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Social and demographic change and long-term care demand

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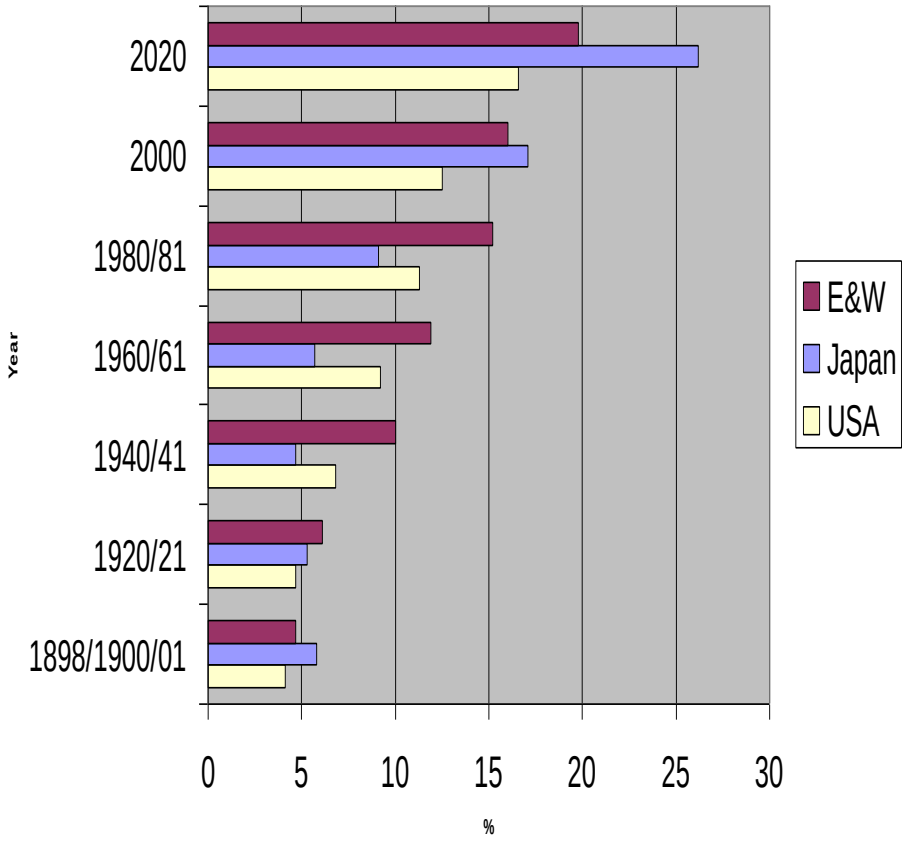
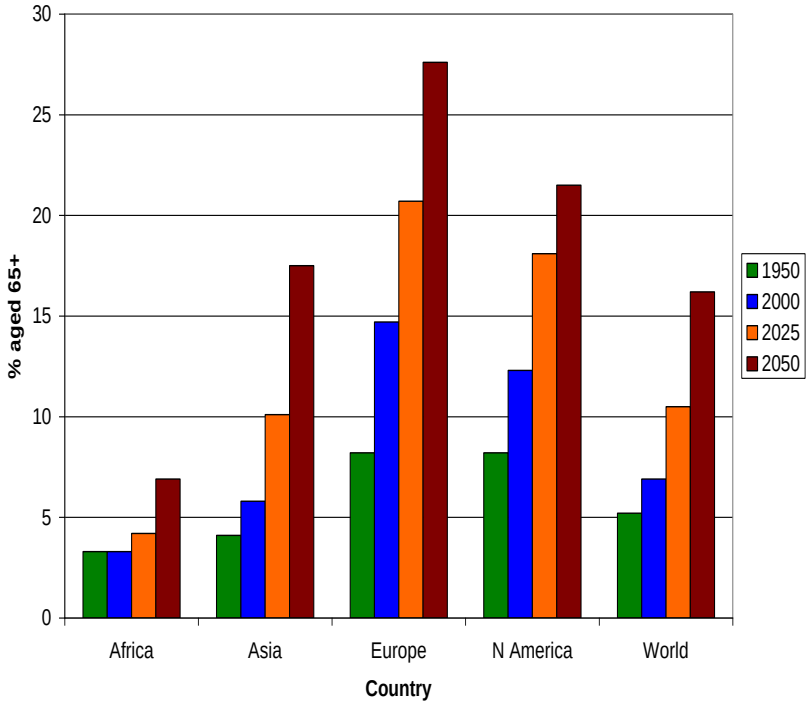
Outline:

- Demographic change:
  - Population ageing and numbers and proportions of older old
  - Availability of spouse and children
- Social change and variation: Living arrangements and family support
- LTC demand: compression of morbidity and end of life arguments
- Conclusions and discussion

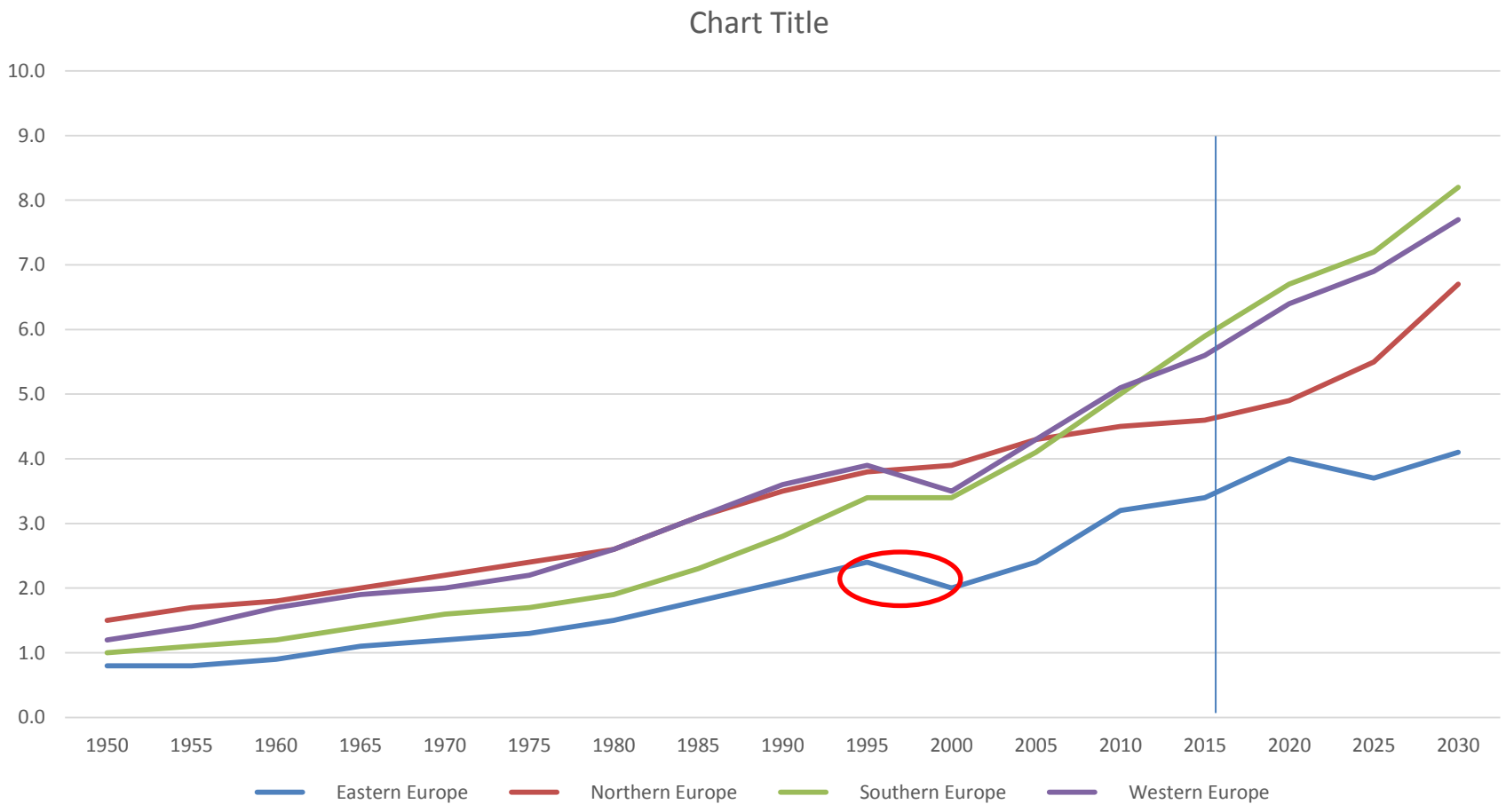
% of the population aged 65 and over, Japan, E&W, and the USA, 1900-2020



Proportion of the population aged 65 and aged by world region, 1950-2050

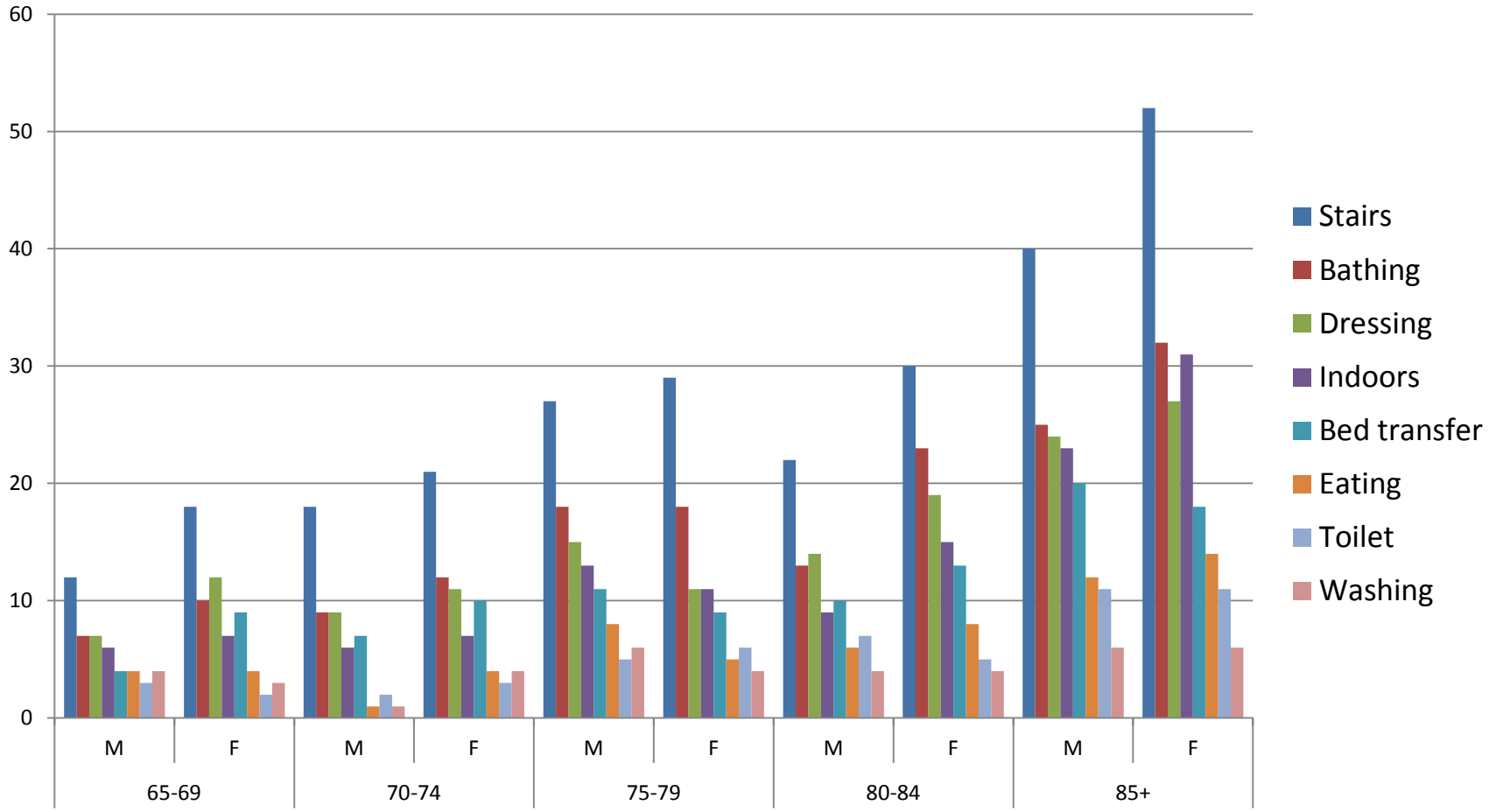


Percent of the population aged 80+, regions of Europe, 1950-2030



Source: UN World Population Prospects, the 2015 revision

% of older people needing help with specified ADLs, England 2014



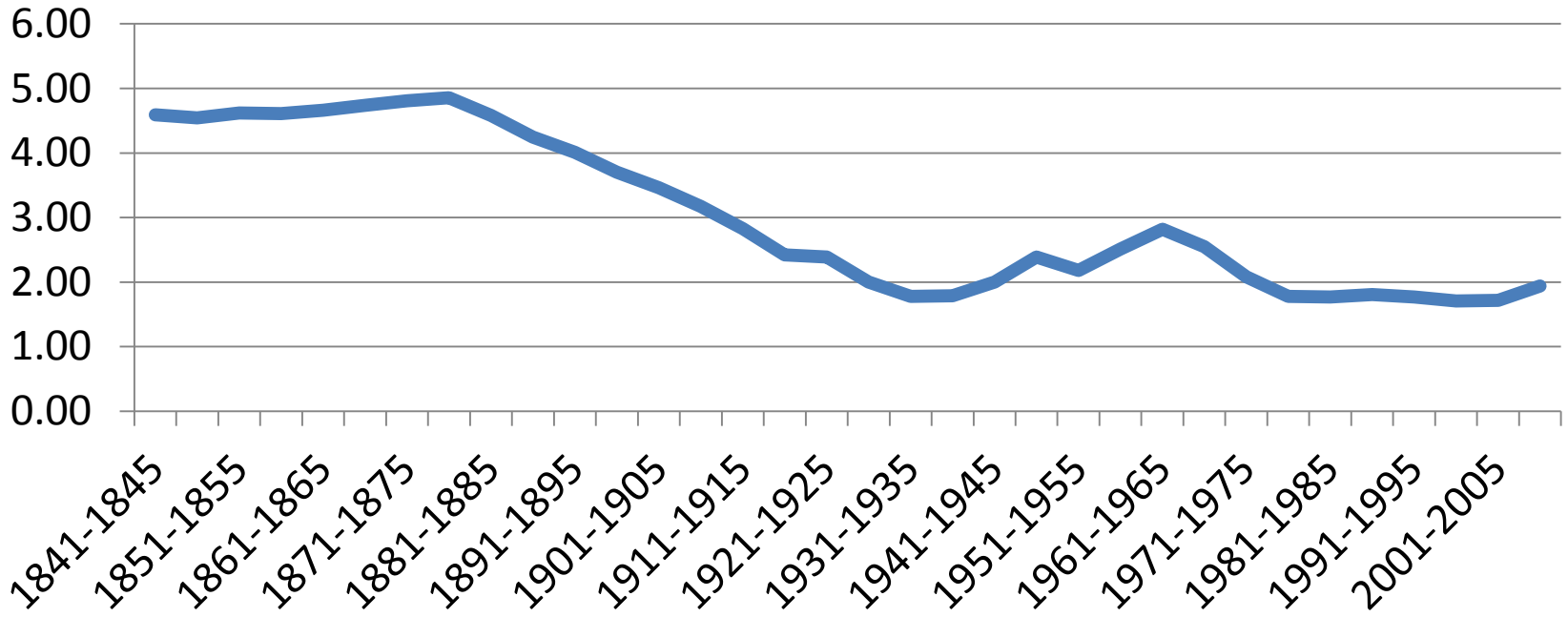
Source: Health Survey for England (NB only private household population)

Population ageing:

- Numbers of older people depends on past births and survival to older ages; numbers most rapidly growing in many populations with overall high population growth
- Proportion of older people depends on above relative to size of overall population, which is mainly influenced by fertility. Proportion is highest in very low fertility countries (e.g. Italy, Japan), most rapidly growing in countries with very fast fertility declines (e.g. China).

