

# Preface

HIV prevention has turned a critical corner. Years of research have yielded an arsenal of new biomedical technologies that, if put into practice, could alter the course of HIV epidemics. However, numerous challenges face the shifting tide of HIV prevention that, if ignored, will squander the opportunities before us. *Biomedical Advances in HIV Prevention: Social and Behavioral Perspectives* was written to shed light on and address the challenges that face increasing access and use of biomedical HIV prevention technologies. Randomized clinical trials that have tested prevention technologies have understandably focused on determining their efficacy. However, there is a vast gap between determining efficacy of a prevention tool and optimal use in communities most affected by HIV. Nearly three decades of behavioral research in HIV prevention has produced numerous interventions that have mostly gone unused. Our hope is that this same fate does not fall on these promising new biomedical advances. Understanding the gap between efficacy and use is critical if we are to realize the true benefits of new HIV prevention technologies. This sentiment was the impetus for editing and contributing to this book. Our goal was to highlight the social and behavioral realities that can stymie biomedical advances in HIV prevention. We therefore sought the contribution of true experts in the most essential aspects of biomedical HIV prevention. Our charge to these authors was for them to offer their guidance on how best to address the challenges facing emerging HIV prevention technologies.

Currently, there are numerous advances in HIV prevention to be excited about. We have observed remarkable prevention intervention efficacy associated with male circumcision, microbicides, and antiretroviral therapy-based prevention; albeit, with some setbacks along the way. All of us working in HIV prevention recognize the tremendous potential of biomedical prevention. At the same time we must acknowledge the considerable effort it will take to make wide-scale availability and optimal use a reality. On the whole, recent years have brought a renewed energy and focus regarding the potential to end the HIV/AIDS epidemic. However, our progress is vulnerable to being held back by behavioral and social aspects of prevention technologies. The current landscape of HIV prevention includes numerous studies investigating multiple combinations of prevention tools and it is very likely that biomedical prevention technologies will continue to evolve at a rapid pace. Yet, it

is imperative to underscore that issues relating to behavioral and social components are enduring and, therefore, have the potential to enhance or undermine the ultimate impact of these critically important advances.

In developing this volume, all the authors were asked to consider the social and behavioral issues they believe are most vital to address for the successful implementation of biomedical HIV prevention technologies. Our contributors have considerable expertise in their respective areas and have been working extensively with populations affected by HIV. We are quite fortunate to have collaborated with such a remarkable group of scientists, scholars, and prevention advocates in formulating this book. Our goals for each chapter were to elaborate on how the field can make the tools of HIV prevention work effectively in diverse settings across multiple groups. This thinking led us to consider how aspects of behavior, particularly adherence, risk compensation, substance use, and mental health will affect one's ability to access and take advantage of HIV prevention technologies. We also aimed to present diverse perspectives on various cultural factors important in the uptake of prevention technologies, including the unique challenges faced in some of the most pressing HIV epidemics of southern Africa, Asia, Australia, Europe, South America, and North America. Our approach was to find the best possible authors and give them creative license to structure their chapters as they wanted, with the only caveat being that they focus on areas that they saw as most critical. Our hope was that the authors would convey their enthusiasm in their respective areas of study by putting forth interesting and stimulating content; the authors delivered above and beyond our expectations.

This book is organized in three separate yet complementary sections. *Advances in HIV Prevention Technologies* offers perspectives on where we are in terms of developing technologies for HIV prevention and also highlights specific areas of interest including how biomedical prevention fits within President Obama's US National HIV/AIDS Strategic Plan as well as priorities set by the World Health Organization. We have also included views on the progress being made in producing an effective rectal microbicide. *Behavioral Challenges and Opportunities* covers psychosocial factors that undermine implementation of advances in HIV prevention. Given the, at-times, conflicting results of biomedical trials, we devote considerable attention to reviewing individual-level factors that we believe are most important to effectively address in order to maximize the benefits of existing and emerging prevention tools. In the final section, *Global Perspectives*, we sought to provide chapters that would give the reader a sense of the practicality of making prevention tools available in various cultural settings. Producing effective biomedical technologies for HIV prevention is not sufficient for ending the HIV/AIDS epidemic; we must simultaneously address barriers relating to accessibility, uptake, and sustained use. We therefore asked contributors to consider how well equipped their respective country was for providing biomedical prevention, including what strategies work and what changes would have to be made.

Together the content offers a wide-range of perspectives on many of the most pressing issues in current HIV prevention research, practice, and policy. We nevertheless recognize that that no single book can cover every critical issue facing a field as large and fast moving as HIV prevention. We are quite sure that the types

of biomedical technologies discussed will require updating. However, the social, behavioral, and contextual factors that ultimately determine the success and failure of any biomedical prevention technology, from condoms to vaccines, are far more enduring. Our hope is that this book will offer a framework for optimizing the impact of all biomedical advances in HIV prevention, those currently available as well as those not yet even imagined.

Storrs, Connecticut, USA  
Storrs, Connecticut, USA

Lisa A. Eaton Ph.D.  
Seth C. Kalichman Ph.D.



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