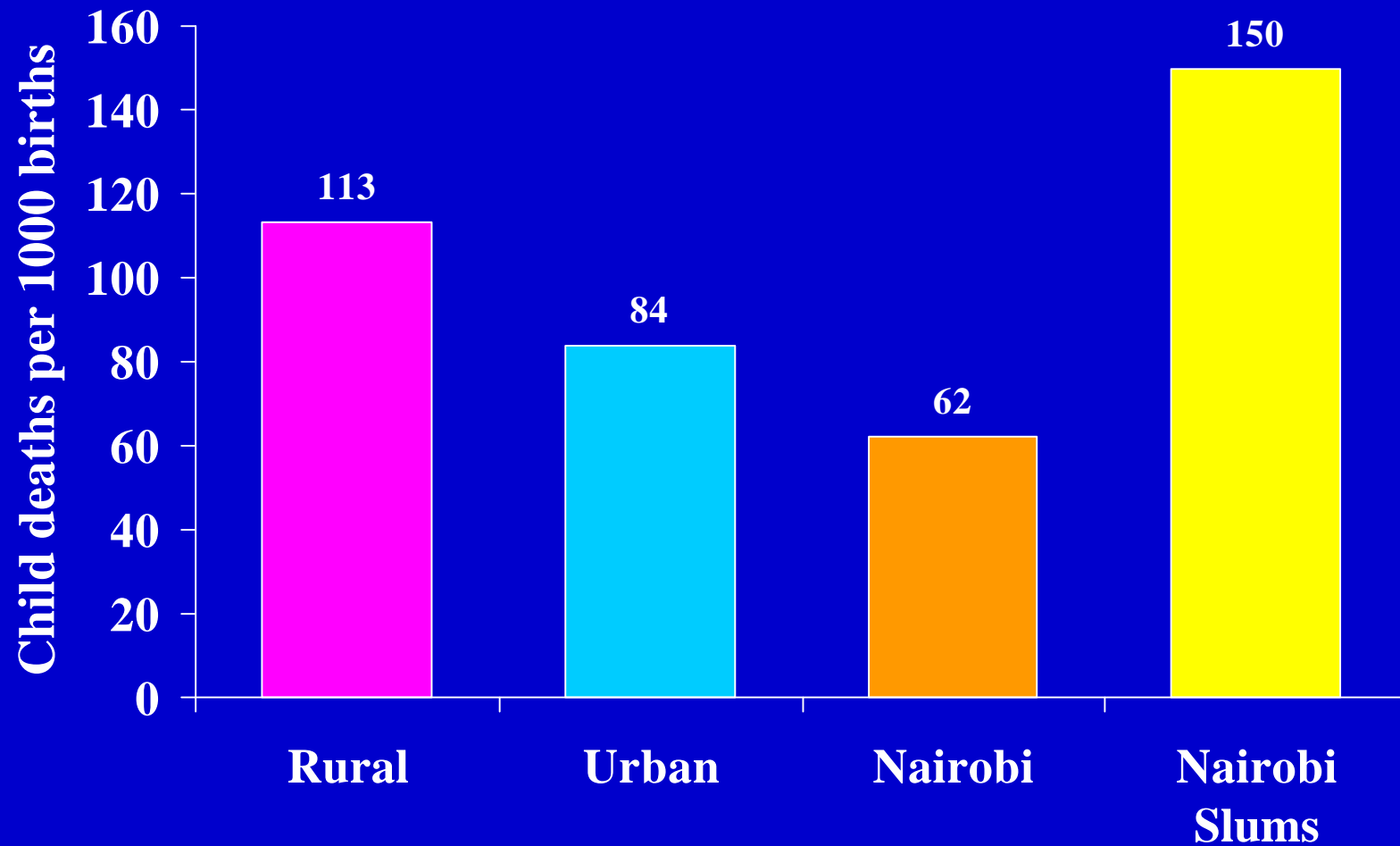
**Conditions in urban slums can
be worse than in rural villages**