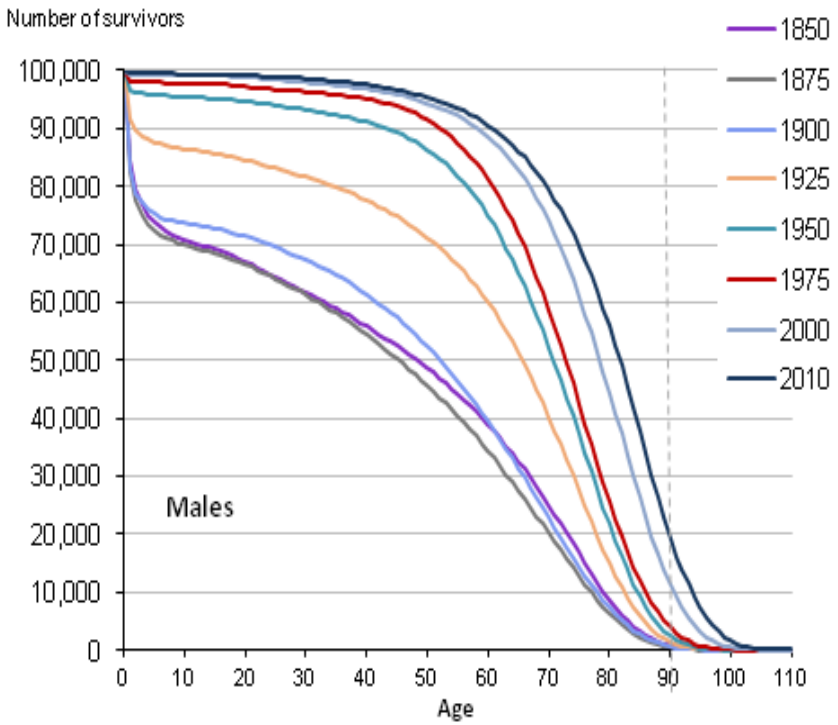
Population of England & Wales by age 2012 and number of births in year of birth

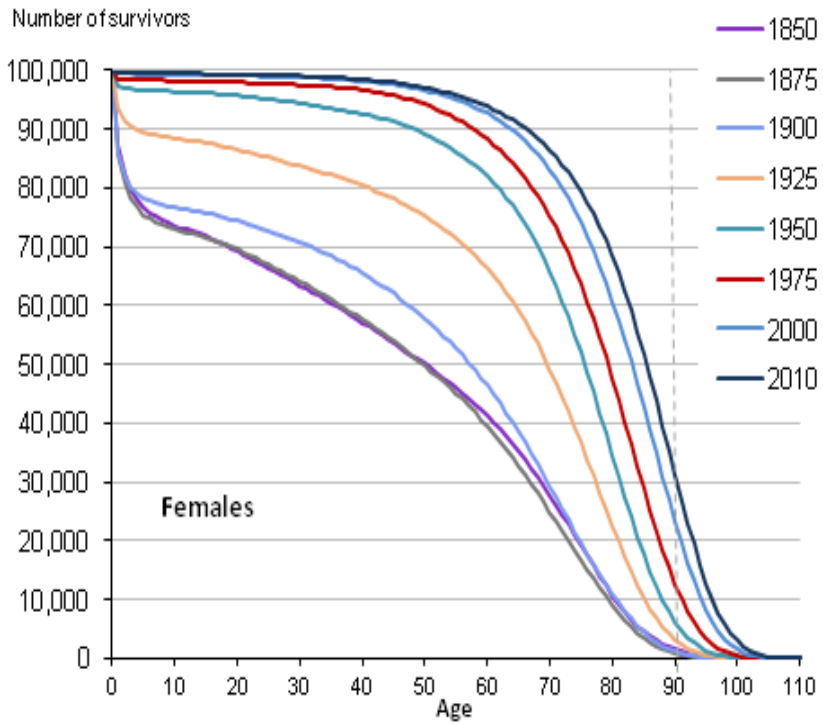
Total fertility rates England & Wales, 1841-2010



Sources: OPCS/ONS Series FM1 and others.

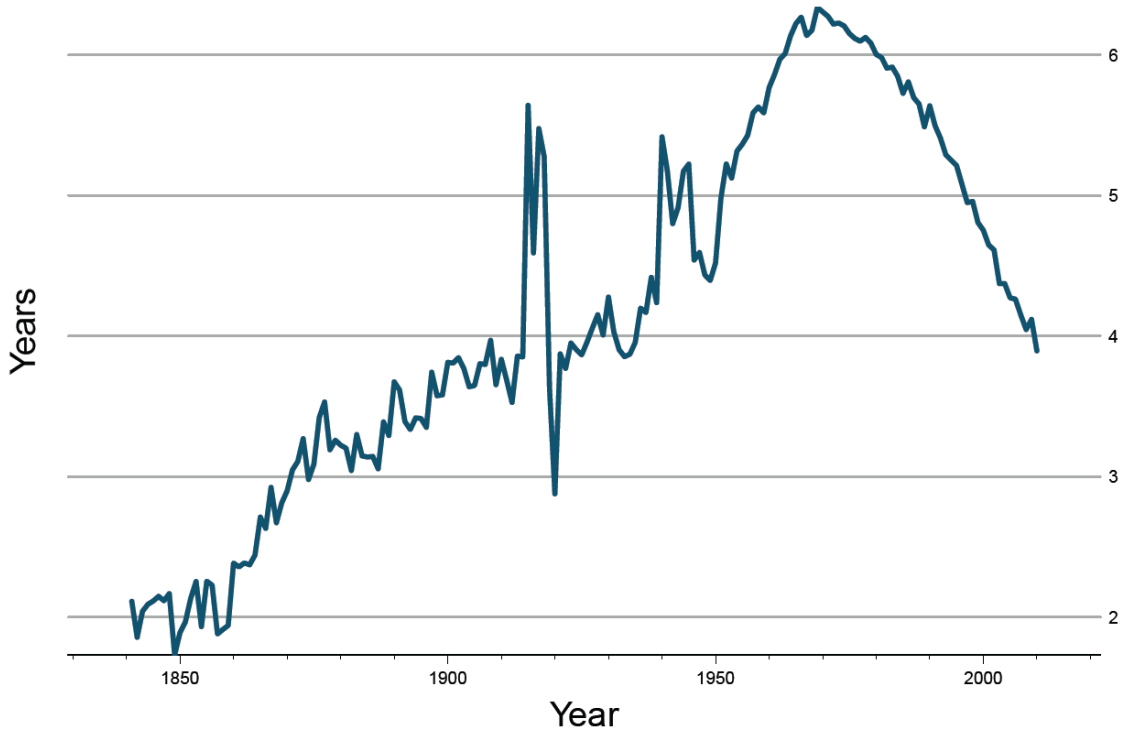
Survivorship by age and period, England & Wales





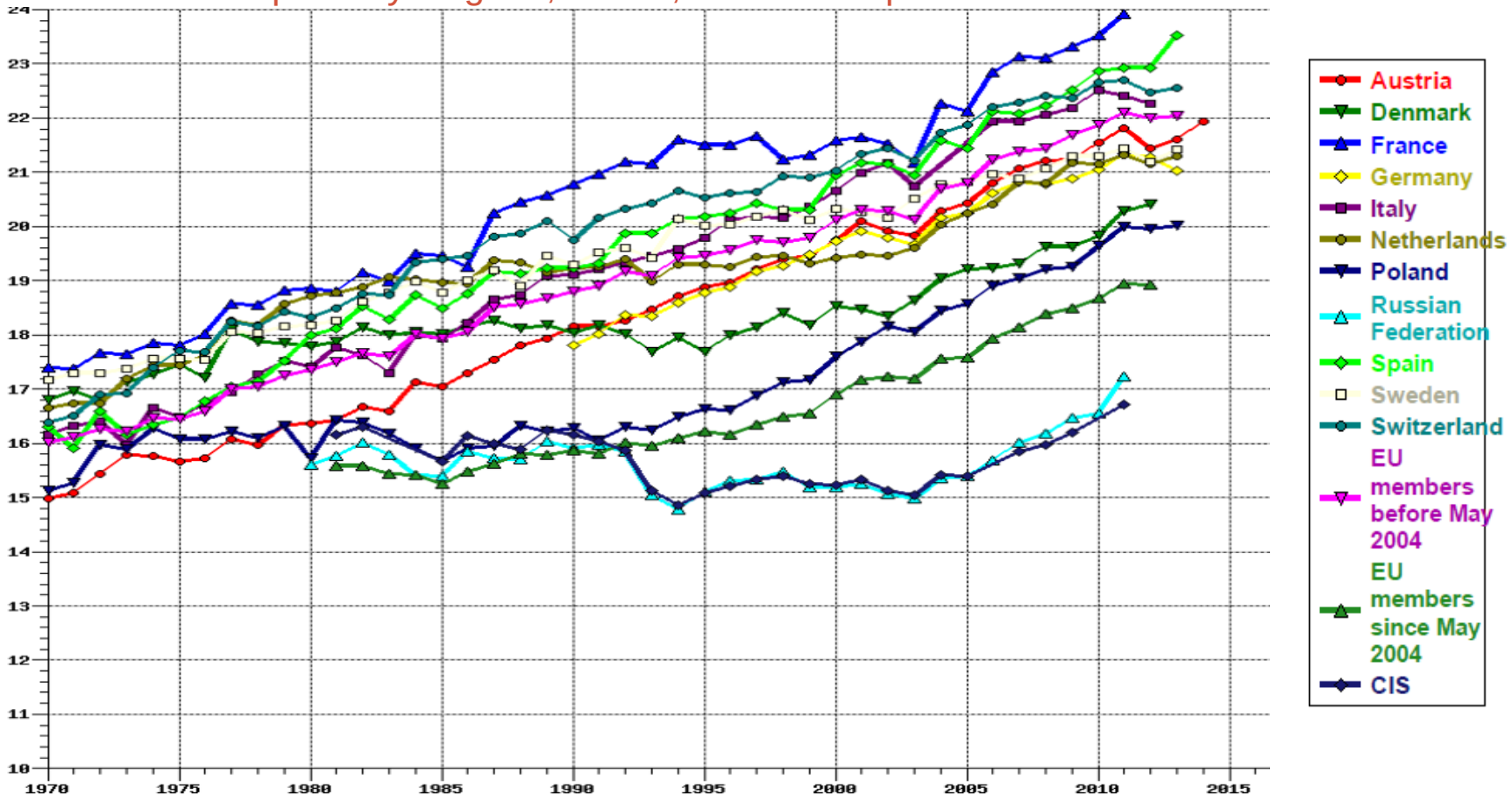
Source: ONS 2014
http://www.ons.gov.uk/ons/rel/mortality-ageing/mortality-in-england-and-wales/average-life-span/rpt-average-life-span.html#tab-Surviving-to-Old-Age

Sex differential in period life expectancy at birth, England & Wales 1841-2010



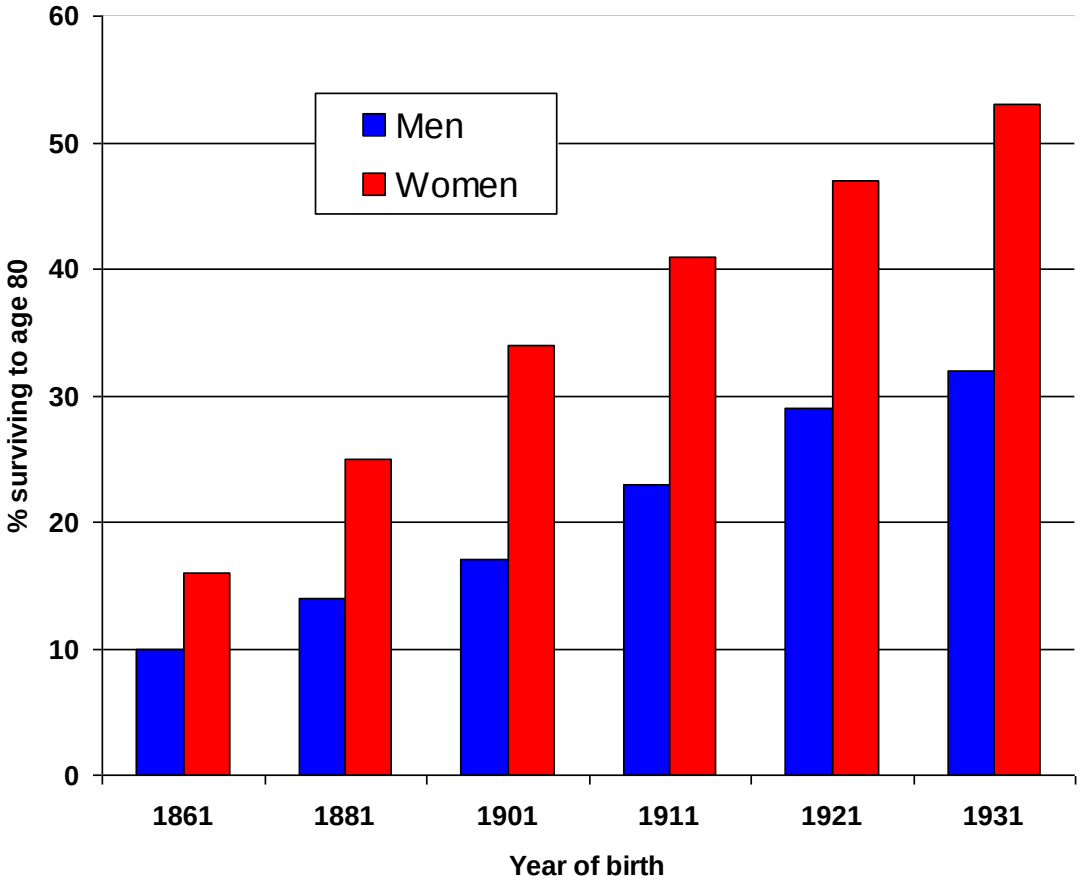
Source: Calculated from ONS unpublished data

Further life expectancy at age 65, women, selected European countries 1970-2015



Source: WHO/Europe HFA Database, December 2015

Proportions surviving to age 80 by birth cohort, England & Wales.

