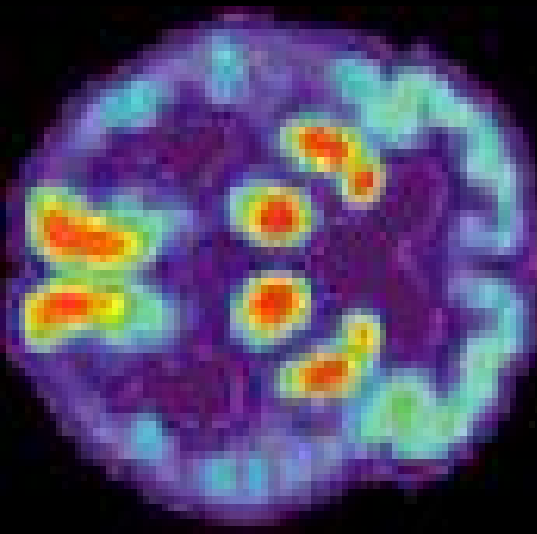
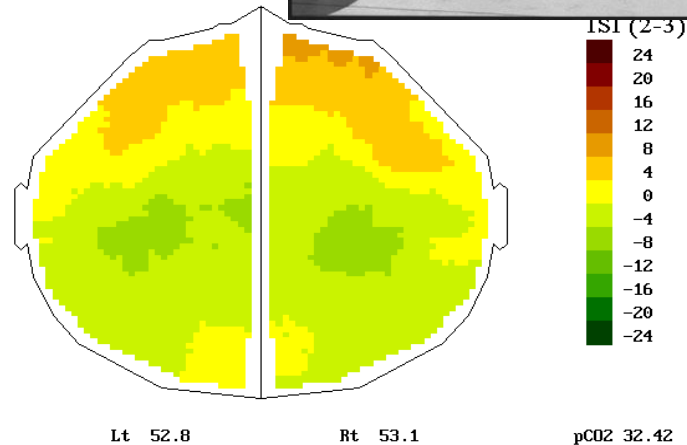