Infant Mortality Higher in Dhaka Slum than in Rural Bangladesh



Source: Harpham et al. (1991)

Child Mortality Rates in Nairobi Slums Exceed Rural Rates



Source: APHRC (2002)

The Urban Advantage in Health

- **Not a myth — but only a partial truth**
- **Substantial percentages of urban populations face health disadvantages like those of rural populations**
- **Where urban poverty is spatially concentrated, health risks can exceed rural risks**

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Aims

- **Assess the *Cities Transformed* results with multivariate methods**
- **Strengthen the basis for estimates of household living standards using demographic survey data**
- **Disentangle household from neighborhood living standard effects**

Constraints

- **Most demographic surveys in LDCs gather no consumption or income data**
- **Neither do most censuses in these countries**
- **The DHS surveys are notable for breadth and reasonable comparability, not for depth**
- **Are sampling clusters akin to neighborhoods?**

Three Health Outcomes

- **Unmet need for modern contraception**
- **Attendance of a doctor, nurse, or trained midwife at childbirth**
- **Height for age among children from 3 to 36 months of age**

Living Standards MIMIC Model

- **Indicators** include ownership of various consumer durables, and crude measures of housing quality
- **Determinants** include the education, age, and sex of the household head; access to electricity; and DHS city size variables

The main health equation (in latent form) is:

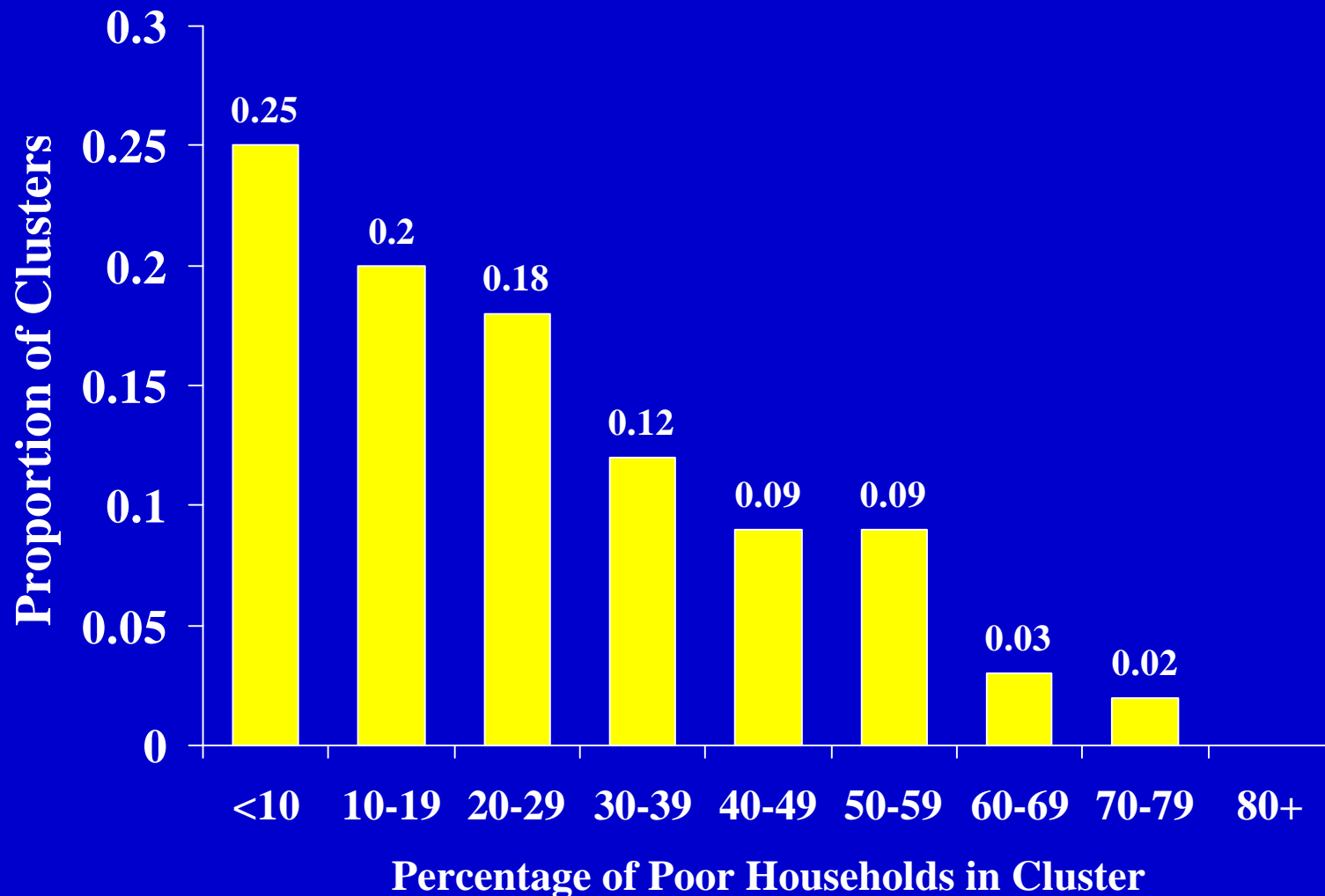
$$Y^* = W'\theta + f\delta + \epsilon \quad (1)$$

