Every type (of cancer) is rare is some part of the world

Peto J, Nature, Vol 411, 2001

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Today's Cancer Burden Worldwide, 12.6 million new cases (2008)



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Source: GLOBOCAN 2008 (IARC)

Today's Cancer Burden

Estimated age-standardised incidence rate per 100,000 All cancers excl. non-melanoma skin cancer: both sexes, all ages









2030 Cancer Burden

rganization



Future cancer burden is in regions <u>not</u> <u>geared</u> up to deal with it.

Epidemiologic Transition and Cancer Incidence Rates (Men)





Graphs by CANCER

A focus on breast cancer

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1.4 Million breast cancer annually 1 in 5 cancers in women worldwide

Incidence of Breast cancer: ASR (World) (All ages)



Incidence rates



Mortality rates



World Health Organization

Inte

Future Research Focus amid the shifting cancer burden to LMICs

Factor	Setting	Early birth cohort	Later birth cohort	Associated % increase in breast cancer incidence rate
Age at menarche (mean)	China	16.5	14.6	4.8
	Brazil	13.1	12.4	1.5
	India, West Bengal	13.3	12.8	2.1 2.9
Age at first birth (median)	India	19.3	19.8	1.0
	Brazil	21.7	21.9	0.4
	Nigeria	18.5	20.3	3.5
Parity (median)	China	5.37	3.13	17.7
	Brazil	5.30	2.92	18.9
	Indonesia	5.42	4.30	8.5
	India	5.09	3.48	12.4
	South Africa	5.90	3.46	19.4

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McCormack and Boffetta, submitted

Breast Density – different women of the <u>same</u> age Does this variation convey any information about future risk?





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Summary of combined relative risks from meta-analysis: General population



McCormack and dos Santos Silva, Cancer Epidemiol Biomarkers Prev 2006 International variations in density mimicking breast cancer incidence Rates: density by ethnic group in London



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McCormack et al. Am J Epidemiol 2008

Potential work in a Tanzanian setting

- Characterising breast tumours receptor status, histology, genetic susceptibility SNPs
- Low survival disentangling late presentation from
- Breast density
 - Describing distribution
 - Comparing it internationally
 - Relating it to future breast cancer risk
 - Describing changes over time, urban/rural
 - Uses in developing screening strategy in limited-resource settings