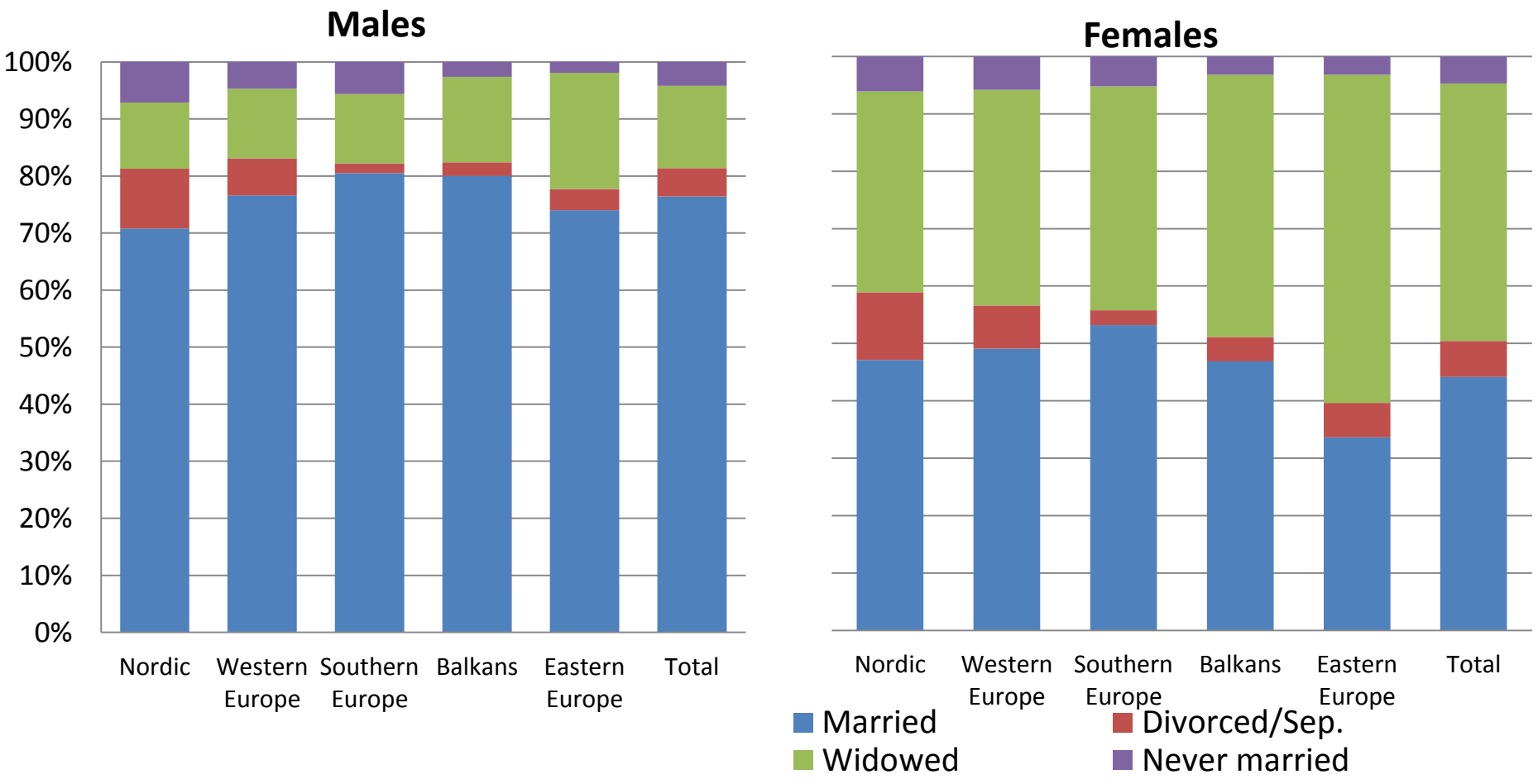


Source: Data from Health of Adult Britain and GAD projections.

Demographic characteristics of older populations:

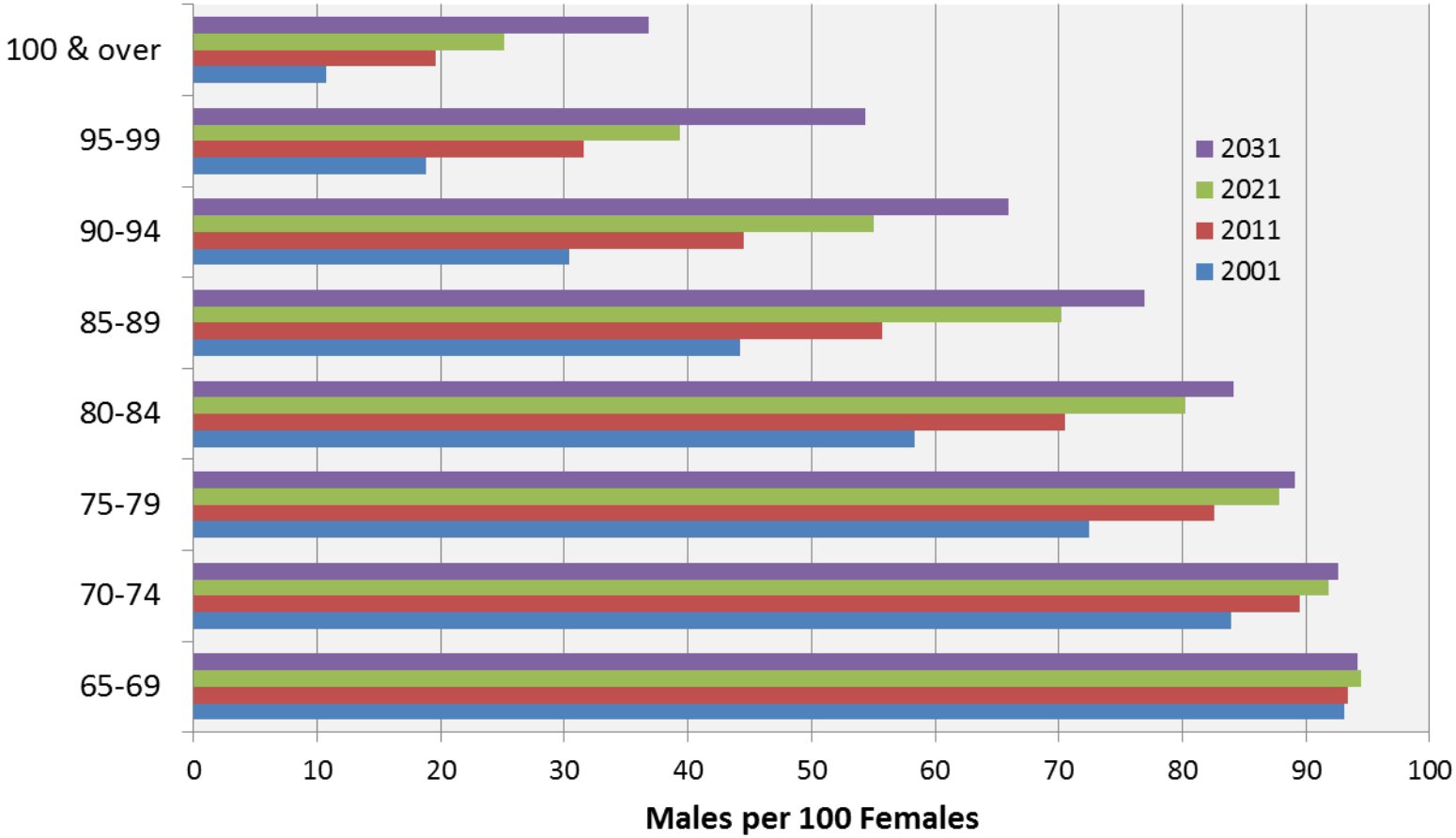
- Currently ageing of older populations themselves – fastest growth in older old
- This driven by improvements in mortality and past cohort trends
- Older populations predominantly female due to greater female life expectancy in nearly all countries of the world
- In some countries a recent narrowing of sex differentials in mortality – but women still live longer
- What about availability of close relatives which also driven by demographic change?

Marital status distribution (percent) by regions and gender, people aged 65 and over



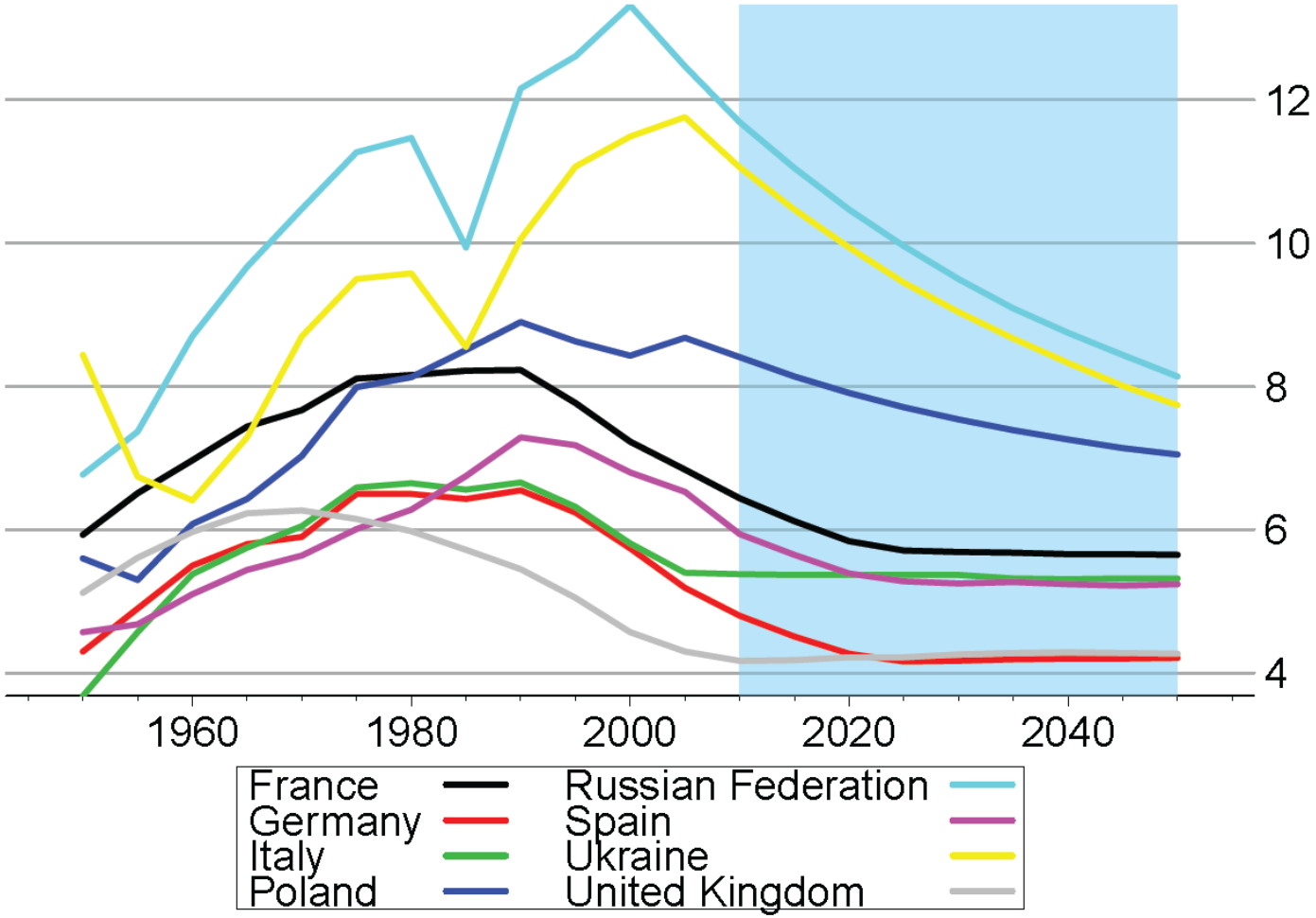
Source: European Social Survey, Waves 1-6.

Sex Ratio (Males per 100 Females), by age England & Wales 2001 to 2031



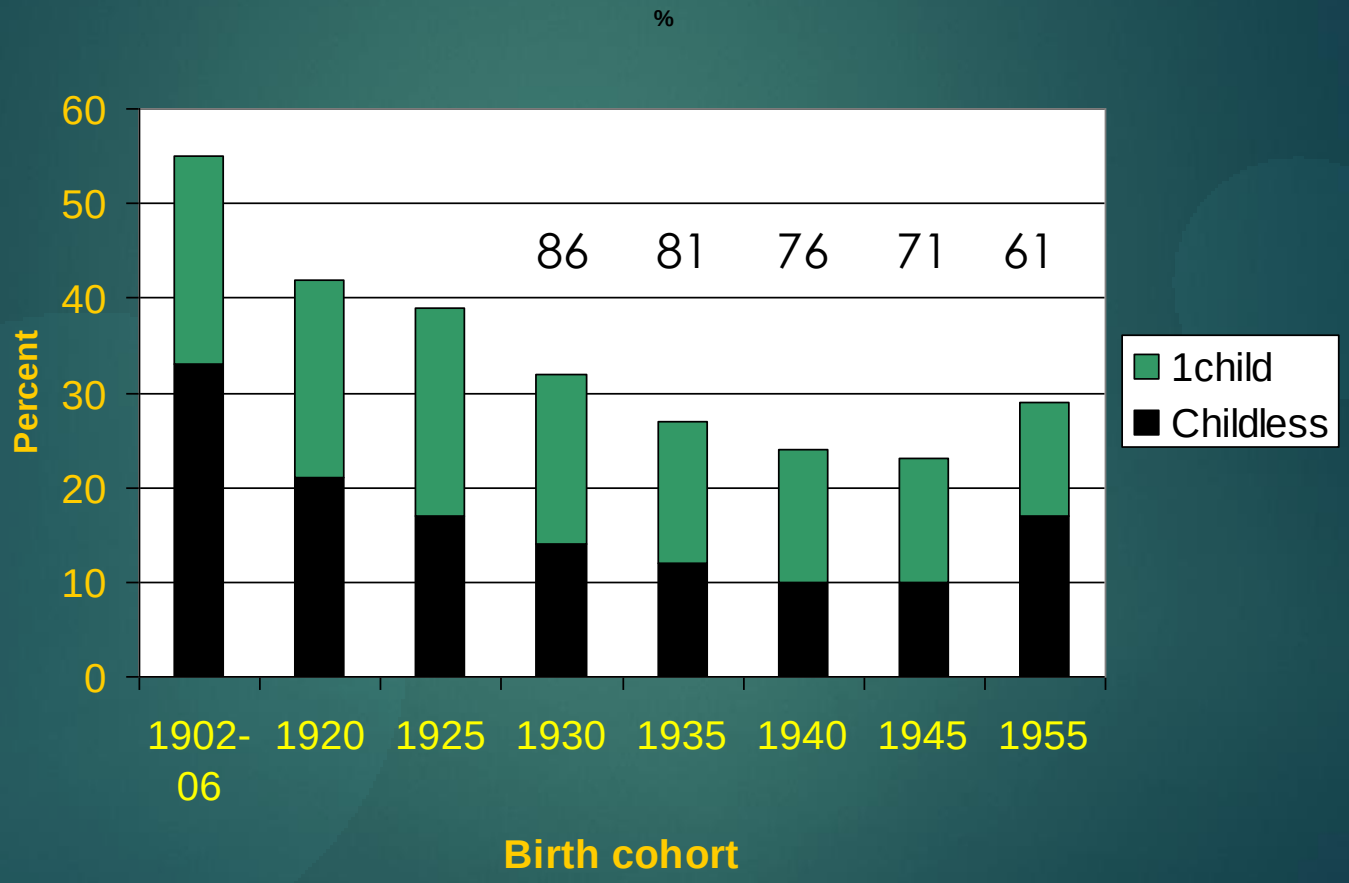
Source: Based on 2012-based official projections

