

Recognizing the Degenerative Aging Process as a Treatable Medical Condition

Statement of Issue: As shown for the US, patients with chronic age-related diseases expend in their last year of life about one third of the total Medicare expenditures (~\$15,000 per person).[i] As of 2004, it was estimated that “75 percent of the \$1.9 trillion spent on health care in the United States stem from preventable chronic health conditions ... but only 1 percent is allocated to protecting health and preventing illness.”[ii] Thus, there is a vital need and urgent development and market expansion strategy for the pharmaceutical industry to provide effective, *preventative* treatments for a variety of aging-related diseases.

- **Early detection and preventative treatment** of aging-related diseases (such as Alzheimer’s disease, type 2 diabetes, cancer and heart disease) belongs in the field of aging research, as degenerative aging can be seen as the main risk factor and often direct cause of aging related diseases [iii, iv, v].
- **Alzheimer’s disease and Cancer.** The savings from early detection and preventive intervention per patient are commonly estimated at several thousand dollars for the developed countries (\$1,000-10,000+ for Alzheimer’s disease,[vi] \$1,000-10,000+ for various forms of cancer [vii]).
- Comparable savings can be expected from the early preventive treatment of **heart disease and type 2 diabetes**. [viii]
- Of over 10,000 diseases and conditions, only about 500 have cures and treatments [ix].

Context: Called a “breakthrough” in bi-partisan politics by former House Speaker Newt Gingrich, the 21st Century Cures Act will, if passed, create a \$1.8 billion fund for cures research and development, and will streamline the FDA approval process for new treatment.[x] **Recently, the FDA approved the testing of Metformin, a decades-old diabetes medication, as the first drug to treat aging, due to its capacity to reduce by 30% all cancers in users.** [xi]

Comparison: Widespread federal focus on cancer as a treatable disease in the 1970s significantly improved patient options and survival rates. At that time, only 1 of 2 cancer victims could expect to live beyond five years; now, that rate is 2 of every 3. These rates were directly related to a shift from a reactionary, surgical model to a preventative, pre-screening model. [xii]

Policy Recommendation:

A mandate for the inclusion of *Degenerative Aging as a recognized and treatable medical condition*. This includes the systemic factors that contribute to disease and frailty.

- **Advantages:** Would enable the existing legal framework to better tackle diseases and conditions that arise from the aging process from a **preventative** healthcare model.
- Pharmaceutical industry can develop for market quickly new and existing preventative medications, like Metformin that decrease long-term healthcare costs.

- Would open up new public funding for new pharmaceutical research and development.

Sources:

[i] Barnato A.E., McClellan, M.B., Kagay, C.R., Garber A.M., 2004. Trends in Inpatient Treatment Intensity among Medicare Beneficiaries at the End of Life. *Health Serv Res.* 39(2), 363–376

[ii] National Committee for Quality Assurance. Executive Summary. *The State of Health Care Quality 2004*. Washington, D.C.: National Committee for Quality Assurance; 2005. Quoted in C-Change. *Collaborating to Conquer Cancer. Making the Business Case: How Engaging Employees in Preventive Care Can Reduce Healthcare Costs* Spring 2008.

[iii] Rae, M.J., Butler, R.N., Campisi, J., de Grey, ADNJ., Finch, C.E., Gough, M., 2010. The demographic and biomedical case for late-life interventions in aging. *Sci. Transl. Med.* 2, 40cm21 <http://stm.sciencemag.org/content/2/40/40cm21.full>

[iv] Stambler, I., 2014. The unexpected outcomes of anti-aging, rejuvenation and life extension studies: an origin of modern therapies. *Rejuvenation Res.* 17(3), 297-305. <http://online.liebertpub.com/doi/abs/10.1089/rej.2013.1527>

[v] Jin, K., Simpkins, J.W., Ji, X., Leis, M., Stambler, I., 2015. The critical need to promote research of aging and aging-related diseases to improve health and longevity of the elderly population. *Aging Dis.* 6, 1-5 <http://www.aginganddisease.org/EN/10.14336/AD.2014.1210>

[vi] Alzheimer's Disease International. *World Alzheimer Report 2011. The benefits of early treatment and intervention*. Prof Martin Prince, Dr Renata Bryce and Dr Cleusa Ferri. Institute of Psychiatry, King's College London.

[vii] C-Change. *Collaborating to Conquer Cancer. Making the Business Case: How Engaging Employees in Preventive Care Can Reduce Healthcare Costs* Spring 2008.

[viii] Chau, D., Edelman, S.V., 2001. Clinical management of diabetes in the elderly. *Clin. Diab.* 19, 172-175.

[ix] National Association of Chronic Disease Directors. *Why We Need Public Health to Improve Healthcare* <http://www.chronicdisease.org/?page=WhyWeNeedPH2impHC> (accessed 2015)

[x] U.S. House of Representatives, Energy and Commerce Committee. July 2, 2015. H.R. 6, the 21st Century Cures Act: Frequently Asked Questions



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<http://energycommerce.house.gov/fact-sheet/hr-6-21st-century-cures-act-frequently-asked-questions>

[xi] Macdonald, F., 1 Dec, 2015. A common diabetes drug will be trialled as an anti-ageing elixir from next year. Research suggests it could help people live to 120. [Science Alert](http://www.sciencealert.com/a-common-diabetes-drug-will-be-trialled-as-an-anti-ageing-elixir-from-next-year)
<http://www.sciencealert.com/a-common-diabetes-drug-will-be-trialled-as-an-anti-ageing-elixir-from-next-year>

[xii] American Cancer Society. 2014. The History of Cancer
<http://www.cancer.org/acs/groups/cid/documents/webcontent/002048-pdf.pdf>