# The Future of Psychogeriatrics



# Gazing into the crystal ball: likely trends in service delivery over the next 20 years

Brian Draper  
Pam Melding  
Henry Brodaty



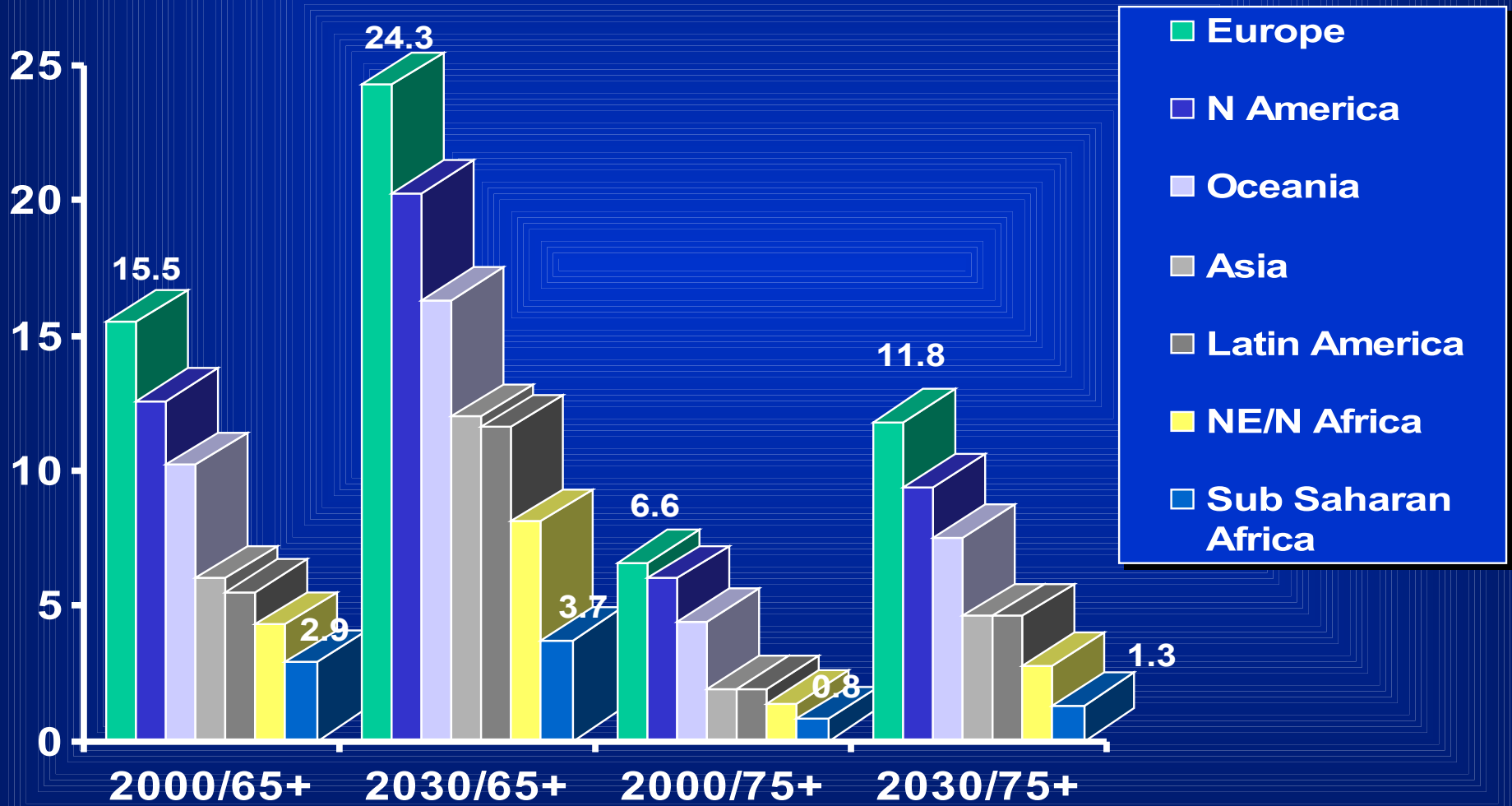
# Outline

- **Impact of an Ageing World**
  - **Developed countries**
  - **Developing Countries**
- **Consumer and Carer Involvement**
- **Resource availability – Funding models**
- **Increased Knowledge about Best Practice in Service Delivery**