Change in sex differential in life expectancy (in years) at birth 1950-2050 “Big 8” countries



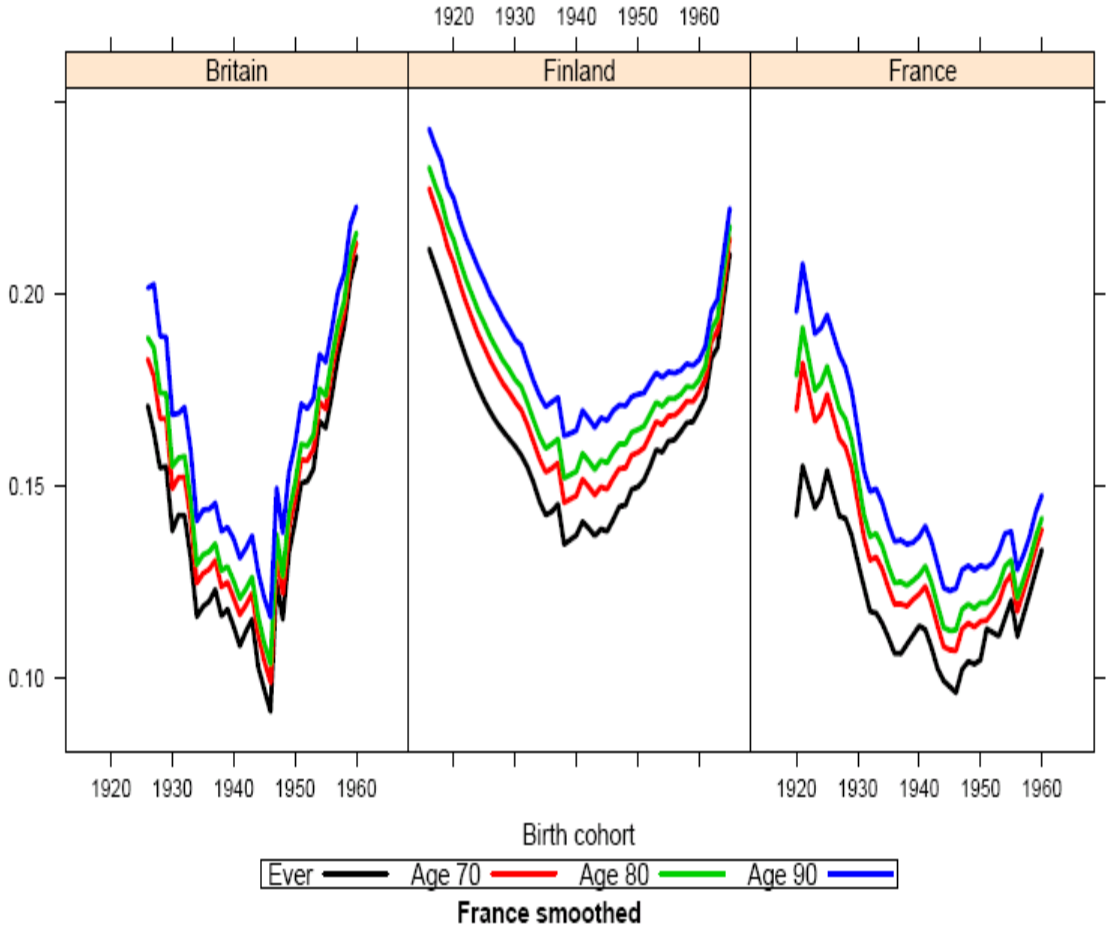
Source: UN 2010 Revision. Values are 5−year averages.

Women with no or only 1 child at age 45 by birth cohort, England and Wales



Grundy 1996

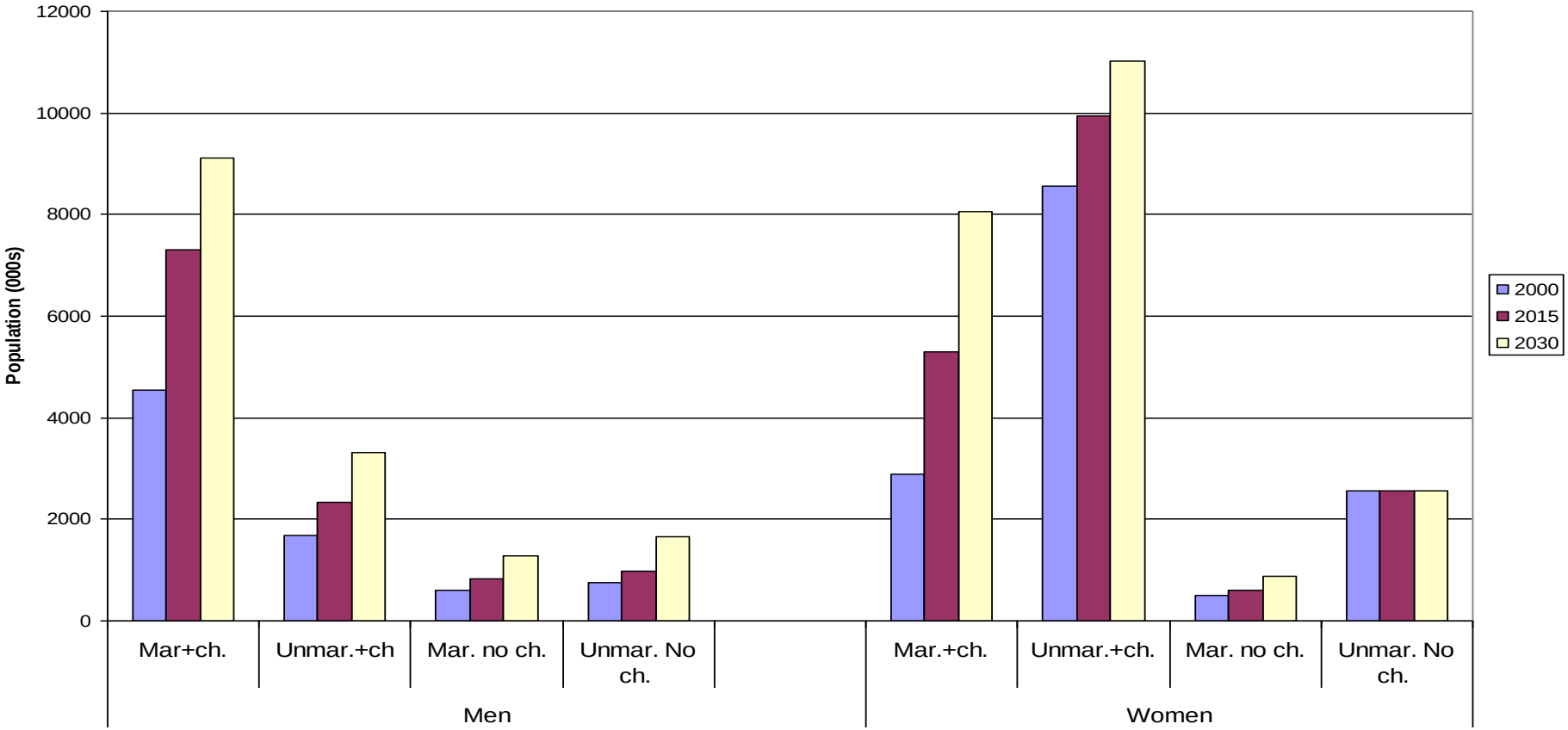
Proportion of women at selected ages with no living child



Source: Murphy et al Eur J Pop 2006

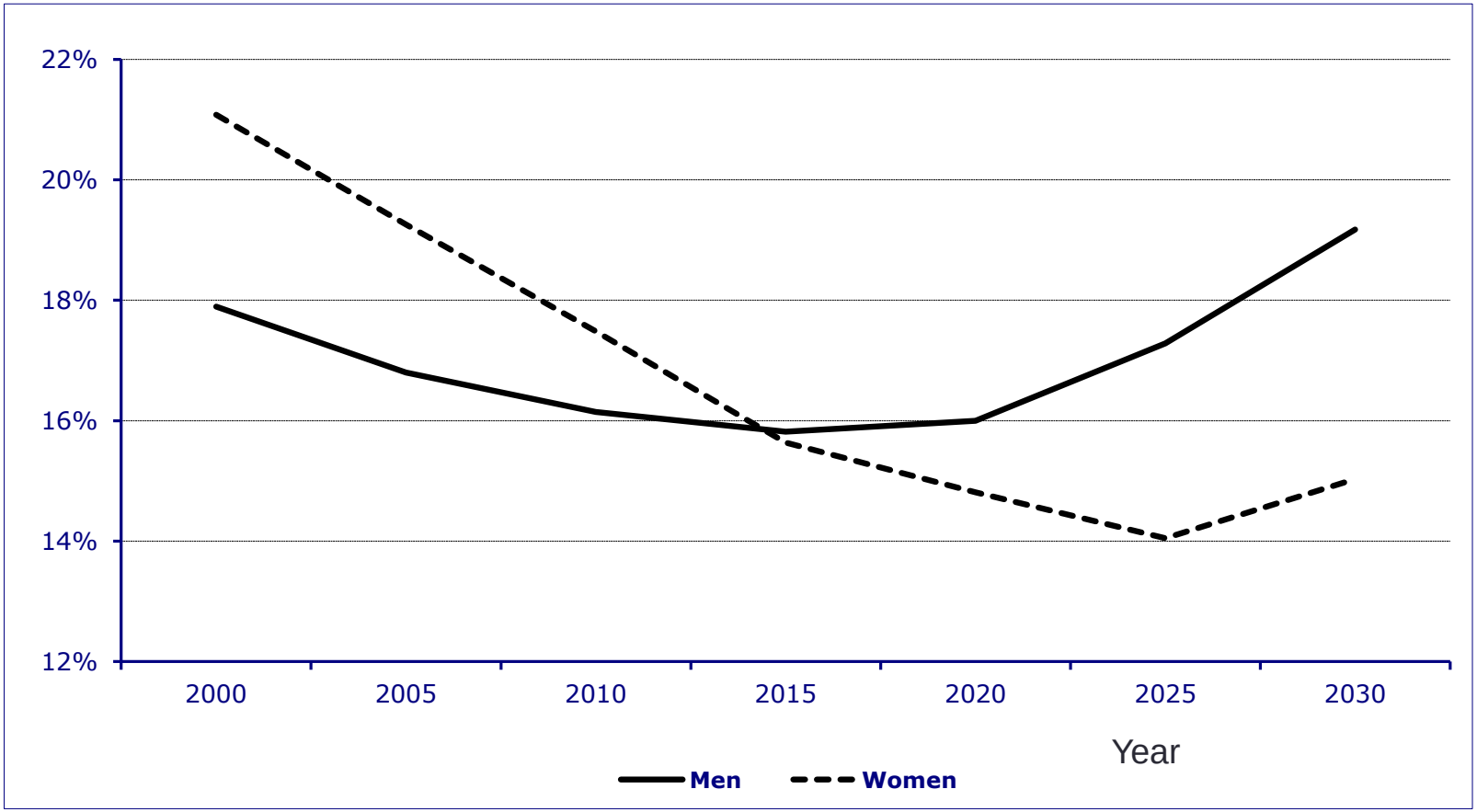
Numbers and projected numbers of men and women aged 75 and over by marital and parenthood status, 2000-2030, all FELICIE countries combined.

(Belgium, Czech Republic, Germany, Finland, France, Italy, Netherlands, Portugal, England & Wales)



Source: Analysis of FELICIE data in Tomassini, Grundy et al 2007.

Proportion of men and women aged 75+ without living children alive: all FELICIE countries combined (Belgium, Czech Republic, Germany, Finland, France, Italy, Netherlands, Portugal, England & Wales)



Source: Analysis of FELICIE data in Tomassini, Grundy et al 2007.

Distribution of Norwegian women born 1935-1968 by marital/family status at ages 40-73 (1980-2008)

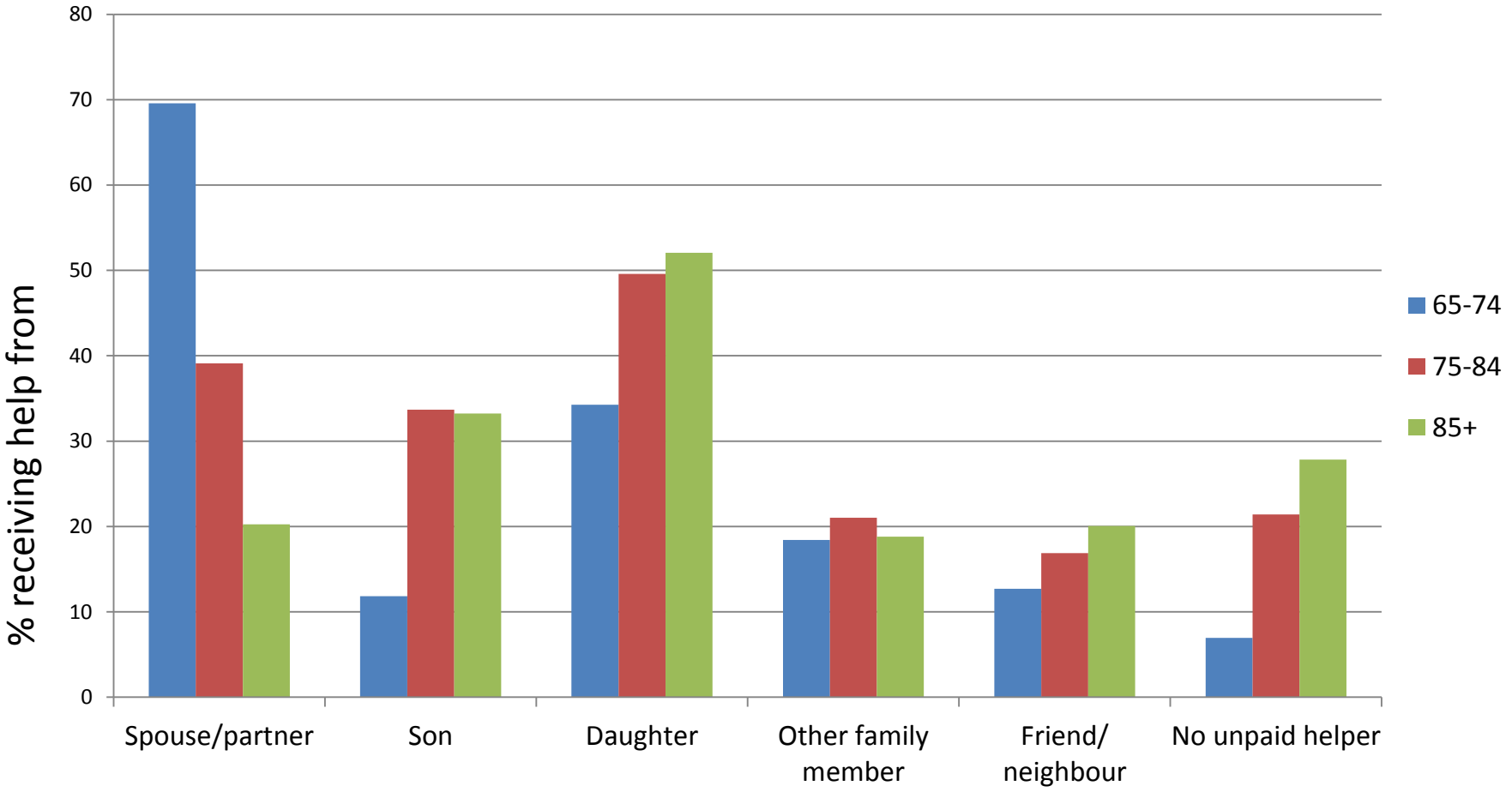
Marital status (de jure)	Parenthood status	%
1st marriage	Childless	2.2
	Joint children only	55.4
	Blended/step	4.8
Div/dep	Childless	1.1
	Has children	15.6
Wid.	Childless	0.3
	Has children	4.2
Remarried	Childless	0.2
	Joint children only	1.5
	Blended/step	4.8
Never-married		9.9
Total		100