We model the living standards factor $f = X'\gamma + u$, the value of f being determined by a set of exogenous variables X and a disturbance u .

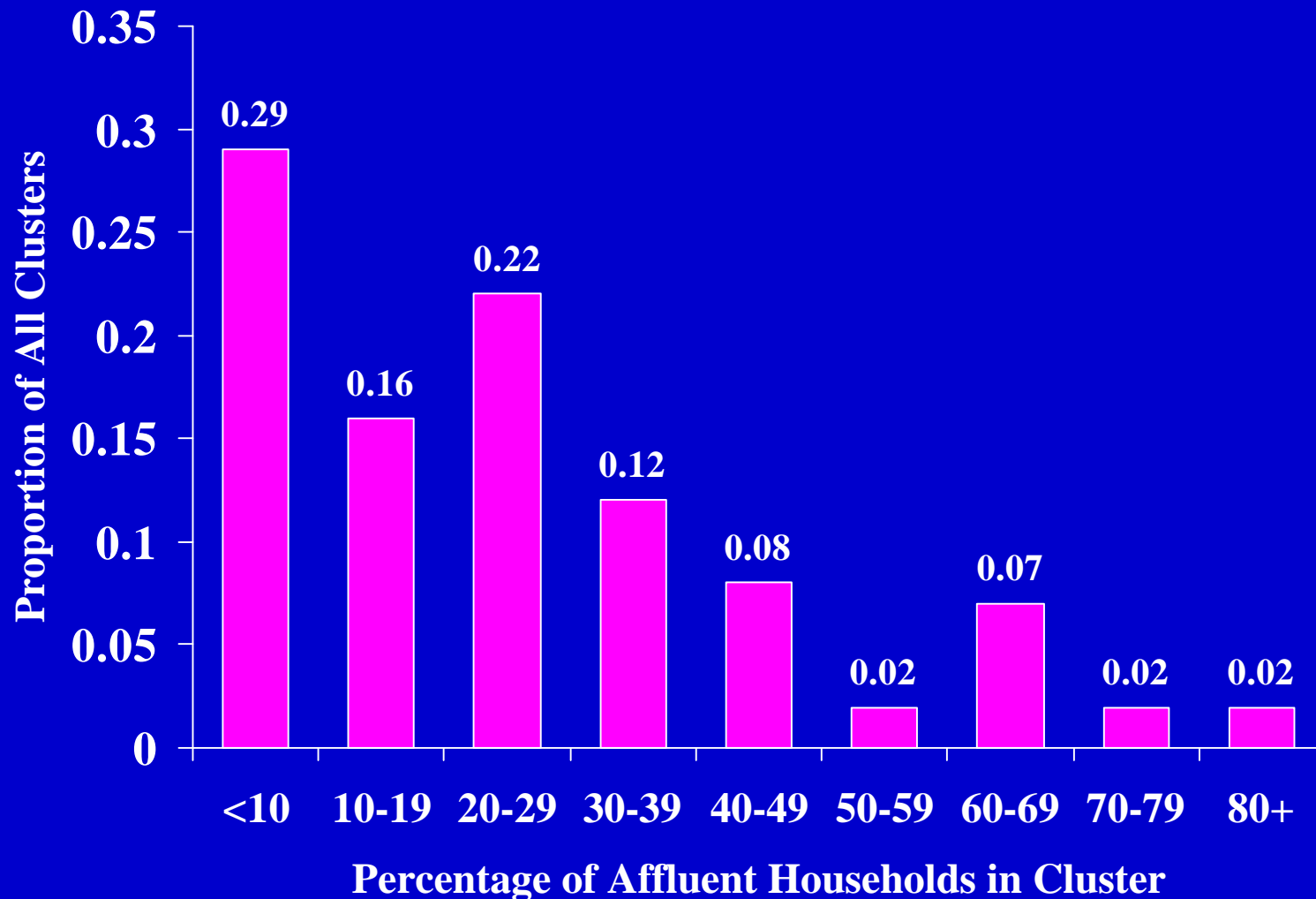
Upon substituting for f , the indicator equations (also in latent form) are:

