



Base Pairs to Populations

"There is much work to be done and many challenges exist in our mission to end the suffering that breast cancer brings." So conclude Guest Editors Ann Partridge and Lisa Carey in their overview for this *CCR Focus* on breast cancer. Oncologists treating rare or treatment-refractory cancers, such as gastric, pancreatic, or hepatocellular cancer, may look with envy at the treatment options available for breast cancer and the progress made in understanding the disease. Yet this *CCR Focus* shows how sometimes in medicine, answers to questions may only deepen our understanding and lead to more difficult questions. We have found mutations that may be oncogenic drivers but lack insight as to the cause of these mutations, given that our best-understood carcinogens, tobacco and UV radiation, are not culprits. Are the mutations random, or is there an underlying causative mechanism? We have developed treatments for breast cancer that have added years to life but have yet to understand why some tumors respond and others do not. We need an understanding so that we may apply our current therapies to various tumor subtypes. And we have witnessed the emergence of immunotherapy options for lung and kidney cancer, but to date, these novel alternatives have not delivered their promise in breast cancer. Most importantly, we face the daunting task of getting these therapies to everyone who needs treatment. The World Health Organization Model Lists of Essential Medicines is designed to help underresourced countries decide which medications should be prioritized. Trastuzumab, with its proven track record and ability to prolong life in a meaningful quantity, was only added to the list in 2015 but is still not available in many low- and middle-income countries (1, 2). Solving global health care disparities will likely prove the most difficult of all these challenges.

In "Breast Cancer Research: From Base Pairs to Populations," Ann Partridge and Lisa Carey lay out the diverse challenges created by biomedical progress. They have recruited experts in the field, basic scientists, immunologists, oncologists, and epidemiologists, to discuss these challenges, all with the shared goal to improve breast cancer outcomes. As with every *CCR Focus*, we hope to inform those who are interested but not expert and inspire those already working in the field.

Susan E. Bates

Deputy Editor, *CCR Focus*

Columbia University Medical Center

See all articles in this *CCR Focus* section, "Breast Cancer Research: From Base Pairs to Populations."

References

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Susan E. Bates

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