Source: Kravdal, Grundy et al, PDR 2012

Availability of close family for older people in Europe:

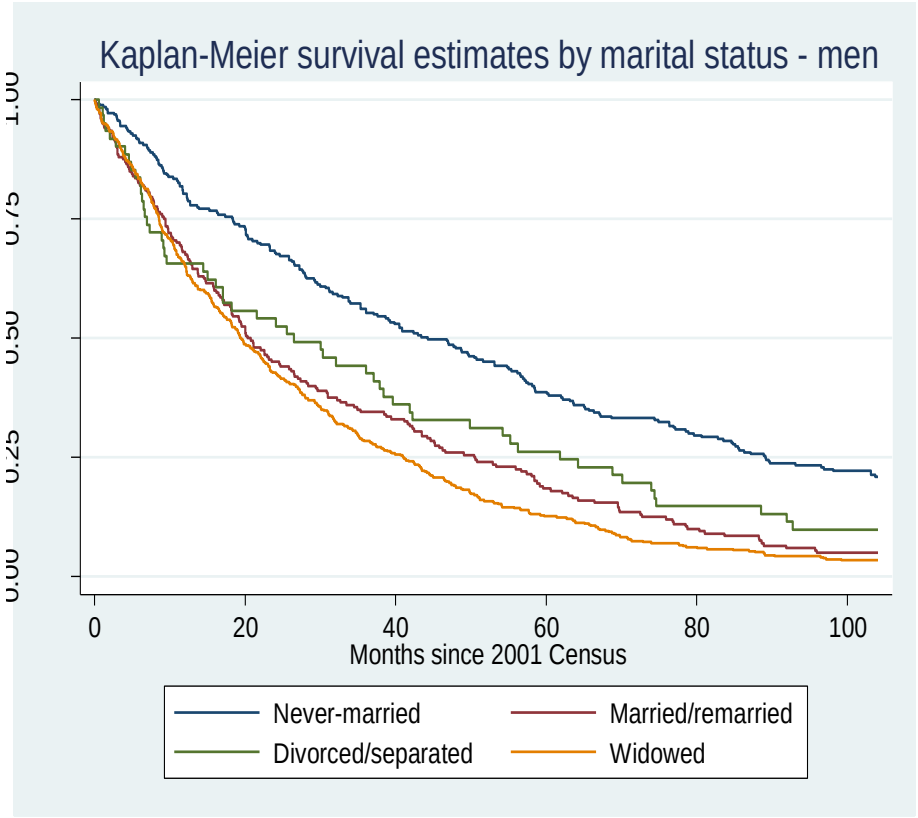
- Reduced mortality especially among men has increased the proportion of older people who remain married and reduced the proportion of women who are widowed.
- Trends are also affected by marital histories; those born in the 1940s had the highest rates of marriage ever experienced
- These cohorts are also more likely to have children as potential carers. However, this favourable trend will reverse as those born in the 1960s enter the older age bands – implications for informal care.
- Additionally concerns that 'Second demographic transition' type changes (increased individualism, changing gender roles, growth of divorce and non standard partnership trajectories) will impact on availability of potential caregivers

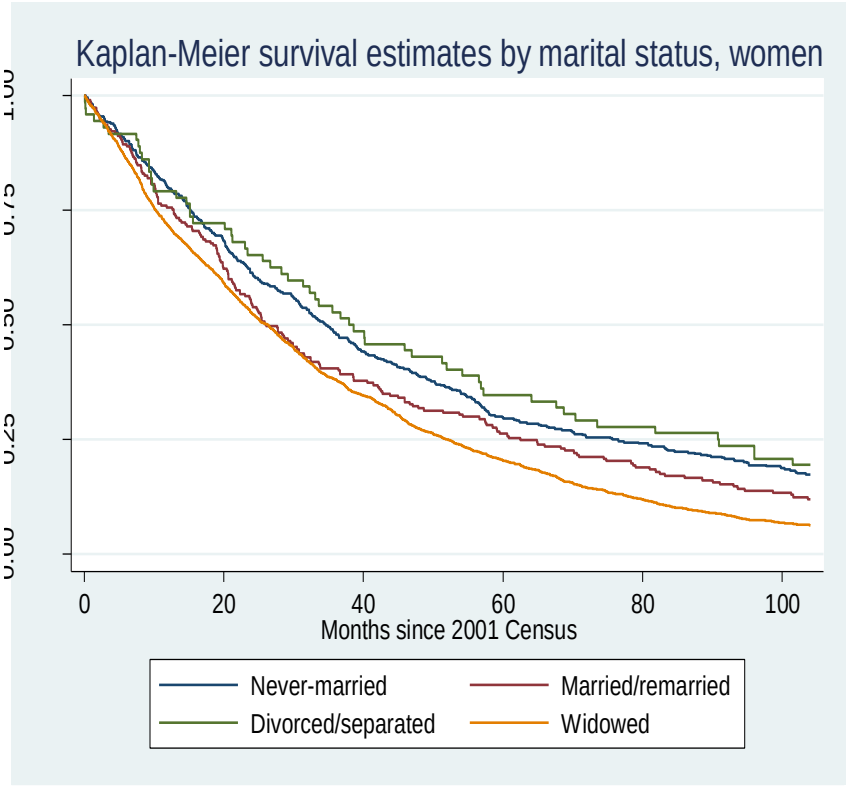
Source of help for older women receiving unpaid help with ADLs, England 2014



Source: Health Survey for England (NB only private household population)

Survival of people in institutions by marital status in 2001

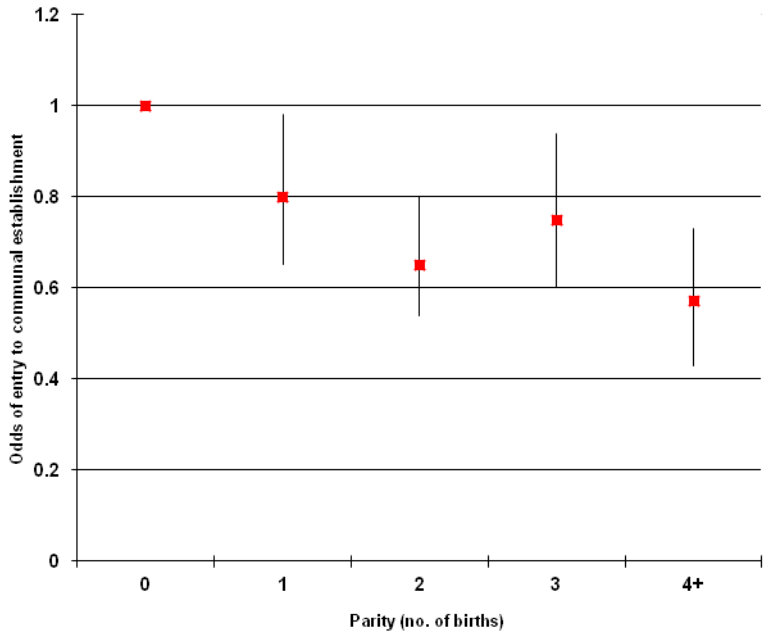




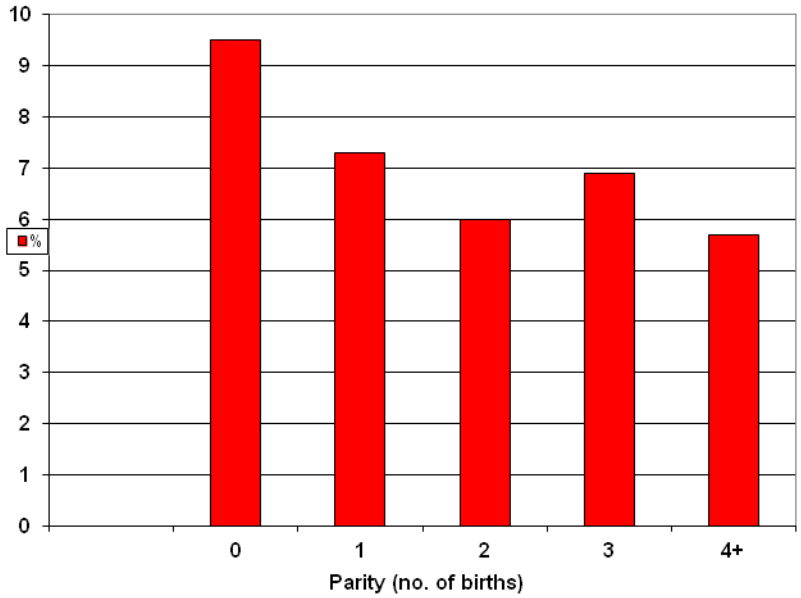
Source: Source: Analysis of ONS LS data

% of women aged 65+ in 1991 in a communal establishment by 2001 and odds of transition to a communal establishment by parity.

Odds ratios (95% CI)



% changing from private household in 1991 to communal establishment by 2001



Source: Analysis of ONS Longitudinal Study data; Grundy and Jitlal 2007

controlling for age, marital status, household type in 1991, health indicators and housing tenure.

Receipt of help from a child older people in England: Help received at Wave 2 among parents with ADL/IADL limitation, by number of children and availability of daughter.

	Help from child at Wave 2	
	Fathers (N=646)	Mothers (N=991)
N of children (ref = 1)		
2	1.37	0.98
3	1.55	1.39
4+	1.70	2.15**
Daughter	0.83	1.56*
Married	0.40***	0.45***

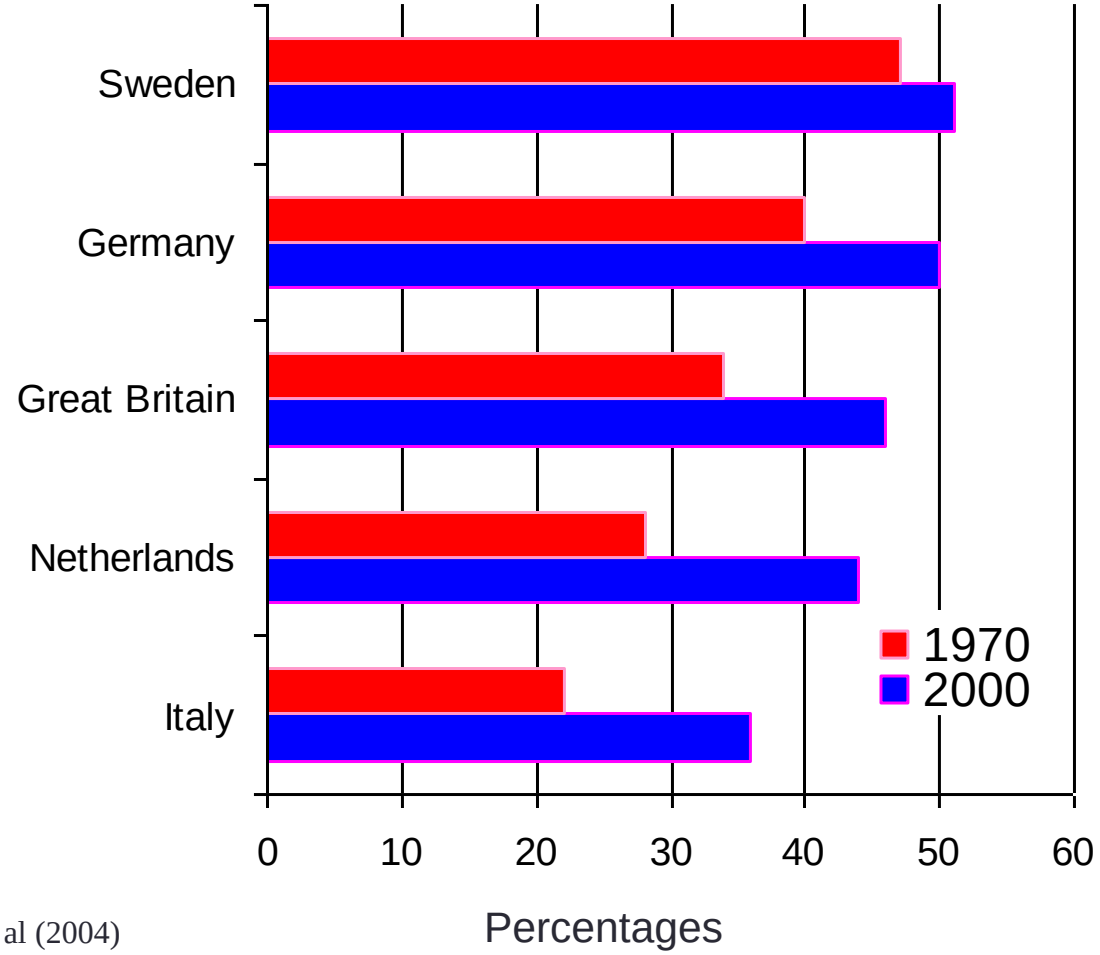
Controlling for age, wealth, education , housing tenure, and baseline general health and long term illness.
Source. Analysis of ELSA, Grundy & Read JGSS 2012.

