

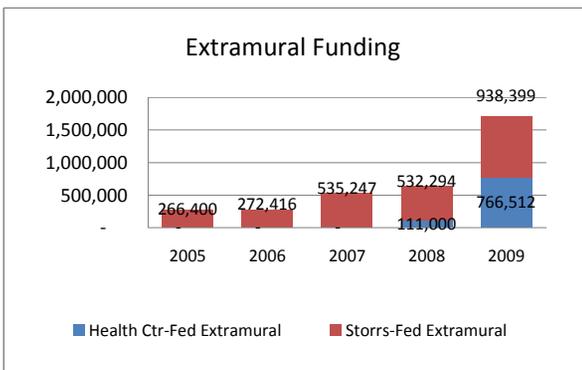
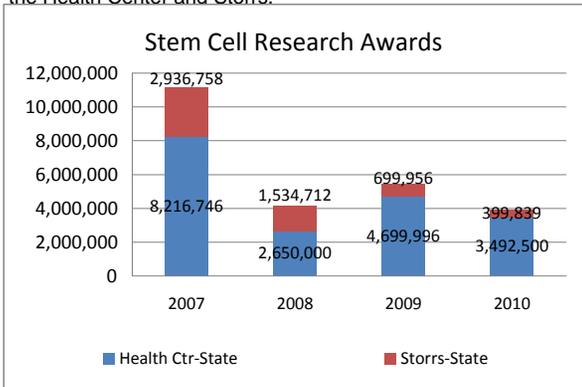
Program Report Card: University of Connecticut Stem Cell Institute (UCSCI)

Quality of Life Result: All Connecticut residents live free of disease and of the lingering effects of bodily injury.

Contribution to Result: Building on its existing research strengths, UCSCI (stem cell program) contributes to this end result because it seeks to develop medicine and therapies to cure and eradicate disease and repair injured tissues.

Partners: State of Connecticut, Department of Public Health, Connecticut Innovations, NIH, Wesleyan University, Yale University

Performance Measure 1: The amount of awards received by the Health Center and Storrs.

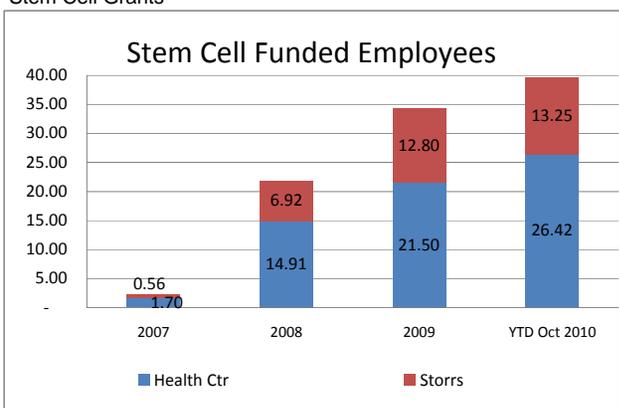


Story behind the baseline: For the first three rounds of competition for Connecticut stem cell funding, UCSCI investigators have successfully competed for \$20.8 million of support (47 projects awarded out of 147 applications submitted). This amount leads all state institutions all other funded entities. The majority of the UCSCI investigators received funding from the Connecticut State Stem Cell Fund. Total Stem Cell funding available in 2007 was \$20M and \$10M was available for 2008 and 2009. In 2010, 44 grants were submitted for a total of \$26.0M, of which 10 were received for a total of \$3.9M.

Proposed actions to turn the curve:

Increase Federal funding now that Pres. Obama removed the restrictions set by Pres. Bush on federal funding for research on human embryonic stem cell lines derived after Aug. 2001. However, all the lines must be first registered at the NIH if the informed consent form for the embryo donation to derive the lines ethically meets requirements set by the NIH.

Performance Measure 2: Total Full Time Equivalent funded on Stem Cell Grants

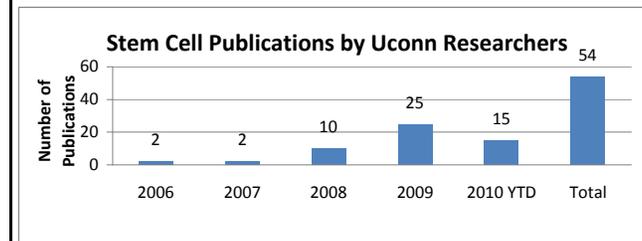
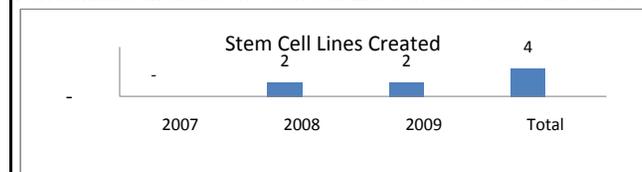


Story behind the baseline: There are thirty-two laboratories supported by this initiative with a wide range of research projects. There are currently forty-five publications. A major component of Stem Cell research will be housed, in a new \$52 million, Cell and Genome Sciences building at the UConn Health Center in Farmington, equipped with the latest technologies for studying stem cells and their genomes. This site will bring together scientists working in stem cells into a cross-disciplinary and collaborative setting. The Cell and Genome Sciences Building will consolidate equipment and staffing resources to coordinate research within and outside the University. Companies which have signed on with Uconn are DRG (Doctors Research Group) - working to utilize stem cells in bone cement products and Crytooth - current product offering is storage and growth of stem cells extracted from tooth pulp for future therapeutics uses, but came to UCONN specifically to begin pursuing research in areas associated with degenerative diseases.

Proposed actions to turn the curve:

Maintain or increase number of employees funded by Stem Cell Research funds which in turn will save jobs in the state of Connecticut or create more jobs.

Performance Measure 3: Stem Cell Lines Created and Publications



Story behind the baseline: Cells in the body are differentiated to perform specific functions. Once formed these cells cannot change function to become a different cell type (i.e., a muscle cell cannot later become a bone cell). In contrast, a stem cell is an undifferentiated cell that has the potential to become any cell type present in the body. However, when the stem cell differentiates into a specific cell, a muscle cell for example, it can no longer differentiate into other cell types. A stem cell line is a specially created population of undifferentiated cells, that can continuously renew themselves and, given proper conditions, are able to become other cell types with specific functions like muscles, neurons, and blood cells. These functional cells can be implanted to the body to replace damaged or diseased muscles, neurons or blood cells. Created stem cell lines can be endlessly expanded, frozen, thawed, and distributed. So they can be available, theoretically, forever. The techniques to produce human embryonic stem cell lines from donated embryos are highly specialized and their derivation has been accomplished.

Proposed actions to turn the curve:

Currently most stem cell lines have been derived and cultured in contact with animal products. We need to derive new stem cell lines under animal-free conditions, so they are biologically safe when used to treat patients. This is a goal of the stem cell core to create these lines.