At its most fundamental level, epidemiology—the foundational science of global health—is an attempt to understand how and why health and disease are clustered, rather than evenly distributed by time, place, and person. Typically, epidemiology is used to describe patterns of disease, identify “risk factors” associated with disease-related outcomes, develop and test interventions to influence those outcomes, guide the effective and efficient investment of health resources, and monitor progress toward the goals of global health programs.

Epidemiology has not yet been applied to understanding or promoting compassion and love. Until recently, doing so might have seemed like an academic exercise with little practical importance. This is no longer the case. As humans, we do not experience compassion or love consistently, at the same levels of intensity and quality, at all times, in all places, or towards all persons. Thus, compassion and love seem to be clustered. This suggests that there is an epidemiology of compassion and love, even if we do not yet understand its quantitative dimensions.

In qualitative terms, we know about antecedents of compassion and love in specific settings. For example, we grasp that our innate or learned capacity for compassion and love (“traits”) may be influenced by gender, personality, and developmental stage. This capacity can also be influenced by situational factors (“states”), such as stress and fatigue.

Our personal history—for example, exposure to the suffering of others, the experience of our own suffering, and our learned patterns of responding to suffering—may also influence our capacity for compassion. In addition, a wide range of societal factors may predispose us to compassion and love, including parenting practices, cultural and professional mores (e.g., in nursing or medicine), religion, and the influence of role models.

Yet, with the alarming levels of polarization, injustice, and hostility so prevalent in our world today, understanding the epidemiology of compassion and love has practical, urgent, and programmatic implications.

However, epidemiology is a quantitative discipline; measures and metrics for compassion and love have not been standardized. Practices to cultivate compassion, such as meditation, have been shown to improve pro-social behavior and have positive effects on the health and well-being of individuals. However, epidemiological guidance is needed to translate these practices and scale them up in ways that motivate organizations and social systems to prioritize compassion. Similarly, although a growing body of evidence shows that compassion is essential for quality health services, our health systems are increasingly characterized by a lack of compassion. Current knowledge is inadequate to make evidence-based recommendations for developing compassionate health systems, and we lack validated metrics for measuring progress toward compassionate care.
discipline; what, precisely, should epidemiologists count? Self-report (first-person) measures have been developed for compassion and love at the individual level, but their utility is limited by lack of conceptual rigor, independent validation, and acceptance across cultures, disciplines, and settings. Measures have also been developed for the “recipient” or “beneficiary” of compassion (e.g., hospital patients), so-called second-person measures. Less well-developed, particularly at the population level, are objective (third-person) measures of compassion, such as behavior, physiological measures, or laboratory tests, such as brain imaging. Most measures of compassion and love focus on an individual’s trait (predisposition), rather than a momentary state.

Meeting participants divided into three groups to consider case definitions and metrics at the individual, organizational, and community levels. These breakout groups affirmed that considerable additional work is needed to conceptualize, develop, test, standardize, and apply case definitions and metrics for compassion and love across different cultures, settings, and scale levels.

**MEETING OVERVIEW**

Seventy participants from a diverse range of backgrounds met to explore two fundamental questions:

1. To what extent can epidemiology contribute to our understanding of compassion and love?

2. To what extent can epidemiology support and guide efforts to realize a “loving world,” in which compassion is a key driver of quality health services?

**DAY 1 — CONCEPTUAL FOUNDATIONS**

An introductory session on basic epidemiologic principles and their potential application to compassion and love was followed by presentations on the conceptual foundations of compassion and love from the fields of psychology, religion, philosophy, and neuroscience. These presentations highlighted the diversity of thought and definitions of compassion and love across disciplines.

**INDIVIDUAL, ORGANIZATIONAL, AND COMMUNITY PERSPECTIVES**

Scholars and researchers representing psychology, education, neuroscience, sociology, spiritual and contemplative practice, health care, and public health shared perspectives on compassion and love at three different—yet mutually reinforcing—levels of scale: individual (including patients, family members, professional colleagues); organizations (including health care facilities, schools, and the workplace); and communities (including “Compassionate Cities,” professional and religious communities, and national health systems). To date, scientific study of compassion and love at these three levels has used disparate methods, conceptual frameworks, and metrics, resulting in a lack of shared understanding.

