Molecular Bio-Signatures along the Life Cycle of Failing Hearts and Lungs

Context: All caregivers and many scientists and policy makers are committed to providing more patient-specific care. In this era, we have the opportunity to explore the identification and development of bio-signatures that define risk, predict disease occurrence, diagnose, prognose, or refine our understanding of responses to therapies and other care interventions.

PROOF Centre Approaches: The NCE CECR Centre of Excellence for the Prevention of Organ Failure (www.proofcentre.ca), was established by competitive federal funding, and fortified by the matching funds of many public and private organizations committed to discovering, validating, and implementing biomarker solutions along the life cycle of heart, lung and kidney failure. The Centre's experience and directions with regards to the biomarker identification and clinical evaluation as "fit for purpose" has been based on work related to immune rejection of transplanted hearts and kidneys, and more recently arising from questions related to "acute COPD attacks", various forms of heart failure, and progression of kidney failure.

A Few Lessons Learned: The PROOF Centre experience has emphasized seamless science, wet and dry, built upon well-framed, clinically-driven needs, and the shared commitment of a diversity of clinicians, life scientists, computational scientists, policy makers and health systems experts, health economists, technologists, and the patients themselves.

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