

Centre for Ageing and Dementia Research (CADR)

Canolfan Ymchwil Heneiddio a Dementia

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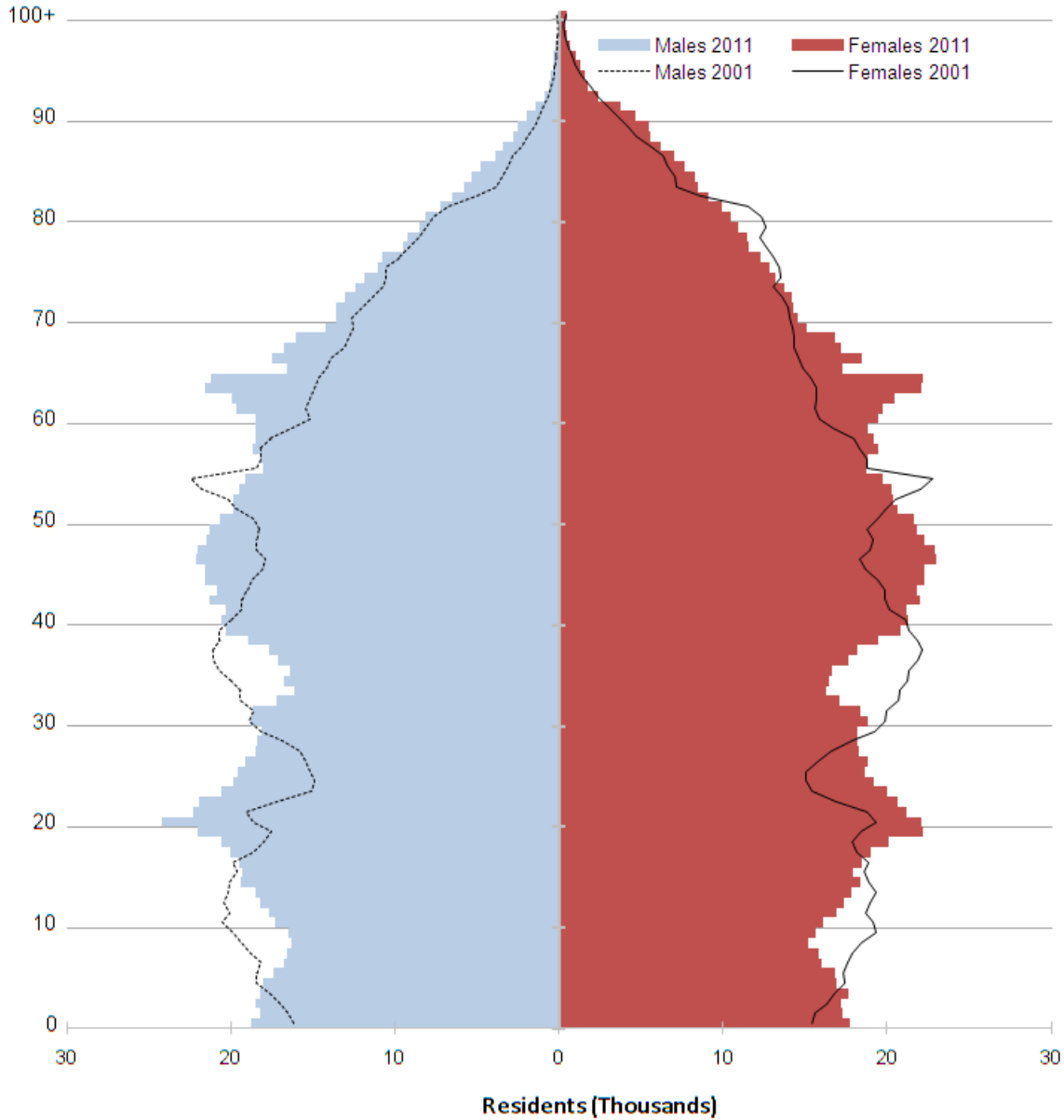
Context

- Demographic change
- Diversity of an older population
- Opportunities of ageing
- Policy and practice priorities