- **Scientific and Technological Advances**
- **Ethical issues**

# Impact of an ageing world: percent elderly by age - 2000 to 2030

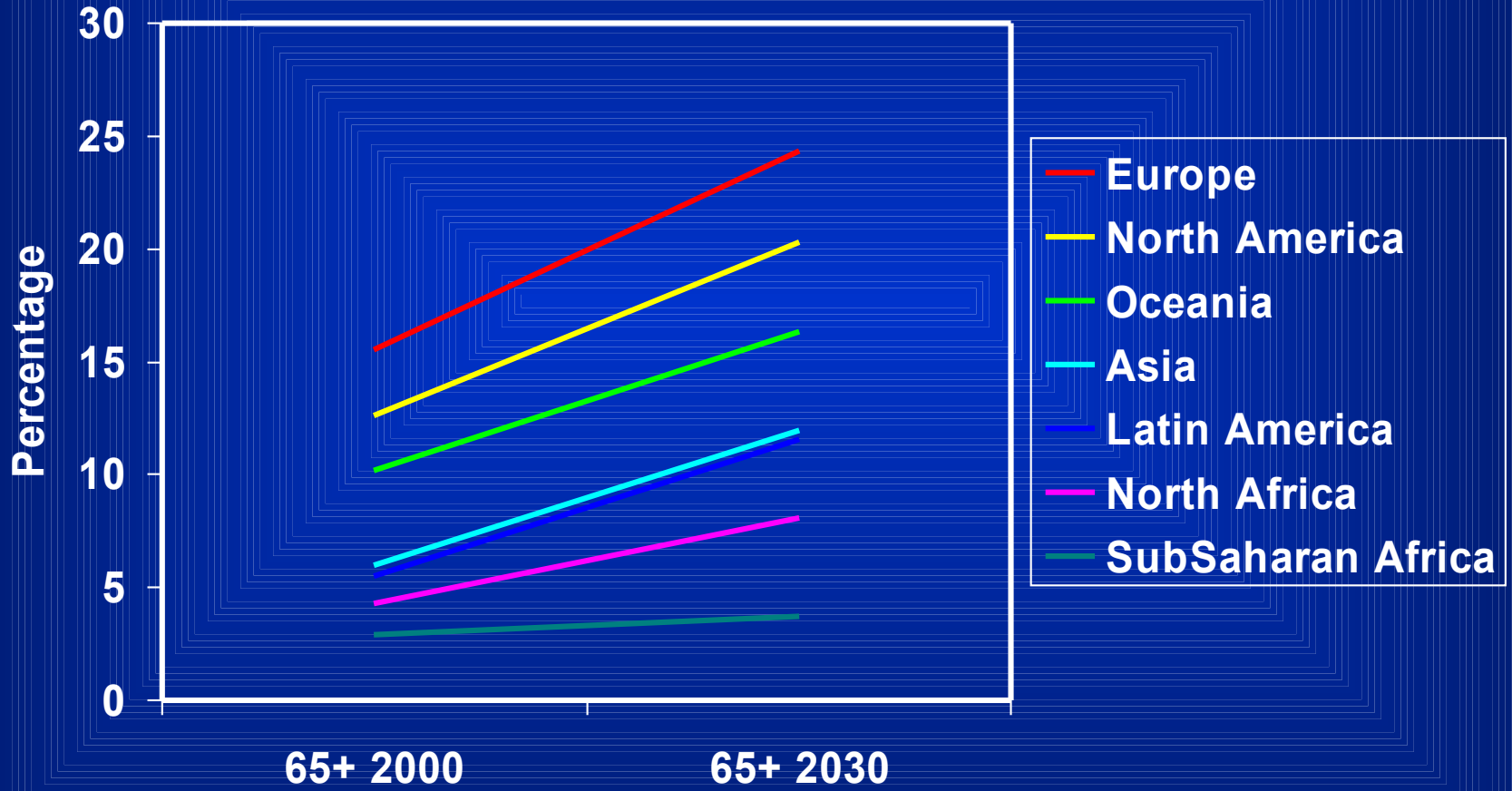
Region	Age	2000	2030
Europe	65+	15.5	24.3
	75+	6.6	11.8
North America	65+	12.6	20.3
	75+	6.0	9.4
Oceania	65+	10.2	16.3
	75+	4.4	7.5
Asia	65+	6.0	12.0
	75+	1.9	4.6
Latin America	65+	5.5	11.6
	75+	1.9	4.6
North East/North Africa	65+	4.3	8.1
	75+	1.4	2.8
Sub-Saharan Africa	65+	2.9	3.7
	75+	0.8	1.3