Family & social support

- Assumed to be in decline because of demographic & socio-economic/cultural change including:
  - Low fertility
  - Smaller households and reduced intergenerational co-residence
  - More divorce, cohabitation etc.
- “A family and social revolution…the very basis of the family has changed. The family, in the past an institution and means of social integration, has become a pact between two individuals looking for personal fulfilment”

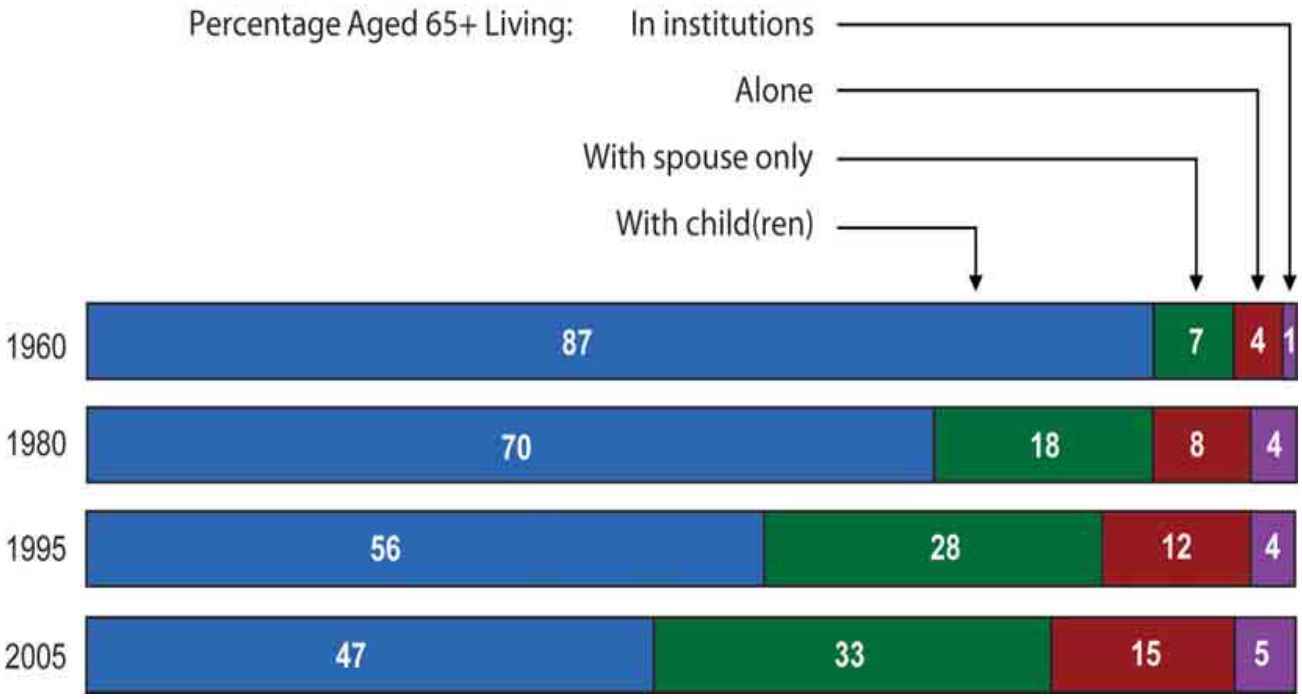
European Commission 1995

Women aged 65 and over living alone in selected European countries, 1970 and 2000



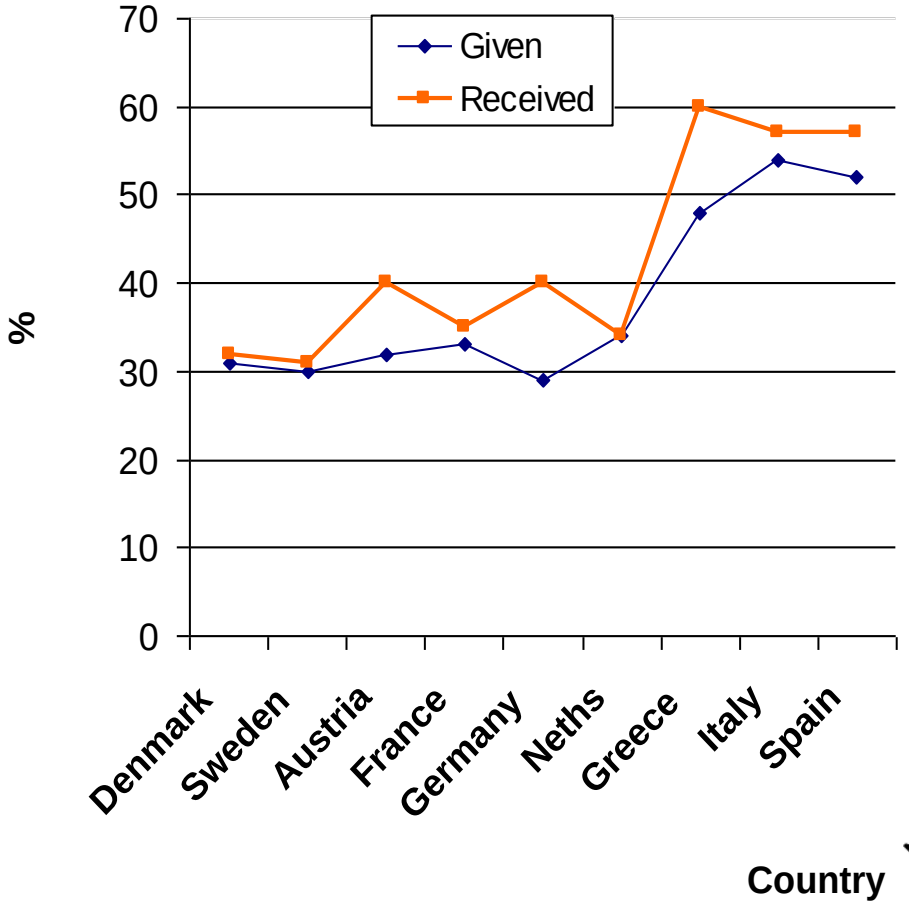
Source: Tomassini et al (2004)

Living arrangements of people aged 65+ in Japan: 1960-2005



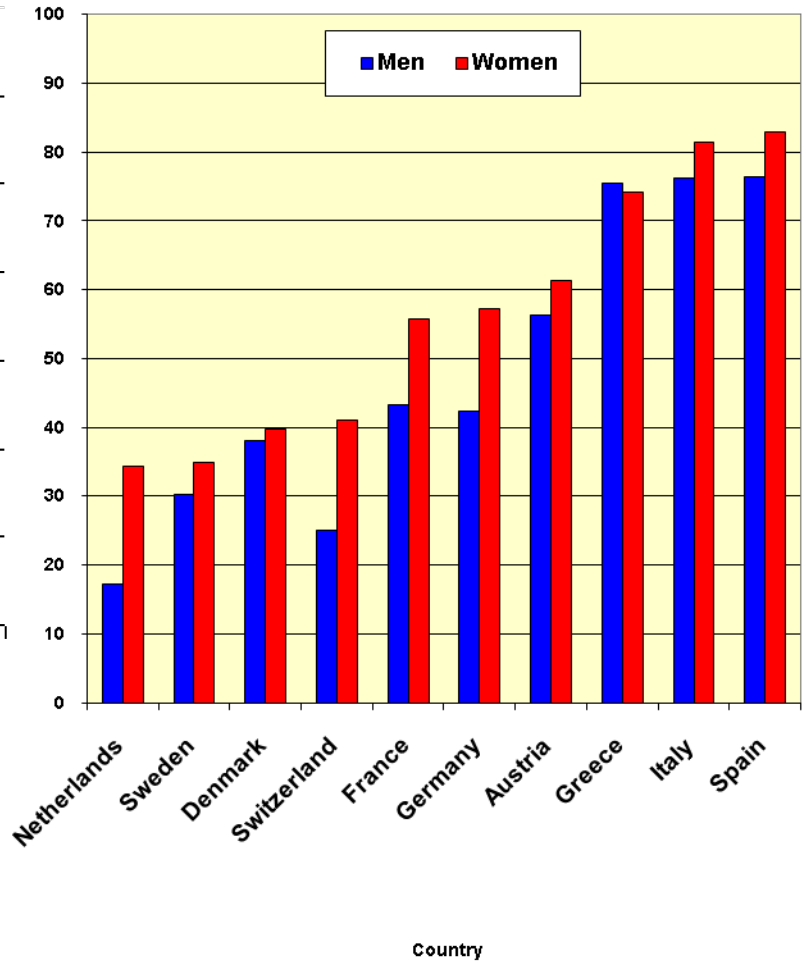
Source: WHO 2011 from Japan National Institute of Population Research 2008.

Social support exchanges between older Europeans and children outside the household.



Source: Analysis of SHARE wave 1 data in Kohli and Albertini, 2006

% parents aged 80+ with daily contact with a child



Source: SHARE 2004, Release 0

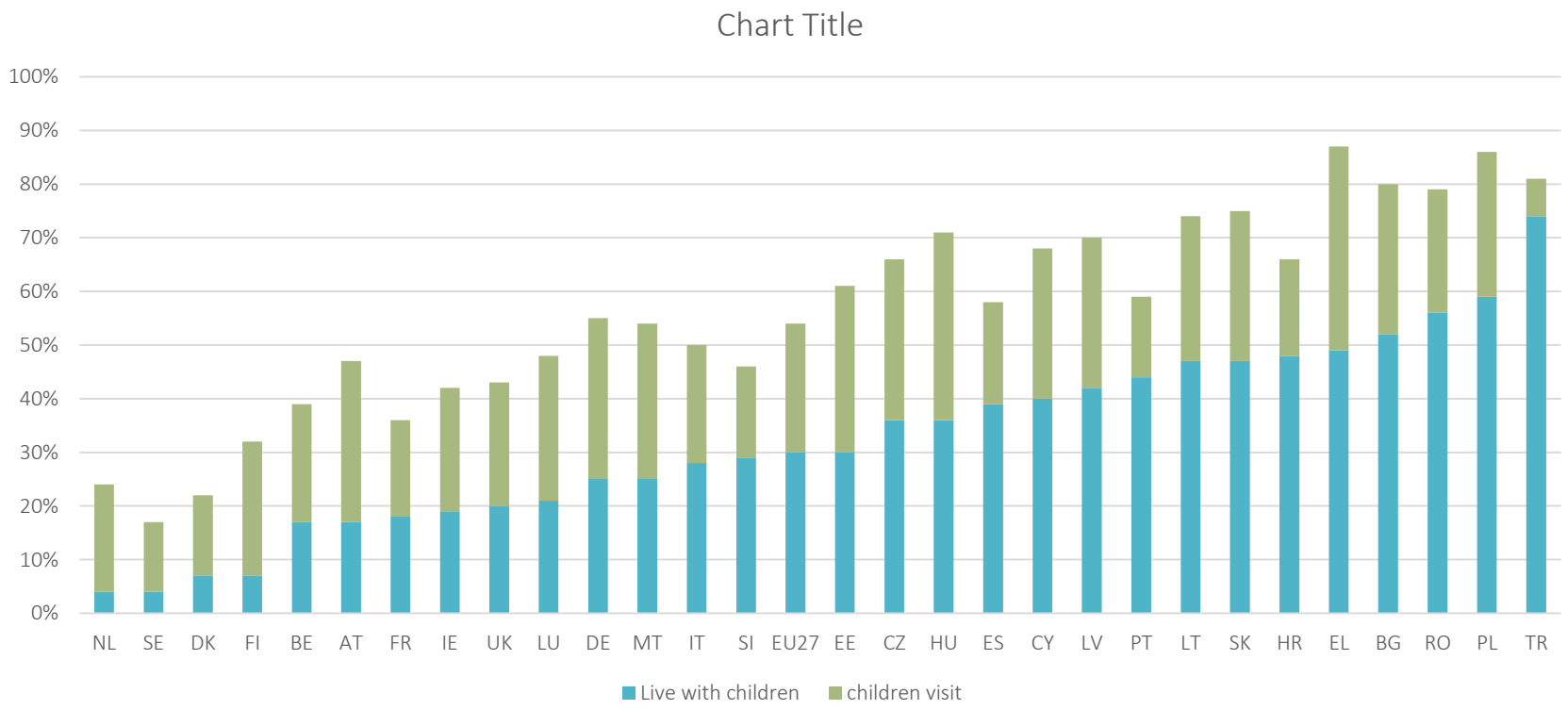
Intergenerational support in Europe:

- From children to elderly parents associated with:
  - Low education +
  - Female gender +
  - Few siblings +
  - Parental disability +
  - Mother a widow +
  - Father divorced –
  - Living in Southern rather than Northern Europe +
  - Reciprocity +

- From parents to adult children associated with:
  - Higher income +
  - Home owner +
  - Low disability +
  - Being a divorced man –
  - Children's age and proximity
  - Reciprocity +
  - Living in Southern rather than Northern Europe +

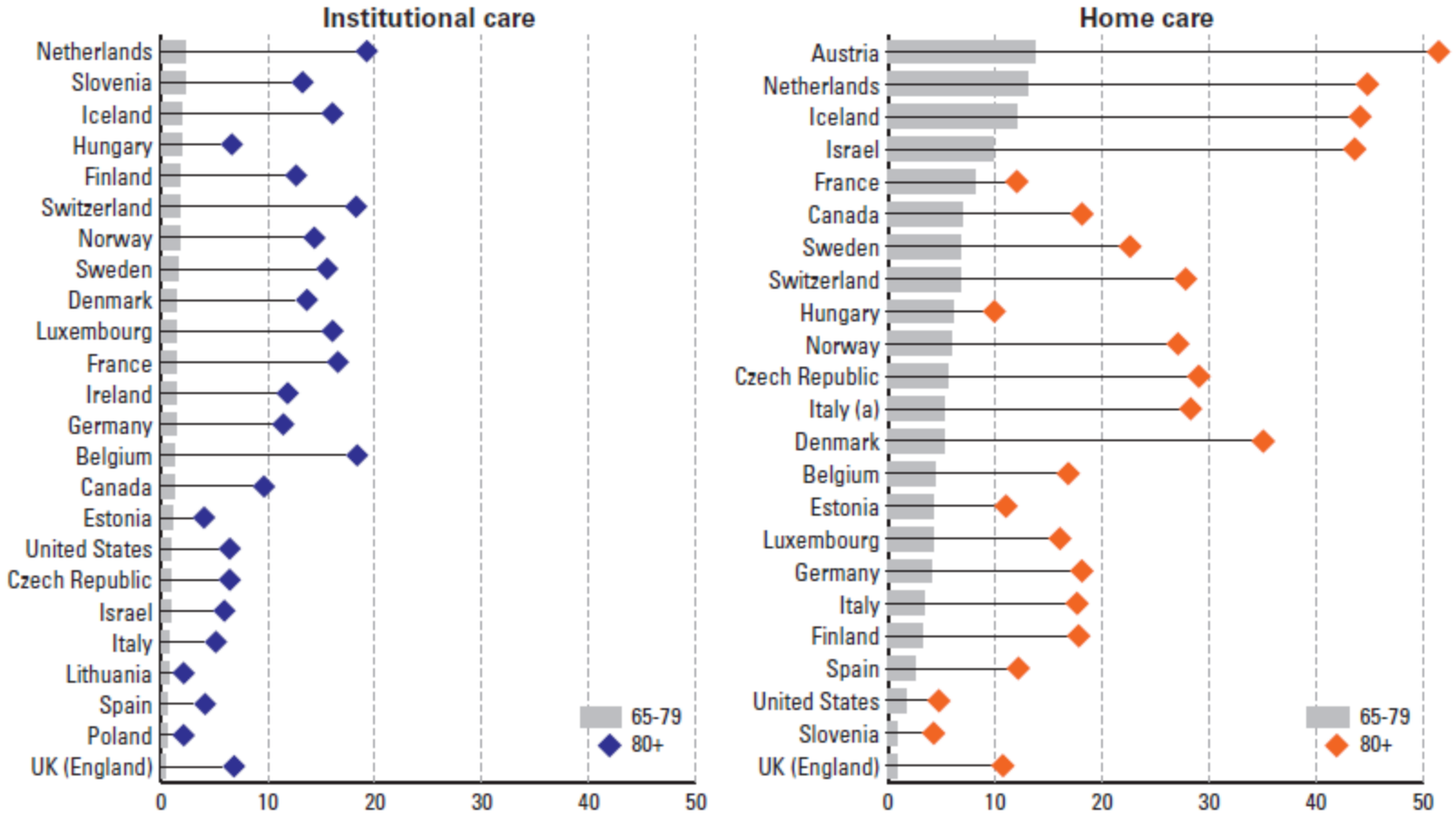
Less variation between social groups in Southern than in Northern Europe

Imagine an elderly father or mother who lives alone and can no longer manage to live without regular help because of her or his physical or mental health condition? In your opinion, what would be the best option for people in this situation?



