

Senate Standing Committee on Economics
ANSWERS TO QUESTIONS ON NOTICE
Industry, Innovation, Science, Research and Tertiary Education Portfolio
Additional Estimates Hearing 2011-12
15 February 2012

AGENCY/DEPARTMENT: COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

TOPIC: Preventative Health Flagship

REFERENCE: Written Question –Senator Bushby

QUESTION No.: AI-104

What does CSIRO consider have been the most tangible, practical achievements of the Preventative Health Flagship over the course of its existence?

ANSWER

There have been numerous achievements and impacts from the work of the Preventative Health Flagship. The following are a small number of selected highlights.

- **A new blood test for bowel cancer:** Now under development and currently being tested in patients. This new test is based on newly discovered gene expression profiles and patterns of DNA methylation associated with non-malignant precursors to bowel cancers.
- **Colonoscopy simulator:** This new device enables trainees to interact with accurate computer-based simulations of the human colon. This simulator allows trainees to acquire a higher level of expertise in this complex procedure prior to entering on-patient training. The software technology has been licensed to a Swedish company which develops medical training tools.
- **A major study of Alzheimer's disease:** The Australian Imaging, Biomarker and Lifestyle Flagship Study of Ageing (AIBL) is now viewed globally as a major resource for Alzheimer's research. The Flagship, with its AIBL collaborators, has developed an early detection / prognostic measure for Alzheimer's disease including blood and imaging biomarkers, as well as an evidence-based clinical classifier for Alzheimer's disease.
- The success of the original **CSIRO Total Wellbeing Diet** (Books 1 & 2) has been followed by:
 - “The CSIRO Total Wellbeing Diet recipe book” - offering a new exercise program and new recipes to accompany the CSIRO Total Wellbeing Diet books.
 - “The CSIRO Healthy Heart Program” - covering practical ways to maintain a healthy diet and lower cholesterol levels, with an exercise program for overall wellbeing.
 - “The CSIRO and Baker IDI Diabetes Diet and Lifestyle Plan” - covering every aspect of type 2 diabetes prevention and control (together with the Baker IDI Heart and Diabetes Institute).
 - “The CSIRO Wellbeing Plan for Kids” book - a step-by-step plan for assisting parents to provide their children with a healthy start to life.

- **Increased participation rates in the National Bowel Cancer Screening Program (NBCSP):** Together with partners, the Flagship showed that a pre-notification letter sent two weeks prior to receipt in the mail of the formal invitation to take part in the NBCSP and the accompanying home-test package could increase rates of screening participation from 39.5% to 48.3%. A pre-notification letter is now included in the standard NBCSP invitation process.
- **Advances in Alzheimer’s disease:** Solved the first structure of the amyloid beta protein – the protein thought to initiate Alzheimer’s disease. This work is a vital step towards understanding why the protein accumulates in the brain of Alzheimer’s disease patients. This protein forms the toxic plaques which are thought to disrupt connections within the brain, causing reduced neuron function and memory loss associated with the disease. The Flagship hopes to utilise this structure to identify molecules that could slow or inhibit the progression to Alzheimer’s disease.
- **The CSIRO Wellbeing Plan for Kids book:** Undertook the most comprehensive survey ever taken of Australian children’s diet and activity for the Commonwealth Department of Health and Ageing, together with the University of South Australia researchers, in children between the ages of two to 16. Following from this research, the Flagship and Penguin Publishing released “The CSIRO Wellbeing Plan for Kids” book - a step-by-step plan for assisting parents to provide their children with a healthy start to life.
- **Created and delivered the “Get set 4 Life – habits of healthy kids” guide:** Developed for the Commonwealth Department of Health and Ageing, this book is distributed to parents of four year olds as part of the four year old health check.
- **Experimental biomarker based stroke clock:** This new tool, developed with collaborators, is currently being assessed in humans.
- **Reducing Cholera symptoms:** Demonstrated in an animal model that CSIRO’s *Starplus* reduces cholera symptoms more effectively than the best currently available treatments. This is now being trialled in a human clinical study.

In addition, as part of a review of CSIRO’s impact in 2010 ACIL Tasman undertook an analysis of the National Research Flagship program. A copy of the full ACIL Tasman report is available on the CSIRO website at: <http://www.csiro.au/en/Portals/About-CSIRO/How-we-work/Budget--Performance/Performance-reviews/Impact-and-Value-2010.aspx>.