# Impact of an ageing world: percent elderly by age - 2000 to 2030

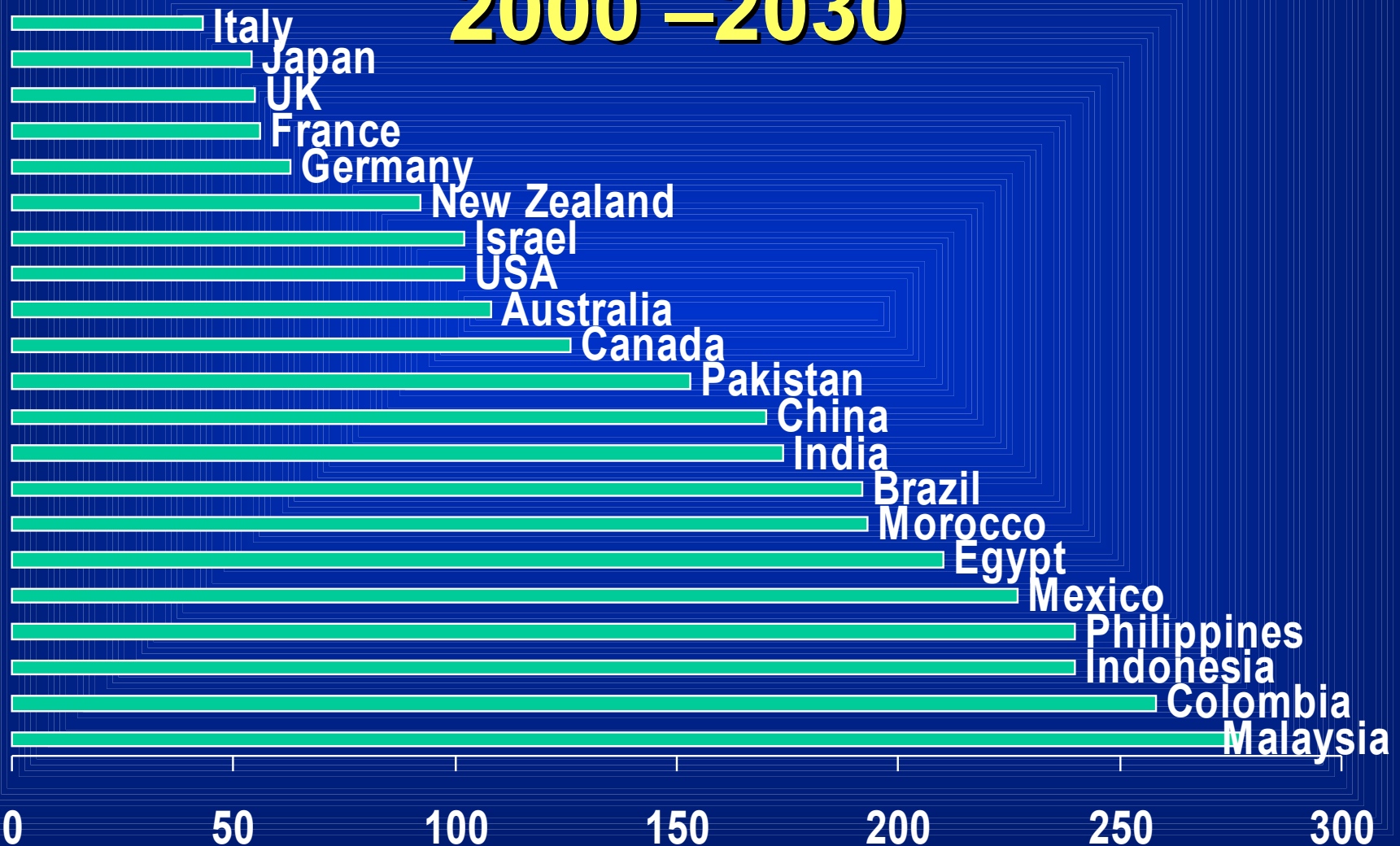


US Census Bureau, 2001

# Impact of an ageing world: Percent elderly by age, 2000 - 2030



# Percent increase in elderly population in selected countries 2000 – 2030

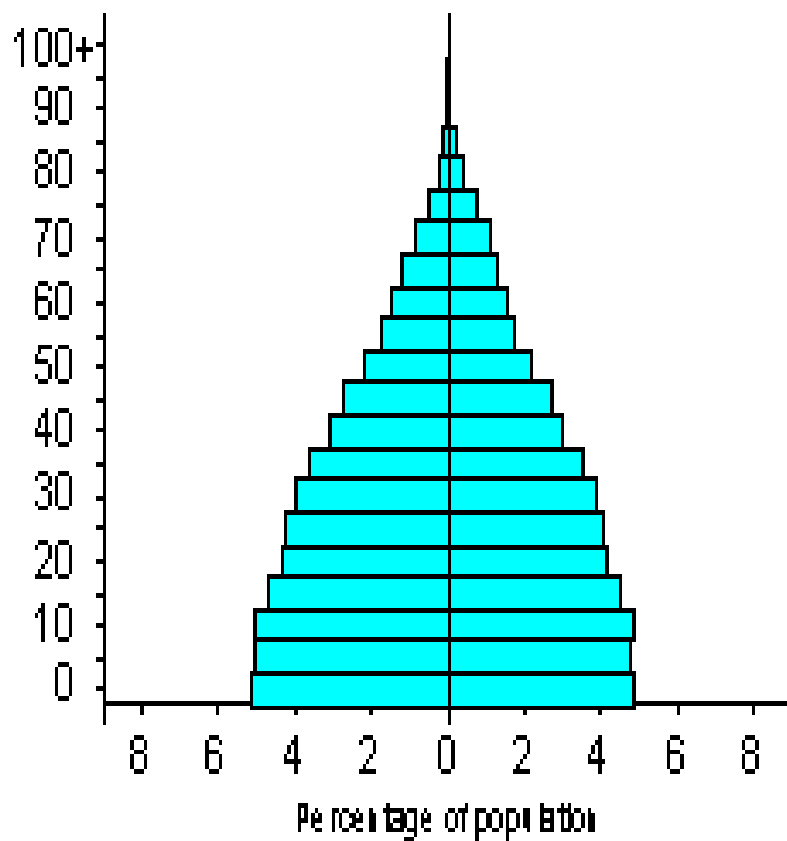


# Greying of the world 2000-2050

World

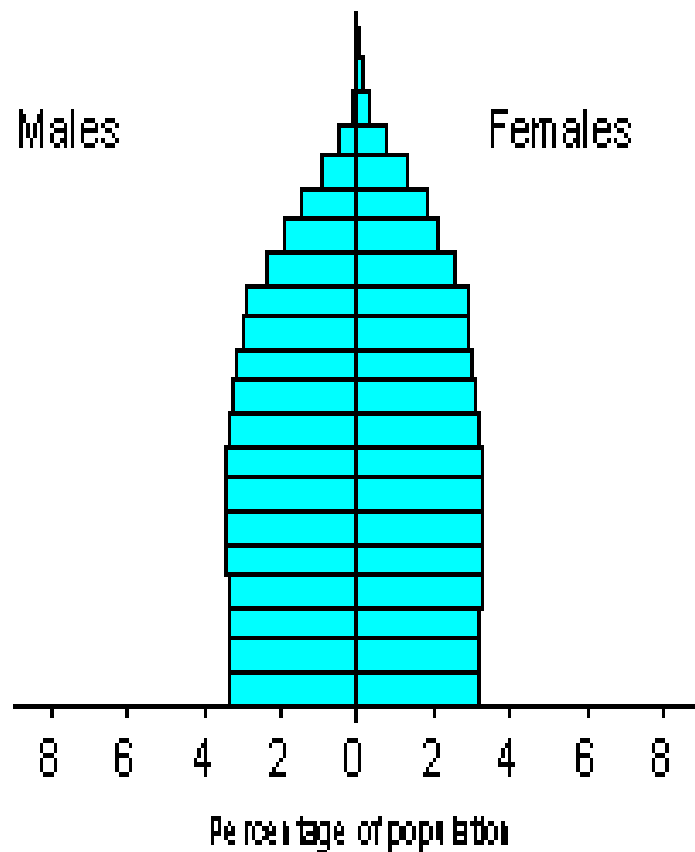
2000

2050

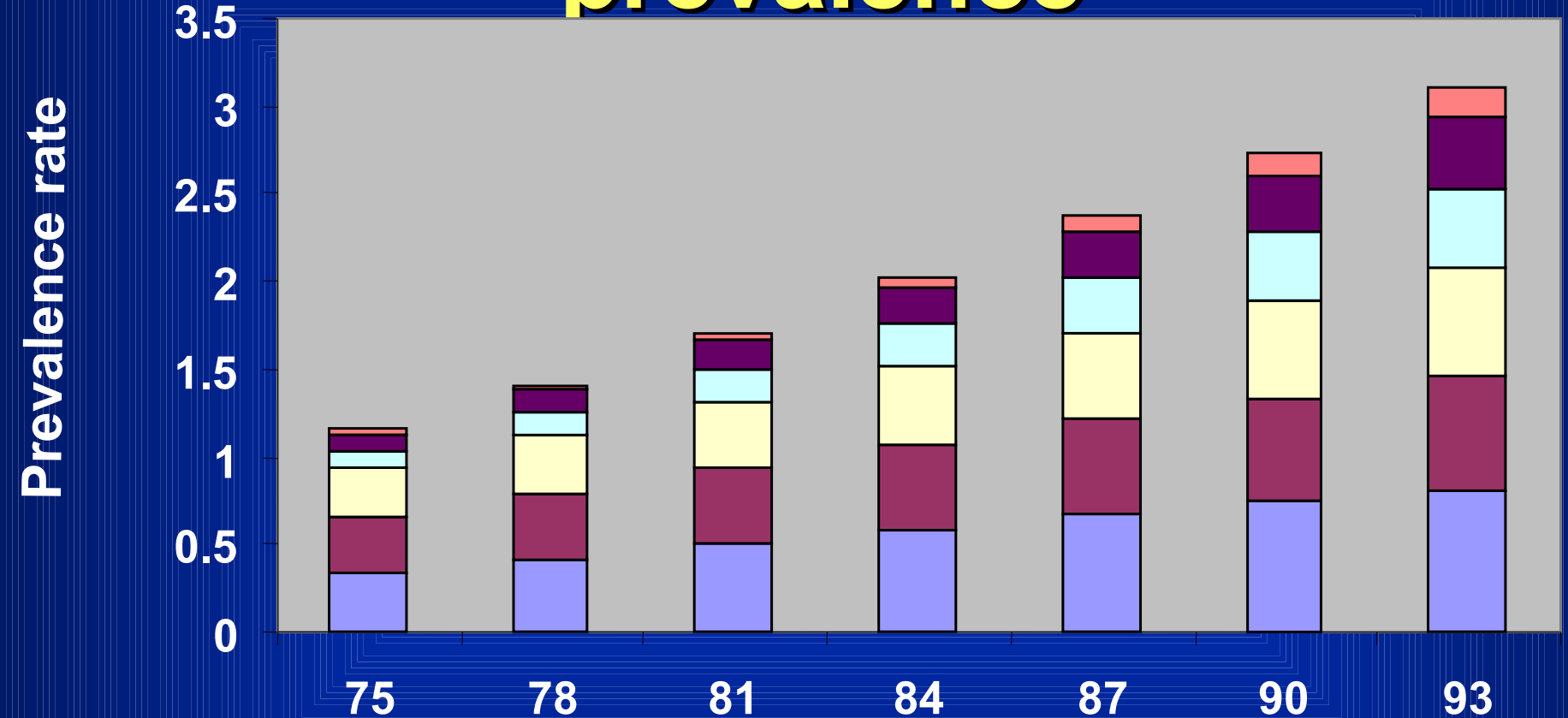


Males

Females



# Neurodegenerative disorders: prevalence



- Parkinsonism\*\*
- Dementia\*\*
- Motor Slowing (excl. Park.)\*\*
- Cognitive Impairment (excl. Dem.)\*\*
- Vision\*\*
- Ataxia\*\*

(N=522. Age trends: \*  $p < 0.05$ ;  
\*\*  $p < 0.01$ ) Broe GA

# Disease transition

(Broe & Creasey 1995)

*Infectious*  
19<sup>th</sup> C

Typhoid

Cholera

Dysentery

Small Pox

Tuberculosis

Influenzas

*Systematic*  
20<sup>th</sup> C

Heart Diseases

Vascular/Stroke

Hypertension

Obesity

Diabetes

Lung Diseases

Cancer

*Brain*  
21<sup>st</sup> C

Alzheimer's D.

Parkinson's D.

