Table 1: NHLBI and NCI – Common Themes for the Future of Epidemiology

Recommendation Themes	National Heart, Lung, and Blood Institute (Roger et al, 2015)	National Cancer Institute (Khoury et al, 2013)
Scientific direction	Convene a scientific forum to anticipate the major scientific questions and methodological needs in epidemiology and population science over the next 10-20 years.	Transform the practice and extend the reach of epidemiology beyond initial discovery to include more translation, evaluation, and implementation. Encourage academic and research institutions to promote career advancement that rewards collaborative, interdisciplinary and translational research.
Resource sharing	Create a dynamic compendium of large epidemiologic resources including cohort studies, clinical trials data sets, registries, biorepositories, and other relevant epidemiologic resources to assist the research community in identifying and accessing key existing resources and to improve the return on the investment from these studies.	Provide greater access to data, metadata, and specimens to foster collaboration, to ensure reproducibility, replication and to accelerate translation into population health impact. Support the harmonization of existing epidemiologic data (including cohorts and consortia) and the creation of study repositories. Support processes for registration of new studies, data access and sharing and collaborative analyses. Work with scientific journals and academic institutions to create more incentives for data sharing, reproducibility and replication.
Maximizing research potential of existing cohorts	Create a Cohort Consortium to support large-scale collaborations and provide a coordinated, interdisciplinary approach to address scientific questions, achieve economies of scale, create opportunities for collaboration, and accelerate the pace of research and the implementation of new methods.	Expand cohort studies across the lifespan, and include multiple health outcomes. Maximize the output and productivity from existing cohorts and assess the need for new cohorts of etiology and outcomes including multiple health-related outcomes and intermediate biomarkers.
Methods and technologies	Actively engage in studies to establish the validity, reliability, and scalability of electronic tools for primary data collection.	Develop and validate reliable methods and technologies to quantify exposures and outcomes in massive scale and to assess concomitantly multiple factors in complex diseases.
Training and workforce development	Establish an adequate workforce to conduct population sciences “of the future,” and one approach is to create multifaceted and complementary career development grants	Train 21st century epidemiologists with an increasing emphasis on collaboration, multilevel analyses, data science, knowledge integration and translation
Integration of observational and interventional epidemiology	Where genuine efficiencies can be created, encourage the integration of clinical trials and epidemiologic studies.	Foster integration of observational epidemiologic studies with intervention trials
Evaluation and return on investment	Implement a competitive peer-review-based model for its portfolio of large epidemiologic and population studies.	Support knowledge integration and meta research (systematic reviews, modeling, decision analysis, etc) to identify gaps, inform funding, and to integrate epidemiologic knowledge into decision making Develop and design rational cost-effective epidemiologic studies and resources to optimize funding, accelerate translation and maximize health impact Develop initiation and sun-setting criteria for research studies to maximize return on investment