Title: An Alternative Approach to Study the Changes in the Cancer Pattern of Men in India (1988-2005)

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Asbstract:

Background: Changes in cancer pattern are often studied with regard to rank of leading sites, variation in age adjusted rates of sites over the time or with the help of time trends. However, these methods do not quantify the changes in relation to overall changes that occurred in the total cancer cases over the period of time. An alternative approach is therefore necessary, particularly to identify emerging new cancers. Methods: The cancer incidence data of various sites for men, over the periods 1988-90 and 2003-05 in India, for five urban registries namely Bangalore, Bhopal, Chennai, Delhi and Mumbai, functioning under the network of National Cancer Registry Programme (ICMR), formed the sources of data for the present analysis. Changes in incidence cases by various cancer sites for men are assessed by calculating the differences in incidence cases over the two period of time. Based on the contribution of each site to total change, the ten most leading sites are identified separately for each registry. The relative changes in the sites with time are taken to identify the most emerging new cancer cases over the period of time. Results: The pooled cancer cases for men among five urban registries increased from 30042 cases in 1988-90 to 46946 cases in 2003-05 registering an increase of about 55.8%. The lowest percentage of increase is observed in the registry of Mumbai (25.6%) and the maximum in Bhopal (96.4%). Based on the pooled figures of five urban registries, the lung cancer contributed the maximum % change (9.7%), followed by cancer of prostate (9.2%), mouth (7.5%), tongue (5.9%) and NHL (5.9%). Based on the pooled figures and the relative changes, the emerging new cancers are prostate (140%), liver (112%) and mouth (95%). The %

change by sites and the emerging new cancers varied between the registries.