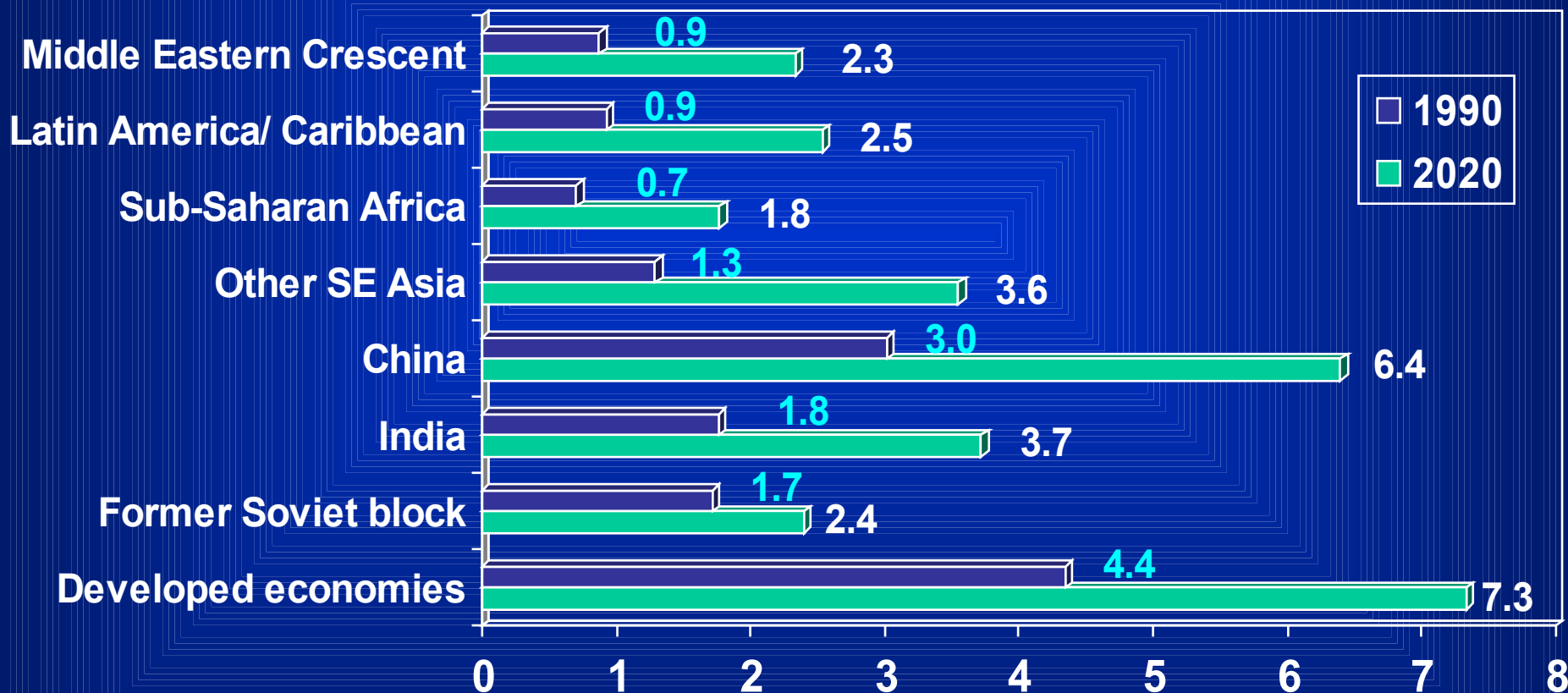
Other dementias

Gait slowing

Gait ataxia

Macular  
degeneration

# Projected increase in millions of people with dementia by world region - 1990-2020



# Life expectancy in 2000-02 (Australia)

	Birth	30yrs	65yrs
Males	77.9	78.8	82.4
Females	83.0	83.4	85.8

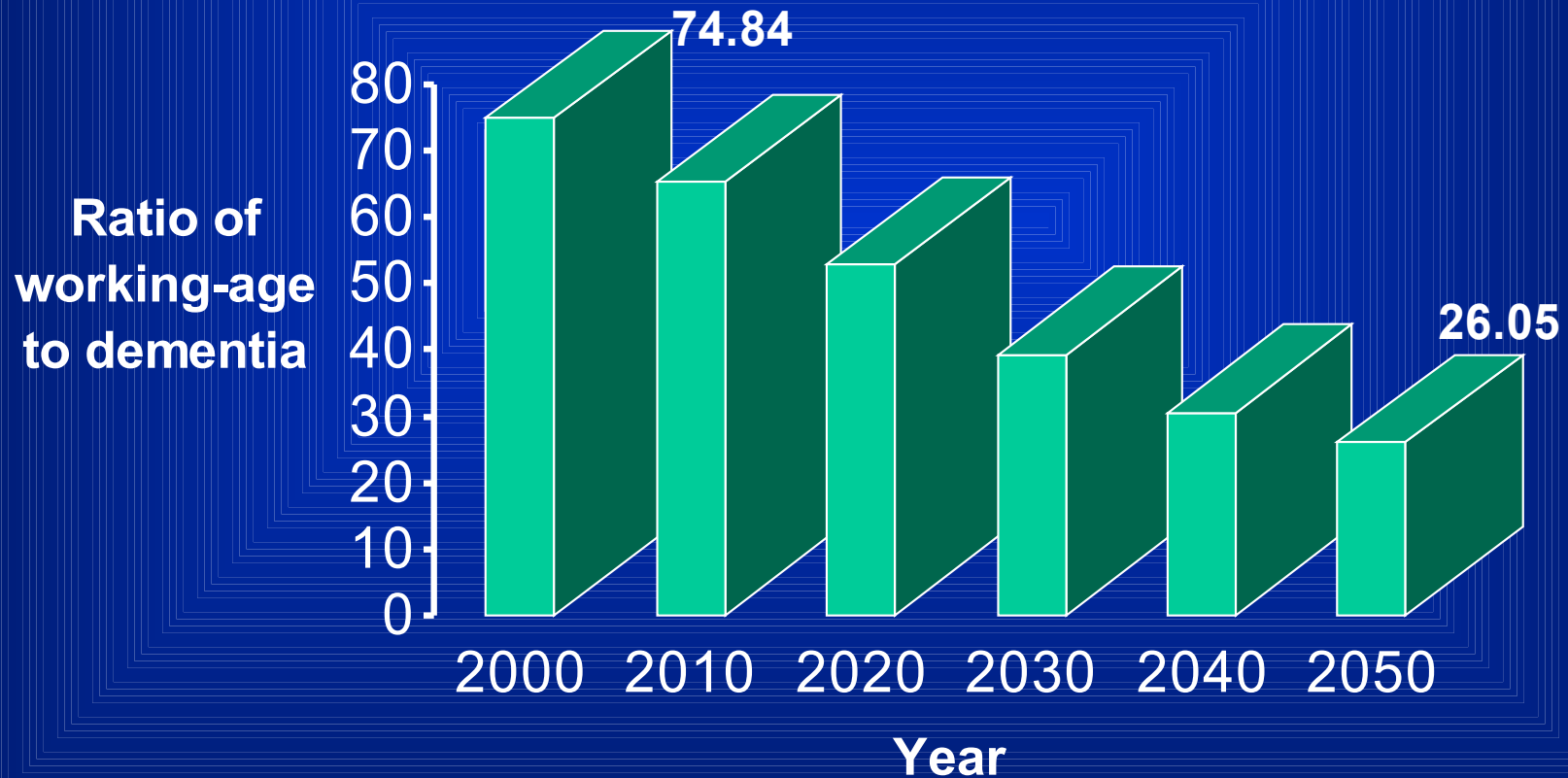
<http://www.aihw.gov.au/mortality/faqs.cfm>