$$\begin{aligned} Z_1^* &= \alpha_1 + X'\gamma + u + v_1 \\ Z_2^* &= \alpha_2 + \beta_2 \cdot X'\gamma + \beta_2 u + v_2 \\ &\vdots \\ Z_K^* &= \alpha_K + \beta_K \cdot X'\gamma + \beta_K u + v_K. \end{aligned} \quad (2)$$

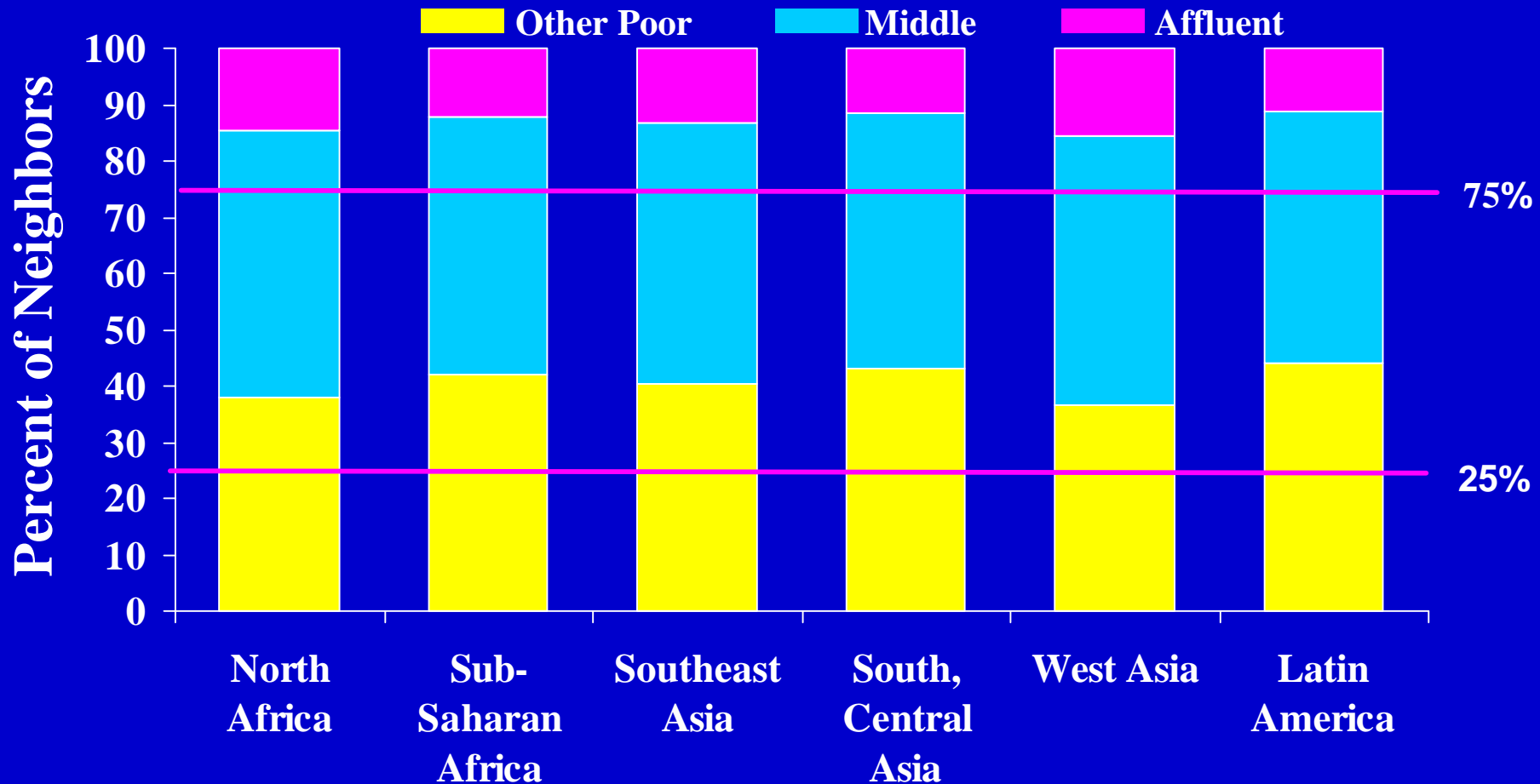
Distribution of Sampling Clusters by Percentages of Poor