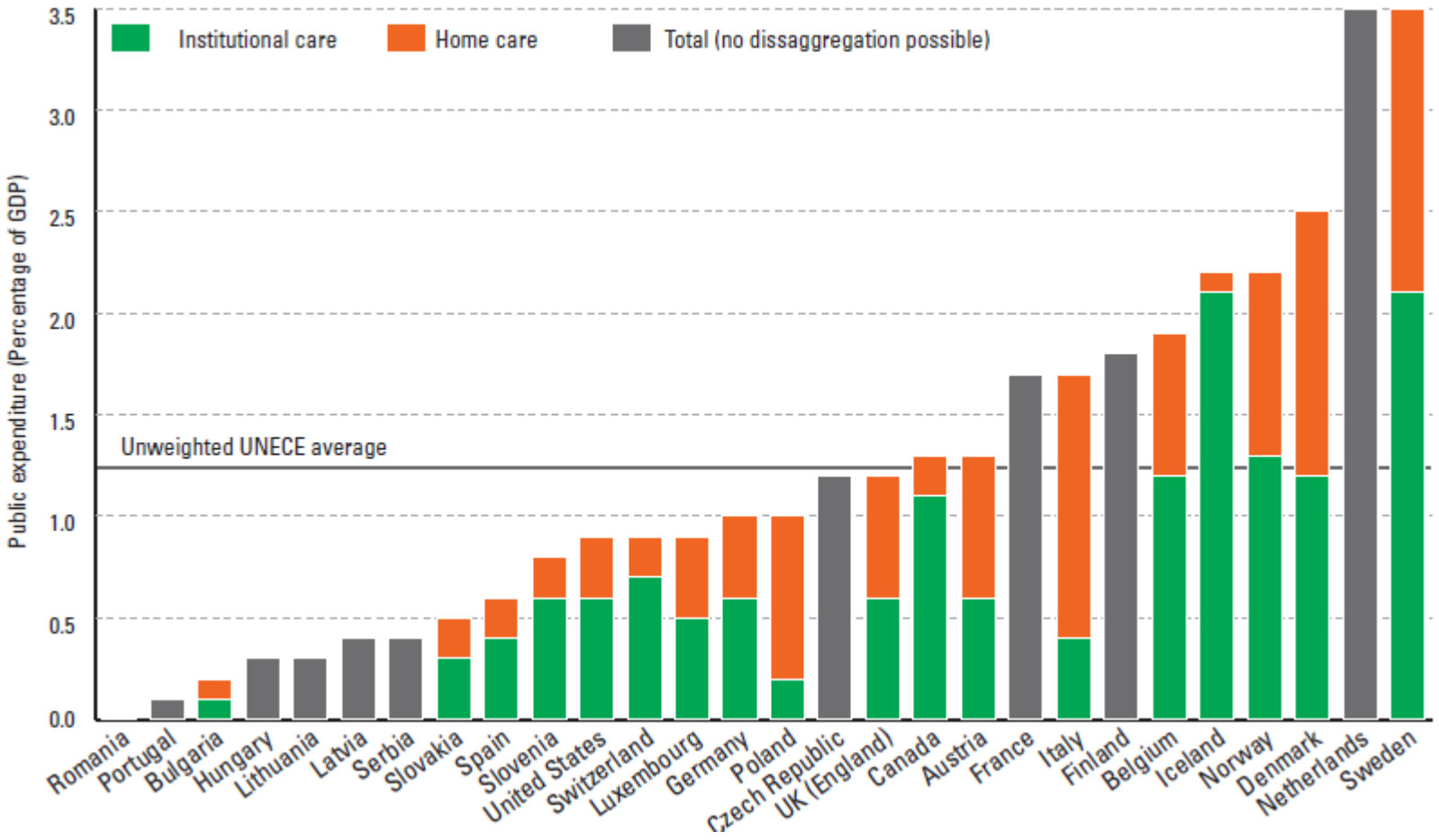
Source: Eurobarometer, Health and long-term care in the European Union, 2007.

Percent of older receiving institutional and (formal) home care, 2009



Source: Rodrigues et al from OECD data.

Public expenditure on long-term care as % of GDP, c. 2009



Source: Rodrigues et al from OECD data.

State/market versus family care for older people with assistance needs

- Crowding in: Support from state may enable and encourage family carers to carry on providing help
- Crowding out: Support from state displaces family care

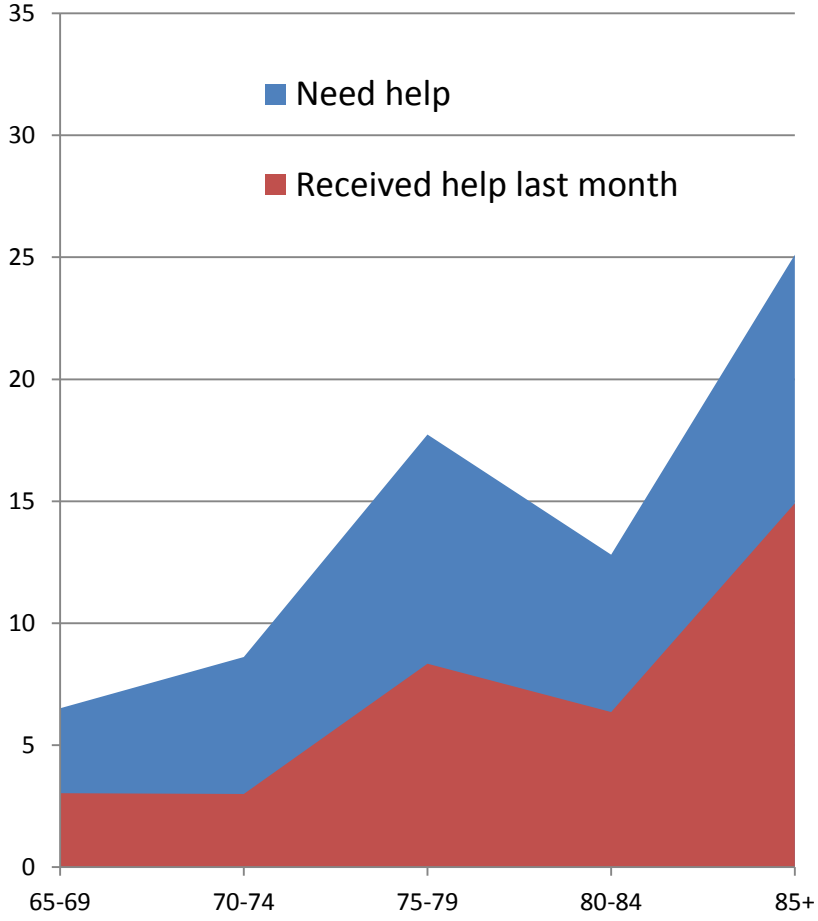
- Shared family-state arrangements preferred by care recipients and their families in Europe (*Sancho 2011*)
- Policies need to consider both support for informal or unpaid care and formal LTC (*Columbo 2011*

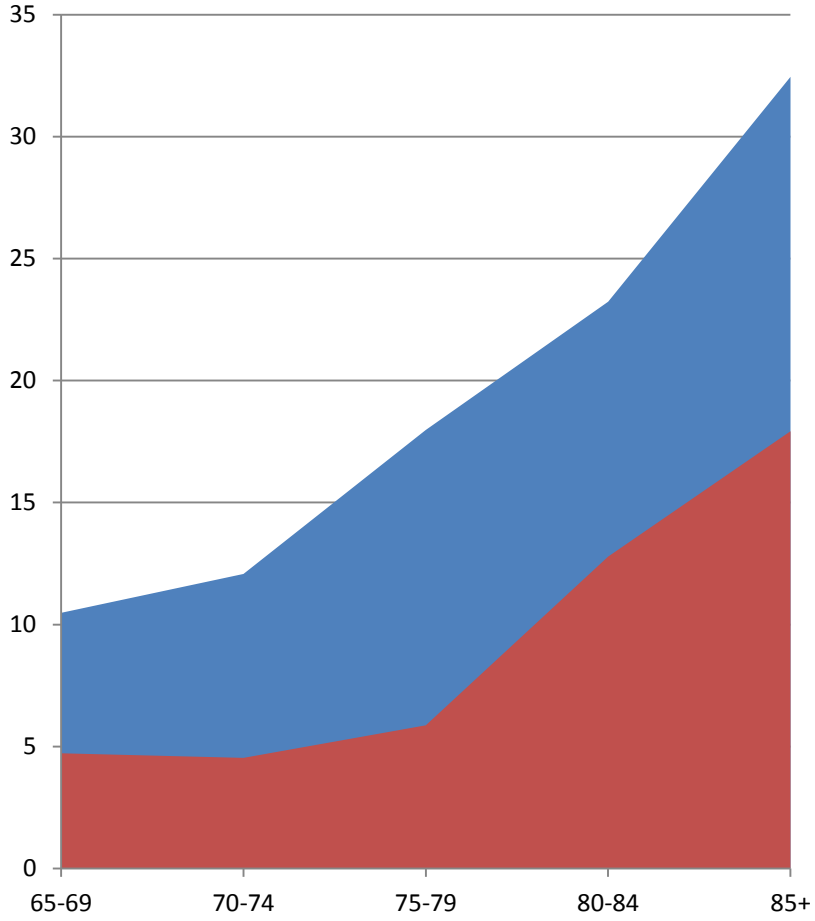
- In general a roughly inverse association between family and state provided assistance, but this in itself not necessarily support for 'crowding out'
- Family may have no option but to provide care if no other help available
- Provision of state support may be outcome of cultural preferences
- Many richer countries now cutting back on state supports and implicitly requiring family to do more

Demand for LTC : Prospects

- Large growth in size of older old most likely to need LTC; n short term proportions with a spouse and at least one child will increase, not so in longer term
- Existing provision often inadequate
- So large need for more resources…..
- Can this be offset by ‘compression of morbidity’ ? has effect of age been over estimated?
- Changes in willingness to give (or receive) family care??
- Technological and care delivery advances advances?

% of older men and women needing help and receiving help with bathing/showering, England 2014



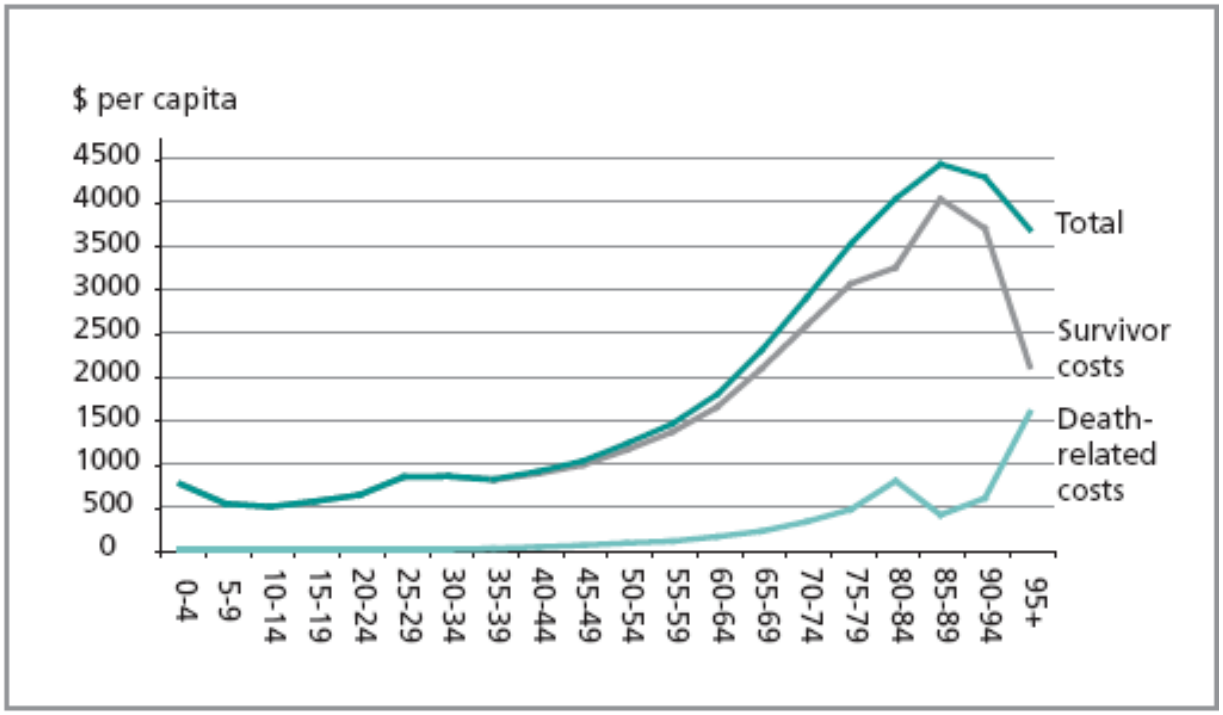


Source: Health Survey for England (NB only private household population)

Compression of morbidity?

