

## A Glimpse into the Future

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Prostate cancer has become a major public health problem worldwide. In both high- and low-risk populations, rates are increasing; clearly some of the increase is related to the widespread use of prostate-specific antigen (PSA) testing in developed countries. Among US men, it is the most commonly diagnosed non-skin cancer and the second most common cause of cancer deaths. Despite its substantial morbidity and mortality, the etiology of prostate cancer remains largely unknown. For a long time, prostate cancer was regarded as a disease of older men, a slow-growing tumor, and a cancer with a low fatality rate.

Before the 1990s, there were relatively few etiologic clues, and funding for prostate cancer research was limited. However, during the last 10 years, with rising incidence and more public awareness, prostate cancer research has entered a new era. Funding for prostate cancer research has increased several fold. There are now a number of promising etiologic leads, encompassing genetic, hormonal, and lifestyle factors. Because prostate cancer is a heterogeneous disease, it has been difficult to identify consistent epidemiologic evidence for specific exposures. Novel ideas and creative approaches are needed to break new ground.

To help foster interdisciplinary collaboration and innovative research, we asked leading experts in various fields of prostate cancer research to share with our readers their perspectives on current issues and insights into future research. Although we have attempted to provide a comprehensive picture of the current state of research, we acknowledge that it is not possible for us to include all potential risk factors. Our intention is not to cover most published studies, but, rather, to use current knowledge to identify critical questions and to develop creative approaches to tackle them over the next 10 years. It is our hope that the perspectives and insights shared by the authors in this volume will provide a glimpse into the future, stimulate original ideas, and promote productive interactions between diverse scientific disciplines.

With the newly mapped human genome and the availability of high-throughput and microarray methods, researchers now have opportunities that their predecessors may not have even imagined. The application of molecular tools and the inclusion of suitable biomarkers in conventional epidemiologic studies are essential in refining exposure assessment and improving disease classification. A number of authors of the different presentations in this special issue have made specific recommendations in this regard.

Molecular epidemiology will enable us to clarify the underlying mechanisms related to observed associations. This approach requires complex interdisciplinary studies that involve scientists from different disciplines. We believe that in the post-genome era, epidemiologists will play a key role in unlocking the prostate cancer puzzle.

This special issue of *Epidemiologic Reviews* was motivated by the high risk in US men and inspired by the concern of several prominent scientists and clinicians in countries with a low risk of prostate cancer. Although their incidence rates are less than that of the United States, they are rising in spite of the infrequent use of PSA screening. In the year 2000, prostate cancer became one of the 10 most common cancers in men in some low-risk countries, including Taiwan. With continued westernization and changing living conditions, it is clear that prostate cancer will become a more important public health problem in these countries in the near future. Their scientists are already looking for ways to slow the rising trends. Through our interactions with them, we felt the need for a volume on prostate cancer that provides a comprehensive overview of the current issues and identifies future directions for research.

We hope that this special issue of *Epidemiologic Reviews* sows ideas that will germinate and grow into an array of sound epidemiologic studies that will contribute substantially in the fight against prostate cancer.

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