**DAY 2 — CAN COMPASSION BE LEARNED?**

Considerable scientific work has been done to measure and understand the impact of meditation and other contemplative practices on a range of outcomes, including health, well-being, stress, and prosocial behavior. In this session, researchers described the evidence for cultivation of compassion and love through specific training, practices and programs, primarily at individual and organizational levels.

**MEASUREMENT**

The lack of validated case definitions and metrics represents a significant barrier to an epidemiology of compassion and love. Epidemiology is a quantitative discipline; what, precisely, should epidemiologists count? Self-report (first-person) measures have been developed for compassion and love at the individual level, but their utility is limited by lack of conceptual rigor, independent validation, and acceptance across cultures, disciplines, and settings. Measures have also been developed for the “recipient” or “beneficiary” of compassion (e.g., hospital patients), so-called second-person measures. Less well-developed, particularly at the population level, are objective (third-person) measures of compassion, such as behavior, physiological measures, or laboratory tests, such as brain imaging. Most measures of compassion and love focus on an individual’s trait (predisposition), rather than a momentary state. Meeting participants divided into three groups to consider case definitions and metrics at the individual, organizational, and community levels. These breakout groups affirmed that considerable additional work is needed to conceptualize, develop, test, standardize, and apply case definitions and metrics for compassion and love across different cultures, settings, and scale levels.
How might “mapping” compassion and love lead to improved understanding of how they arise, spread, and are sustained? A mix of novel and standard epidemiologic approaches can be used to clarify the spatial aspects of epidemiology, i.e., to understand where compassion and love emerge and to identify potential “hot spots.”

**VIEW FROM PHILANTHROPY**

Representatives of three philanthropic foundations described their interest and work in supporting research or programs on compassion or love. They included The Fetzer Institute, Templeton World Charity Foundation, and Izumi Foundation.

**EPIDEMIOLOGIC METHODS**

The appropriateness and utility of various epidemiologic methods for studying compassion and love were presented and discussed. Several randomized controlled trials considered the ‘gold standard’ in measuring causal associations and efficacy of interventions—have documented the effectiveness of different compassion interventions primarily at the individual level.

However, quantitative approaches may be insufficient to understand the epidemiology of compassion and love; narrative and qualitative approaches may be needed to counter the challenge of reductionism. Participants expressed a need to “protect the preciousness” of compassion and love while studying them. New approaches to epidemiology may be needed to address the relational and transcendent nature of compassion and love.

**RECOMMENDATIONS AND NEXT STEPS**

**PRODUCT DEVELOPMENT**

- Compendium of measures and metrics of compassion and love for epidemiologic research and program monitoring
- Advocacy paper on the necessity of compassion for achieving the sustainable development goals
- Analysis of the public health burden resulting from the lack of compassion and love
- Briefing documents on the link between compassion and key dimensions of quality health services

**A COMMUNITY OF PRACTICE**

Participants, inspired by the rich exchange and intellectual generosity that characterized the meeting, called for the development of a global community through:

- Working groups to advance progress on products and research
- Participating in the Global Health Compassion Rounds series — view latest recording
- Developing institutional partnerships and collaborations

**FUTURE RESEARCH**

- Systematic review of factors that cultivate or promote compassion and love
- Systematic review of the effects of compassion and love on well-being, quality health care, and prosocial behavior
- Application of existing measures and metrics to collect population-level data and determine utility
- Assessment of interventions to cultivate compassion and love at the organizational and community levels
- Development of new and innovative tools and measures
- Comprehensive, prioritized agenda for innovative epidemiologic research on compassion and love

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Epidemiology can make important contributions to our understanding of compassion and love. Epidemiologic inquiry is needed to develop and validate metrics that can be used to guide and scale up programs dedicated to cultivating compassion at the individual, organization, and community levels. This work on metrics is urgently needed and a broad, multidisciplinary approach will be most fruitful in this pursuit.