- Researchers have been examining disability free/disabled life expectancy for 50 years or so and Fries wrote his very influential paper in 1980
- Why do we still not have clear answers about trends?
- Largely due to problems in measuring health and disability status in consistent robust way and to differences in sample designs etc which influence estimates (e.g. whether or not people in nursing homes are included)
- May well also be different trends in different populations, and population sub-groups
- Dynamics of morbidity and disability very complex
- However **EVEN with compression there will be a large increases in the numbers of people with long term disabling conditions (and as proportion of population) because of increase in the absolute and relative size of older old in population**
- **Increasing demand for health and social care for older people**

Health care costs per capita ($) in Finland by age group and proximity to death



Source: Martins JO, Maisonneuve Cdl, Bjørnerud S, 2006 (37)

Health care costs of ageing and proximity to death: the 'red herring' debate

A large share of lifetime acute care health expenditure often occurs in the last year of life. In the US over one quarter of total Medicare expenditure in 1994-1999 was for patients in their last year of life

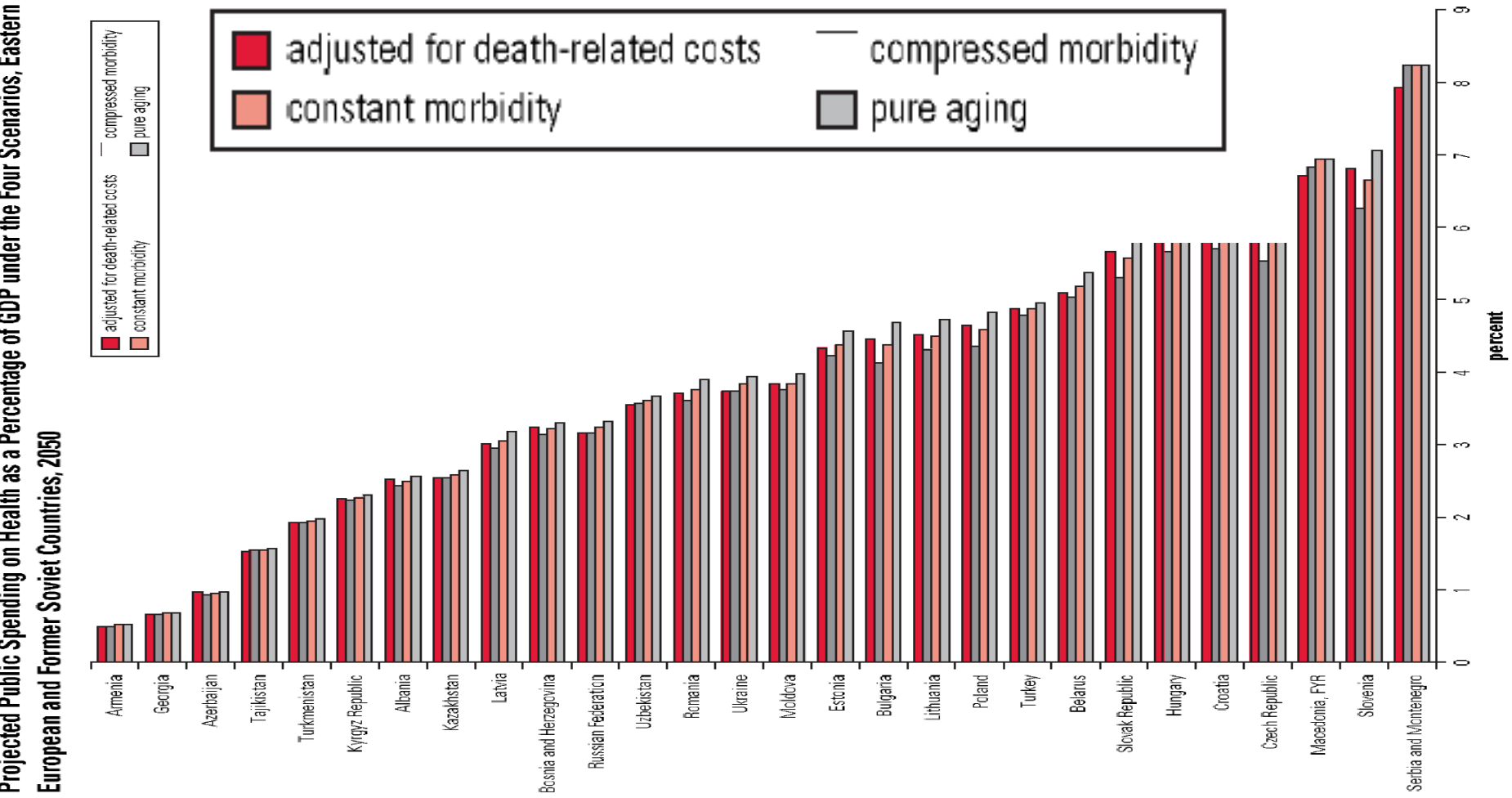
Increased survival postpones a number of these deaths in the future and at older ages. "Costs of dying" are lower in the oldest age groups, possibly because those individuals who live the longest are also comparatively healthier, although ageism in medical practice may also be an issue.

The Survey of Health, Ageing, and Retirement in Europe (SHARE), found that the use of health services peaks at ages 75-79, levels off at 80 years and falls among those older than 85 years *(Borch-Supan et al 2005).*

However, long-term care costs tend to continue increasing with older age, even if there is some leveling off of acute medical costs.

(Rechel et al 2013)

Projected public spending on health as % GDP, four scenarios, E European and former Soviet countries, 2050.



Source: World Bank 2007, from Red to Gray

Can better service provision and organisation help? The Hull (UK) model of age defined care (1970s): all patients 75+ admitted to one ward

- Mean length of stay reduced from 186 to <30 days.
- Discharges increased from 1532 to 4294 patients (over seven years).
- 20% reduction in patients requiring long term care.
- 8% of admission requests dealt with by outpatient clinic, social services, or day hospital treatment.
- The need for dedicated long stay wards eliminated (these patients stayed in the ward of admission).
- Staff morale considerably improved.

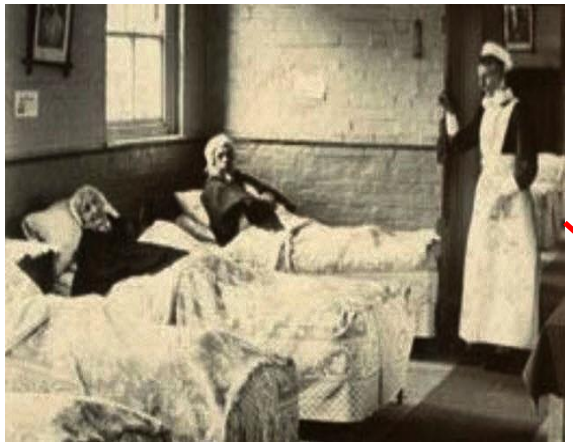
Can we find another similar step change in models of care and assessment?

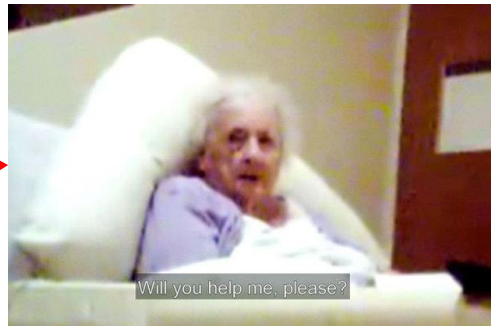
***Bagnall WE**, Datta SR, Knox J, et al. Geriatric medicine in Hull: a comprehensive service. BMJ1977;ii:102–4.*

More recent evidence that comprehensive geriatric assessment benefits older people admitted to hospital: (*Ellis et al BMJ 2011*).

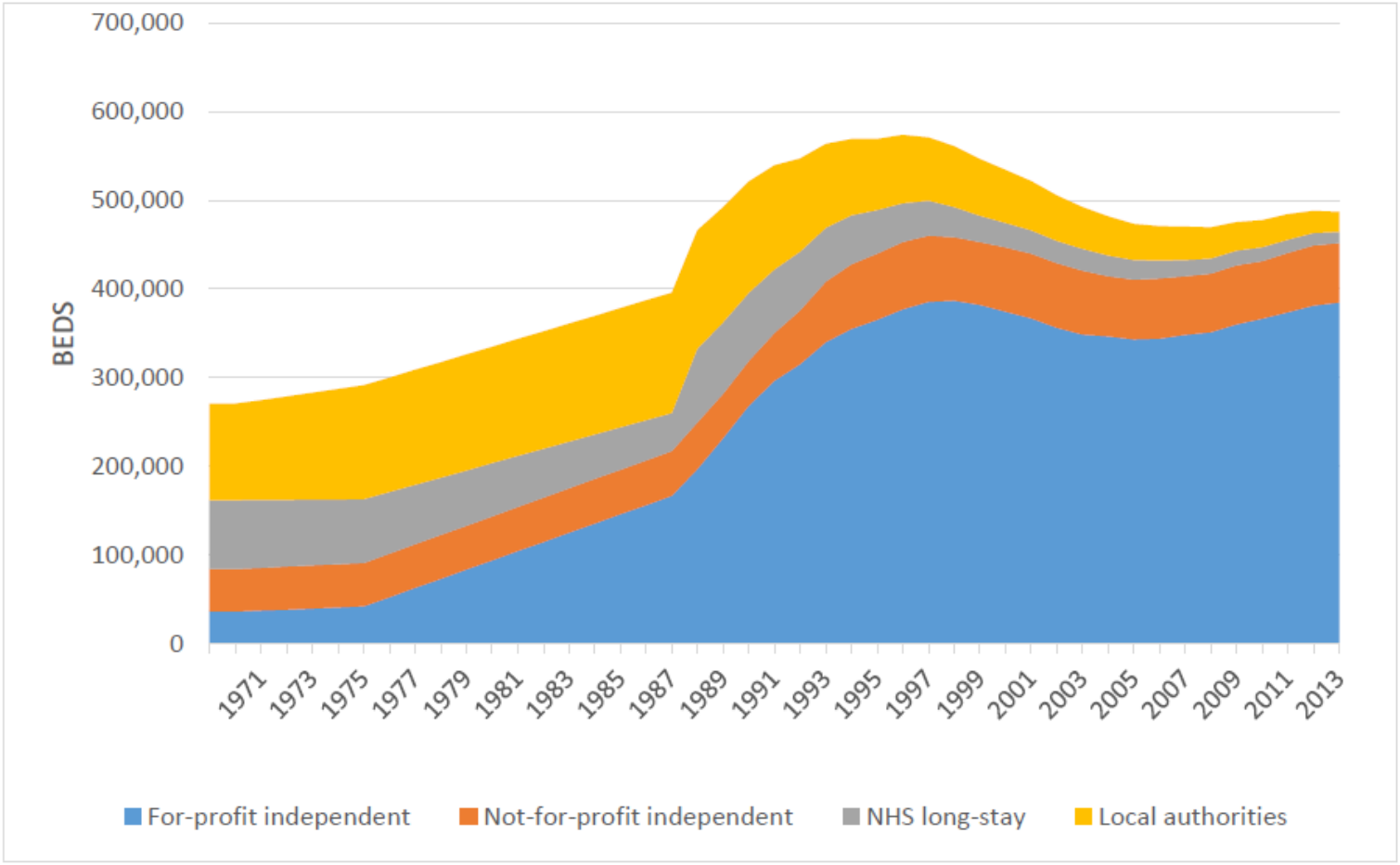
Challenges of population ageing for LTC

- **Increasing LTC costs:** Projected to be substantial (and would be greater still if improvements in quality and access) BUT scope for redirecting from prosthetic to enabling and rehab services and interventions (e.g. better podiatry rather than a wheelchair; OT intervention to help someone to learn to cook again rather than delivering meals), also technology and better organisation of services
- **Balance with family:** Most care provided by family (including from older people), some differences in preferences but evidence is that family prefers to work with other services (i.e. complementary) – provision of more/less formal care may lead to changes in type of help provided.



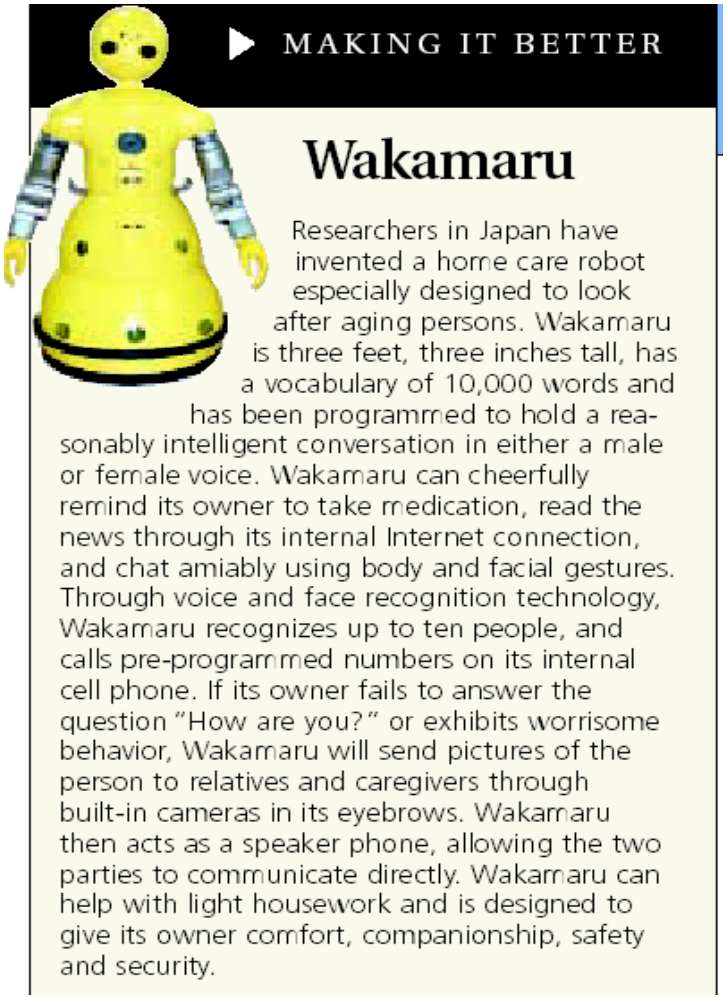


How not to do it, unintended consequences of changes in funding arrangements: Beds in residential settings for older people, UK, 1970-2013



Source: LaingBuisson research

Can technology help?



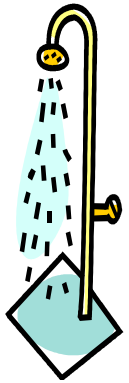
MAKING IT BETTER

Wakamaru

Researchers in Japan have invented a home care robot especially designed to look after aging persons. Wakamaru is three feet, three inches tall, has a vocabulary of 10,000 words and has been programmed to hold a reasonably intelligent conversation in either a male or female voice. Wakamaru can cheerfully remind its owner to take medication, read the news through its internal Internet connection, and chat amiably using body and facial gestures. Through voice and face recognition technology, Wakamaru recognizes up to ten people, and calls pre-programmed numbers on its internal cell phone. If its owner fails to answer the question "How are you?" or exhibits worrisome behavior, Wakamaru will send pictures of the person to relatives and caregivers through built-in cameras in its eyebrows. Wakamaru then acts as a speaker phone, allowing the two parties to communicate directly. Wakamaru can help with light housework and is designed to give its owner comfort, companionship, safety and security.

- Everyday life can be made physically less challenging- (access piped water, electric heating; microwave cookers etc)
- Everyday adaptations can help cope with challenges, (memory pill boxes, adapted kitchen tools, grab sticks etc)
- Wider environment can be designed to facilitate access (step free, leaning buses etc)
- Technology can help facilitate access to specialist care remotely (mobile apps), and enable remote monitoring of older people's health and wellbeing (pendant alarms, 'SMART' homes)

Can you bathe/shower without help?



Answer depends on type of bathing facility available as well as on functional ability – person/environment interaction

But…older (and all) people still need frequent face-face contact

- Recent study in the US showed that older people who saw friends and family 3+ times a week were half as likely as others to develop depression
- For those in their 50s and 60s contact with friends most important
- For those 70+, contact with family most important
- *(Teo et al, JAGs, 2015).*

Policy dilemmas

- Reducing state support for older people and requiring more of families could lead to conflicts with other roles (e.g. raising children themselves)
- Targetting supports on older people living alone/lacking family support could over burden and discourage family care; providing more support could 'crowd out' family care
- Type of support important too – evidence shows prompt interventions with rehab therapies can have lasting effects – better than substitutive services
- Both research and policy making requires consideration of the life course and intergenerational linkages.
- Some policies beneficial in all regards e.g. promotion of healthy ageing through primary prevention (discouraging smoking etc), secondary prevention (e.g. treating hypertension and cvd risk factors) and rehabilitation and enabling supports.