Distribution of Sampling Clusters by Percentages of Affluent

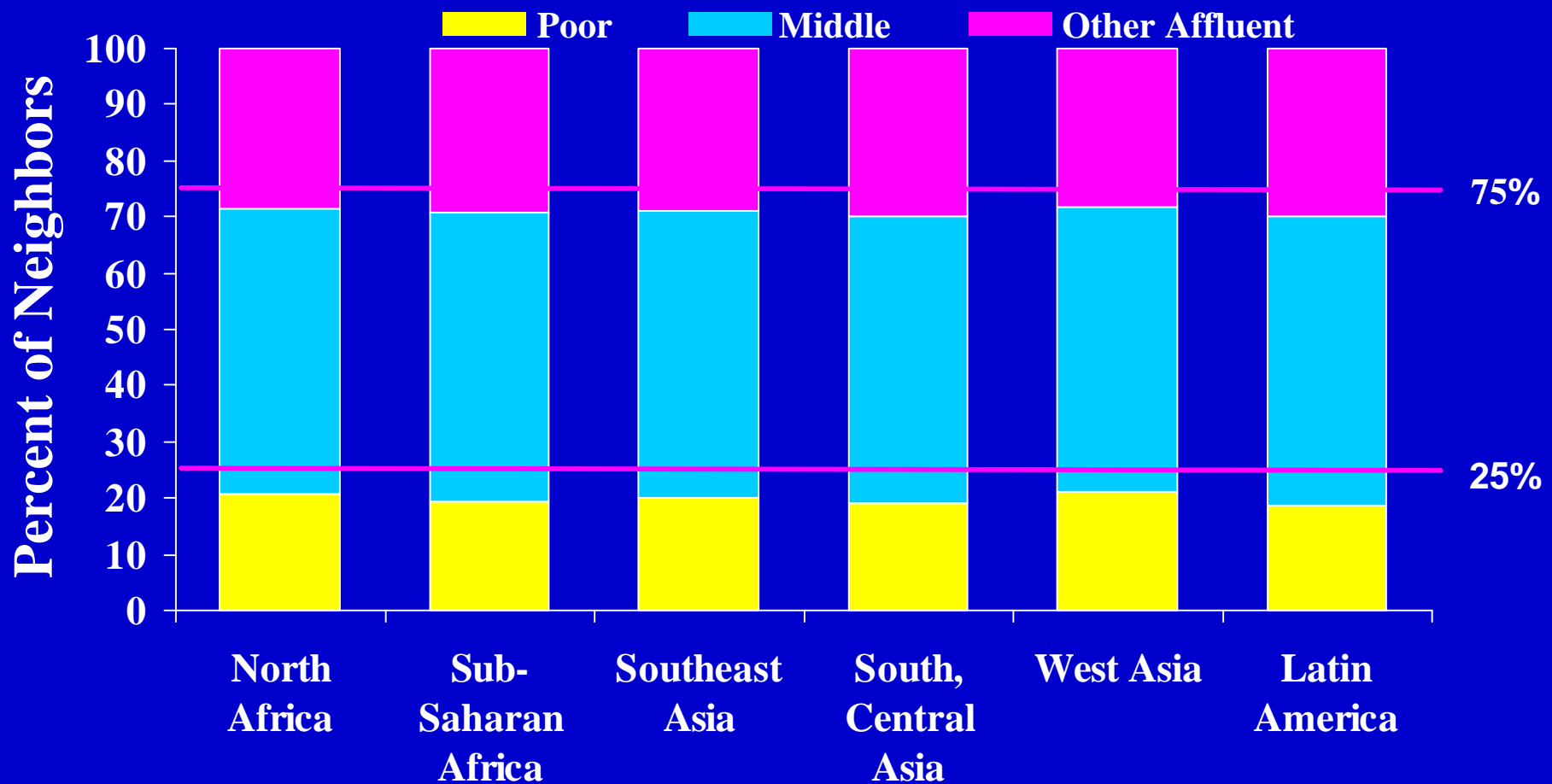


Who are the Neighbors of the Urban Poor?



Source: Montgomery and Hewett (2003)

Who are the Neighbors of the Urban Affluent?



Source: Montgomery and Hewett (2003)

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Unmet Need, Birth Attendance, Height for Age

- **Explanatory variables include woman's education and age; her spouse's education; city size**
- **For the height-for-age models, children's age and sex are added**

Results: A Sketch

- **Household living standards generally significant, of the expected sign, and have substantively important effects (see handout)**
- **Mother's education retains its significance and influence with living standards controlled**
- **No non-linearities detectable as yet**
- **Household living standards effects robust to inclusion of cluster-level measures**

Cluster-Level Means of Living Standards

- **Not significant as often as household-level factors (see handout)**
- **No separable role detected for cluster poverty and cluster affluence, given cluster mean**
- **When the cluster measures are significant, they exert substantively important effects in the expected direction**

Birth Attendance: Cluster Effects or Omitted Variables?

- Contrary to expectation, we found the strongest evidence of cluster effects for birth attendance
- This could reflect local social interaction, social networks as conduits for health information and advice-giving
- But could also reflect differences in ease of access to services (even **within** urban areas)

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Conclusions: 1

- **Urban multi-level modelling in its infancy for LDC cities**
- **Encouraging results so far**
- **But DHS-type datasets will need to be supplemented by: urban social network analyses, delineation of urban neighborhood boundaries, assessments of local social capital**
- **This will require substantial new research, refashioning conceptual tools honed in MDC cities to the LDC urban context**

Conclusions: 2

- **What do we mean by “slums”?**
- **What measures are available?**
- **What percentage of urban poor live in slums?**
- **What percentage of slum-dwellers are poor?**

Income-Heterogeneous Communities May Offer:

- **More positive examples of upward mobility**
- **More potential volunteers for community-based organizing activities**
- **Stronger base of local associations**
- **More “bridges” to outside funding and expertise, and stronger connections to government**

But All These Points Are Arguable, And...

- **Risks of “leakage” to upper-income groups in heterogeneous communities**
- **Possibly less urgency about health among better-off residents, who have the means to purchase care in the private market**