

## B. THE PROBLEM OF CANCER: LUNG CANCER AS A PARADIGM— KEYNOTE ADDRESS SUMMARY

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### INTRODUCTION

Cancer is a common and devastating clinical problem worldwide. It is overwhelmingly a disease associated with aging and is far more common in developed countries (61% of cancer cases). Marked discrepancies exist in outcome of cancer treatment between countries for certain types of cancer because cancer treatments and healthcare delivery vary. For example in the United States, the overall cure rate is 15%, while in developing countries this figure falls to 3%-10%. In Europe, the rate is 10%, with a 6% rate in the United Kingdom. These differences are attributable to varying prioritization of healthcare resources, driven by, for example, a need to control cholera before focusing on cancer. In some developed countries, the differences may be due to misguided priorities in some nationalized health systems.

Lung cancer poses a substantial burden in the United States; it is the most common cause of cancer death in US

men and women, with 170,000 cases diagnosed each year, equivalent to 460 new cases each day or one case every three minutes. Progress in controlling lung cancer has been slow and incremental.

Genetic mutations are the root of cancer development. Most cancer mutations are subtle and act on genetic predisposition over time, and therefore they are hard to detect. The cumulative nature of mutations is such that 20–30 years of cumulative exposure to cigarette smoke, for example, are needed to produce a malignantly transformed cell.

Established and experimental methods to reduce mortality from lung cancer have been presented. Earlier detection modalities are under study. Better use of existing therapy and new approaches to therapy have been examined to assess how they might affect survival rates. The speaker strongly stressed that effective smoking cessation and antitobacco interventions have the greatest effect in primary prevention of lung cancer in many different countries.

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From the President and Chief Executive Officer of the Barbara Ann Karmanos Cancer Institute, Detroit, Michigan.