# Life expectancy at birth - Australia

(Assuming current trend continues)

	2020-2021	2050-2051
Males	83.2	92.2
Females	87.5	95.0

# Number of working-age persons per one person with dementia 2000-2050



# Challenges for developed countries



- How will existing specialist or secondary services (psychogeriatric, adult mental health or aged care services) cope with the increased workload?

# Challenges for developed countries

This will be influenced by:

- expectations and demands of consumers (baby boomers)
- resource availability
- effects of technological advances
- **↑ knowledge of best practice in service delivery**
- cohort effects in population ageing

# Challenges for developing countries



- **With the limited assistance of secondary or tertiary services, how will existing primary health services, cope with rapid population ageing?**

# Challenges for developing countries

- Suggested strategies<sup>1</sup>
  - ↑ public awareness
    - appropriate research quantifying extent of the problems for patients and carers
    - development of specialist centres of excellence at regional or national levels
    - development of comprehensive community-based primary care at a local level
    - regulated residential care

<sup>1</sup>Prince & Trebilco 2005 Int Psychgeriatrics 13: 389-93

# Consumer and carer involvement



- ✂️ ↑ Involvement in service planning and administration
- ✂️ ↑ Transparency of decision-making
- ✂️ ↑ Attention to patient and consumer rights → balance between autonomy and paternalism

# **Consumer and carer involvement - coalface service delivery**

*Existing, innovative programs will become commonplace*

- **‘Living with Memory Loss’ - 7 week carer support and training programs now available throughout Australia demonstrate ↓ carer stress and ↑ patient outcomes<sup>1</sup>**
- **Delirium prevention programs staffed by volunteers are being evaluated in Australia and elsewhere**

<sup>1</sup>Brodaty & Gresham 1989 BMJ 299 (6712): 1375-9

<sup>2</sup>Inouye et al 1999 NEJM 340: 669-76

# Resources – funding implications

- Increase in costs of old age mental disorders
  - in Australia dementia costs  $\cong$  1% of GDP now  $\rightarrow$  3% by 2040 (Access Economics, 2003)
- To maintain the status quo, services will have to increase or be delivered more efficiently and/or the demand for services will need to decrease.

# Funding Models<sup>1</sup>

*The following features may be important in an optimal model:*

- **integration of mental health and general medical services to enable collaborations between primary care, aged care and psychogeriatrics**
- **integration of hospital and community care to form a comprehensive model of acute and long-term care;**

<sup>1</sup>Bartels et al 1999 Psychiatric Services 50:1189-97

# Funding models <sup>ctd</sup>

- **capitated care arrangements to contain costs and to encourage use of cost-effective services**
- **reallocation of expenditures to support home and community-based alternatives to long-term care**

# **Funding models** <sup>ctd</sup>

- **risk adjustment strategies that account for the huge costs associated with comorbid physical and mental disorders in old age**
- **ensuring accountability, advocacy and outcomes.**

# Outcomes-based funding



- Funding related to demonstration of quality care outcomes
- Viable funding models for smaller nursing homes → ↓ levels of behavioural disturbance
- Routine measurement of clinical outcomes e.g. HoNOS 65+ → significant clinical improvement<sup>1</sup>

<sup>1</sup>Spear et al 2002 Int J Geriatric Psychiatry 17: 226-230

# Workforce issues

✂️ ⬆️ Demand and supply for private psychogeriatricians

✂️ ⬆️ Use of nurse practitioners

- Better training and specialisation of primary care practitioners
- Current worldwide shortage of psychogeriatricians likely to continue



# **Impact on psychogeriatric services**

- **Services with a frontline role in early diagnosis, prevention and treatment of AD → increasing demand**
- **Partial usage of effective AD treatments likely due to high costs and ignorance of availability**
- **50% penetration in the next 30 years → approx same number of untreated AD patients as today**

# **Best-practice in service delivery**

- **Extension of population based approaches aiming to reduce community's level of depression e.g. Lewellyn-Jones et al 1999<sup>1</sup>**
- **Increase in use of treatment guidelines to improve care outcomes - little evidence of effectiveness in old age mental health as yet**

<sup>1</sup>Lewellyn-Jones et al 1999 BMJ 319:676-82

# Advances in depression treatment<sup>1</sup>

*Novel approaches involving new potential therapeutic targets include modulation of :*

- neuropeptide (e.g. substance P)
- N-methyl-D-aspartate, nicotinic acetylcholine, dopaminergic, glucocorticoid, delta-opioid, cannabinoid and cytokine receptors
- GABA and intracellular messenger systems
- transcription, neuroprotective and neurogenic factors

