

## **Six Cornerstones for Translational Brain Charts**

It is of great scientific and translational promise to formulate a normative reference for the lifespan development of the human brain to precisely quantify individual differences. By aggregating more than 120,000 brain imaging scans across the world, the Lifespan Brain Chart Consortium (LBCC) recently published brain charts for the human lifespan in *Nature*. These charts have revealed previously undocumented neurodevelopmental milestones, marking a research model on team working for the neuroimaging community towards population neuroscience.

The LBCC team demonstrated that after decades of advancement and accumulation in technologies, methods, and resources, we now have a tangible opportunity to achieve translational science for brain health. Accordingly, the World Health Organization has articulated the great clinical and public health relevance of lifespan brain charts in its recent position paper. Despite the impressive advances, there is still a non-negligible gap between this seminal paradigm on basic research of brain charts and their translational applications, calling for great community efforts to address translation barriers.

To guide gap-filling research on translational brain charts (TBC), we outline 6E (Exploit, Evaluate, Explore, Eliminate, Estimate, and Establish) efforts that we regard as “cornerstones” of TBC research here. Among the spectrum of multidisciplinary efforts, the first three cornerstones dissect aspects that require in-depth evaluation. The next two cornerstones point to the need for careful modeling with the acquired data, and the last cornerstone suggests extensive collaborations with open platforms (to facilitate interdisciplinary research).