



## **FROM INTERVENTION TO PREVENTION: AVOIDING UNNECESSARY DEMENTIA AND COSTS**

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### **Background: Herzog Medical Center**

The Herzog Medical Center in Jerusalem, established 123 years ago, is Israel's leading center for Geriatric and Respiratory Healthcare and a world recognized center for treatment of Mental Health and Psychotrauma. It has grown from a two-bedroom shelter to a 330-bed hospital and recently construction was completed on a new Medical Pavilion which includes six floors with an additional 270 beds.

Current Areas of expertise are: (with twelve different medical departments).

- Treatment of neurological disorders, including Parkinson's and Alzheimer's diseases and dementia.
- Geriatric Physical Rehabilitation and Occupational Therapy - caring for patients recovering from orthopedic surgery and strokes.
- Chronic Respiratory Care - providing specialized medical services for respirator-dependent adults, adolescents, and children.
- Complex Nursing Care - treating older adults in need of sustained support and dialysis.
- Mental Health Care - treating the full range of mental disability for people of all ages serving over 2,000 clients on an inpatient and outpatient basis monthly.
- Psychotrauma Treatment - treating and researching the wide-ranging effects of Post-Traumatic Stress Disorder (PTSD) following personal or communal tragedy.
- Medical Research - specializing in the study of diseases of the brain.

It is Herzog's excellence and commitment to leadership in these and other disciplines that have enabled its expertise and advanced approaches to reach far beyond Israel's borders.

## **The Dementia Epidemic Threat**

The dementia epidemic is one of the biggest threats to society. This looming medical, economic, social and ethical threat is projected to triple itself within the aging population of the world by 2050. Dementia is a progressive decline in mental ability, affecting memory, thinking, judgment, attention span and learning.

Although dementia usually develops after the age of 60, it is not a natural part of aging. The most common type of dementia results from Alzheimer's disease. The exact cause of Alzheimer's disease remains unclear. Alzheimer's disease begins slowly, and get progressively worse over time. There is a gradual decline in memory, the ability to keep track of time, and the ability to recognize people, places and objects. It becomes more and more difficult to find and use the appropriate words. There are often changes in personality and behavior as well.

## **The Soaring Costs**

Around the world, there are 34 million victims of Alzheimer's and other types of dementia; five to six million of them live in the United States and about 100,000 in Israel. But many post –World War II Baby boomers, now entering retirement, are likely to live into their 90s, meaning that Alzheimer's will become an even more severe problem unless something is done to stop or prevent it. The worldwide cost of caring for dementia patients is estimated at over \$400 billion a year, more than \$10 billion in Israel alone. The cost of treating a dementia patient ranges between \$45,000 and \$70,000 annually.

## **The Good News: Prevention**

The good news is that a lot can be done to prevent this growing threat through the prevention of dementia. This can be done by early detection and treatment of risks factors for dementia. Epidemiological studies show that most deaths and disease states, including dementia, can be prevented. Health lifestyle practices have been linked to a reduced risk for heart disease, stroke, dementia, type 2 diabetes and more. Some studies suggest even an 80% lower risk for these conditions among those following healthy lifestyle practices compared with those who don't. Risk factors for dementia include mid-life obesity, hypertension, diabetes, physical inactivity, polypharmacy (too many medications), cognitive inactivity, smoking, alcoholism, head trauma, depression, loneliness and meaninglessness, stress, and deafness.

Psychosocial risk factors have been shown to have a more robust effect on dementia than biomedical risk factors. So naturally they should be the favored target in prevention, possibly through enhancing occupational wellbeing.

A recent study shows that seven healthy lifestyle modifications can prevent 50% of new dementia cases thus saving \$150 billion per year.

## **Health-oriented Medical System**

These findings show that we may be on the verge of creating health systems that can deliver higher quality healthcare based more on prevention (health-oriented medical system) instead of the intervention based system, thus avoiding unnecessary illness and lowering soaring healthcare costs. This can be achieved simply through the reverse of physician incentive by reimbursement for early prevention measures and not only for late interventions and therapy. Patients can also be motivated toward prevention by bonuses on healthcare costs for healthy lifestyle modifications

## **We Can Make the Change: Proof of Concept**

To date, no study has proven that dementia risk factors, identification and treatment, can prevent dementia and related disease. Our proposed research project aims at identifying a cohort of individuals in the community who have risk factors for dementia but do not have dementia. They will be identified through a community survey.

This study is being piloted by Herzog Hospital in two selected neighborhoods in Jerusalem. In one neighborhood, those who are identified as having dementia risk factors but are dementia-free, will be invited to participate in an assessment and risk reduction consultation by a medical team and followed for five years. The medical team will be reimbursed for the risk reduction consultations. A control group in another neighborhood will only be assessed, followed and will continue their regular medical treatment. Outcome of both groups will be assessed and compared. We hypothesize that the group with the risk reduction consultation will develop less dementia thus saving costs in the long run.

We at Herzog recognize that we need to be proactive rather than reactive in dementia prevention. High risk individuals living at home will be identified through hi-tech apps that will transmit the information to the medical team. With this information a community based multi-disciplinary medical team will work with the individual, focusing on risk factor modification and reduction.

A key factor is improving occupational well-being through job enhancement and/or retraining. This can prevent major risk factors, previously mentioned, such as meaninglessness, loneliness, low cognitive stimulation, stress and depression.

The World Health Organization defines health as:

***“A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”***

### **How you can help Herzog Hospital:**

- Introduce Herzog to like-minded individuals by helping to organize or host a parlor meeting.
- Introduce Herzog to members of your local medical community and other health related disciplines.
- Visit Herzog on an upcoming trip to Israel
- Become a member of the Board of Canadian Friends of Herzog
- Many gifting and dedication opportunities are available.

**For further information please contact Jerry Solomon, Director of Special Projects,  
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