<sup>1</sup>Pacher & Kecskemeti 2004 Current Medicinal Chemistry 11;7: 925-43

# Advances in depression treatment <sup>ctd</sup>

- **Magnetic Seizure Therapy (MST) currently being evaluated as an alternative to ECT that may be more acceptable to the consumer, with ↓ expense and adverse effects due to not requiring anaesthesia<sup>1</sup>**
- **Repetitive Transcranial Magnetic Stimulation (TMS)<sup>2</sup>**
- **Vagus Nerve Stimulation<sup>3</sup>**

<sup>1</sup>Lisanby et al 2003 Neuropsychopharmacology 28;10: 1852-65

<sup>2</sup>Padberg & Moller 2003 CNS 17;6: 383-403

<sup>3</sup>Sackheim et al 2001 Neuropsychopharmacology 25;5:713-28

# Scientific knowledge and technological change

- **Reliable presymptomatic diagnosis of AD with a combination of peripheral biomarkers, neuroimaging and cognitive assessment possible within 15 years**
- **Interventions may be available to prevent and treat AD within 20-30 years**
- **Combination therapies to halt neuropathology**



- secretase inhibitors
- beta-amyloid vaccination
- replace damaged cells e.g. stem cell grafts, gene therapy

# Scientific knowledge - Genetics

✂️ ↑ Prediction of risk for particular disorders

✂️ ↑ Prediction of particular symptoms eg psychosis, aggression assoc<sup>d</sup> with specific genetic polymorphisms within a disorder<sup>1</sup>

<sup>1</sup>Sweet et al 2001 Int Psychgeriatrics 13:401-9

# Life-style change may reduce rates of dementia

- **Education**

  **Physical, mental and social activities**

- **Rigorous control of hypertension**

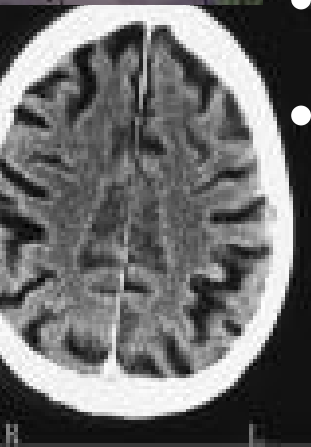
- **Prevention and ? > assiduous treatment of diabetes**

- **Use of anti-oxidants**

  **Cardiovascular risk factors**

# Information technology

- Widespread use of electronic medical records involving multidisciplinary team, family, patients and other care providers in coordinating data<sup>1</sup>
- Handheld PCs
- Telepsychiatry
- Routine computerised cognitive testing

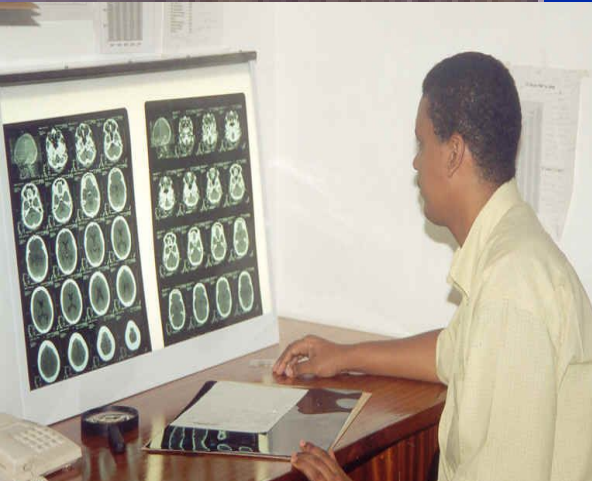


<sup>1</sup>Nebeker et al 2003 J of Gerontology Series A 58:9:M820-5

# Neuroimaging<sup>1</sup>

- Accurate diagnoses more crucial as efficacy of therapeutic agents for specific dementias confirmed
- PET may come to the forefront as a diagnostic and prognostic tool
- Preclinical or early stage diagnoses more important if agents found to delay dementia onset
- More sensitive functional imaging techniques and subtraction MRI likely to play **↑** monitoring role

<sup>1</sup>Petrella et al 2003 Radiology 226;2:315-336



# Ethical Issues

- Resource allocation based upon chronological age alone is regarded as a social value judgement – ageism
- The Oregon Health Plan is a good example that prioritises funding for health care not explicitly by age but through systematic and public ranking of medical services into nine ‘essential services’
  - four ‘very important services’
  - four ‘services valuable to certain individuals’ categories<sup>1</sup>
  - Few PG services would currently qualify in the top rank ‘essential services’

<sup>1</sup>Oberlander et al 2001 Canadian Med J 164;11:1583-7

# **Ethical Issues** <sup>ctd</sup>

- **Euthanasia and physician-assisted suicide – more widespread support in the future?**

# Conclusions

- **Developments in pharmacology, molecular biology, neuroimaging, diagnostics and other novel treatment modalities are exciting.**
- **Unless there are spectacular discoveries, the most important development affecting the mental health of older people will be in how services are financed, organised and delivered**
- **The challenge of psychogeriatrics is that it is so broad**

**Molecule**

**Gene**

**Neuron**

**Person**

**Family**

**Community**

**Economy**

**Population**

**The future of  
psychogeriatrics  
is at all  
these levels**



# PSYCHOGERIATRICS

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THE END