Translational Statistics and Dynamic Nomograms

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Translational Medicine promotes the convergence of basic and clinical research disciplines and the transfer of knowledge on the benefits and risks of therapies. It aims to improve the flow from laboratory research through clinical testing and evaluation to standard therapeutic practice. This transfer of knowledge informs both clinicians and patients of the benefits and risks of therapies.

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In an analogous fashion, we propose the concept of Translational Statistics to facilitate the integration of biostatistics within clinical research and enhance communication of research findings in an accurate and accessible manner to diverse audiences (e.g. policy makers, patients and the media). Much reporting of statistical analyses often focuses on methodological approaches for the scientific aspects of the studies; translational statistics aims to make the scientific results useful in practice.

In this talk we will consider some general principles for translational statistics that include reproducibility, relevance, and communication. We will also consider how modern web-based computing allows the simple development of interactive dynamic tools for communicating and exploring research findings. Various examples will be used to illustrate these ideas.