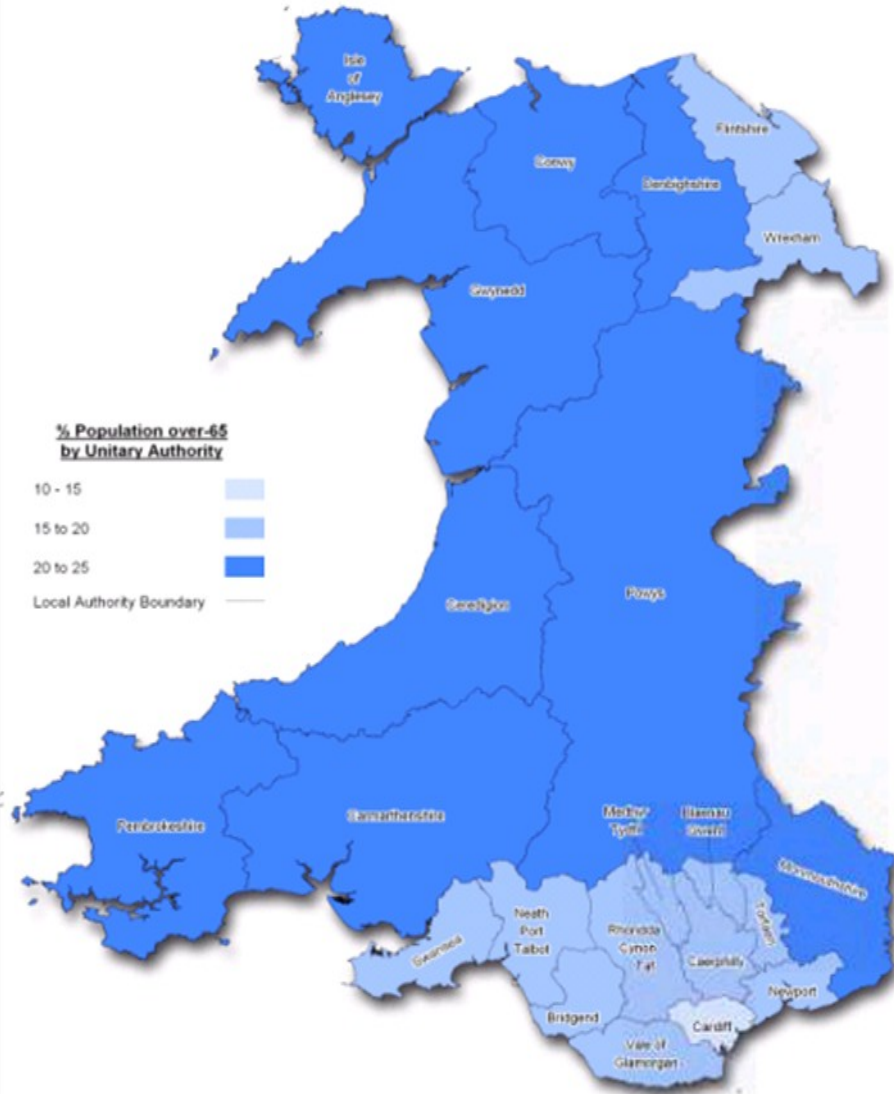


Age Pyramid Wales 2001 and 2011.

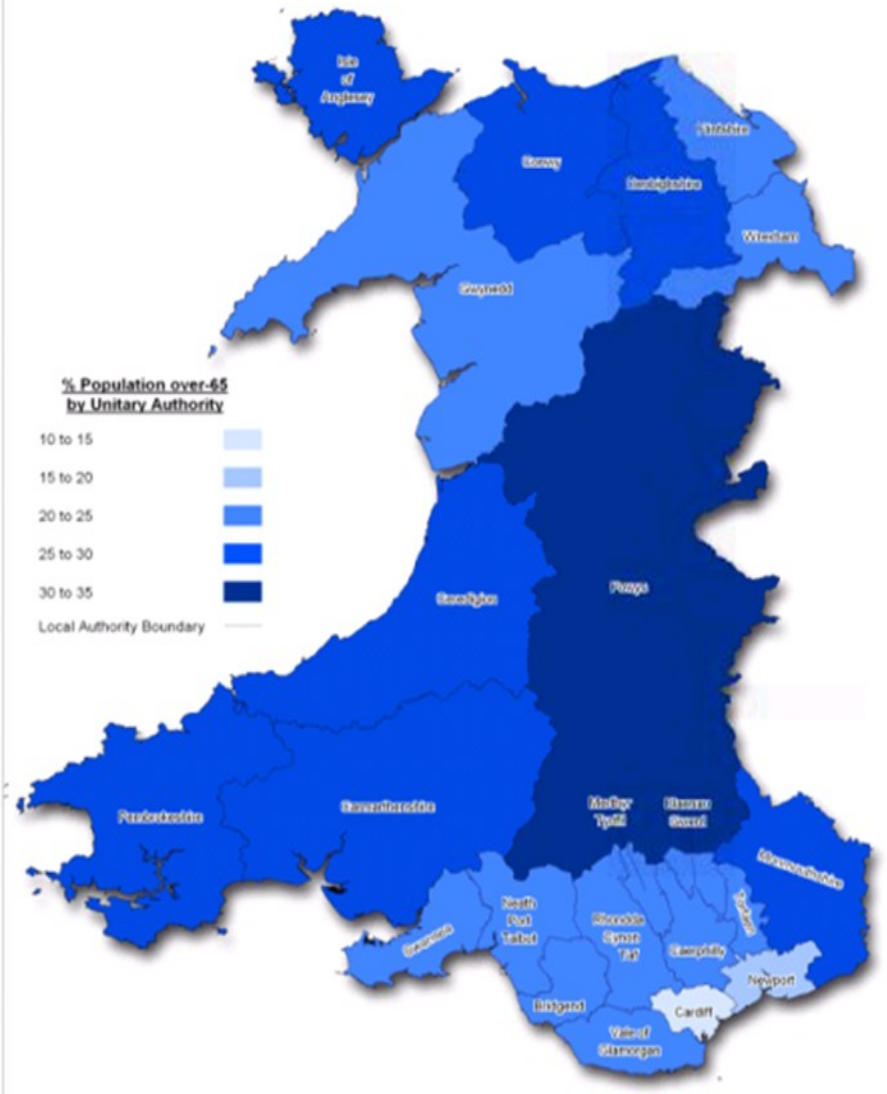
Source ONS



Proportion of Population over 65 by LA, 2009

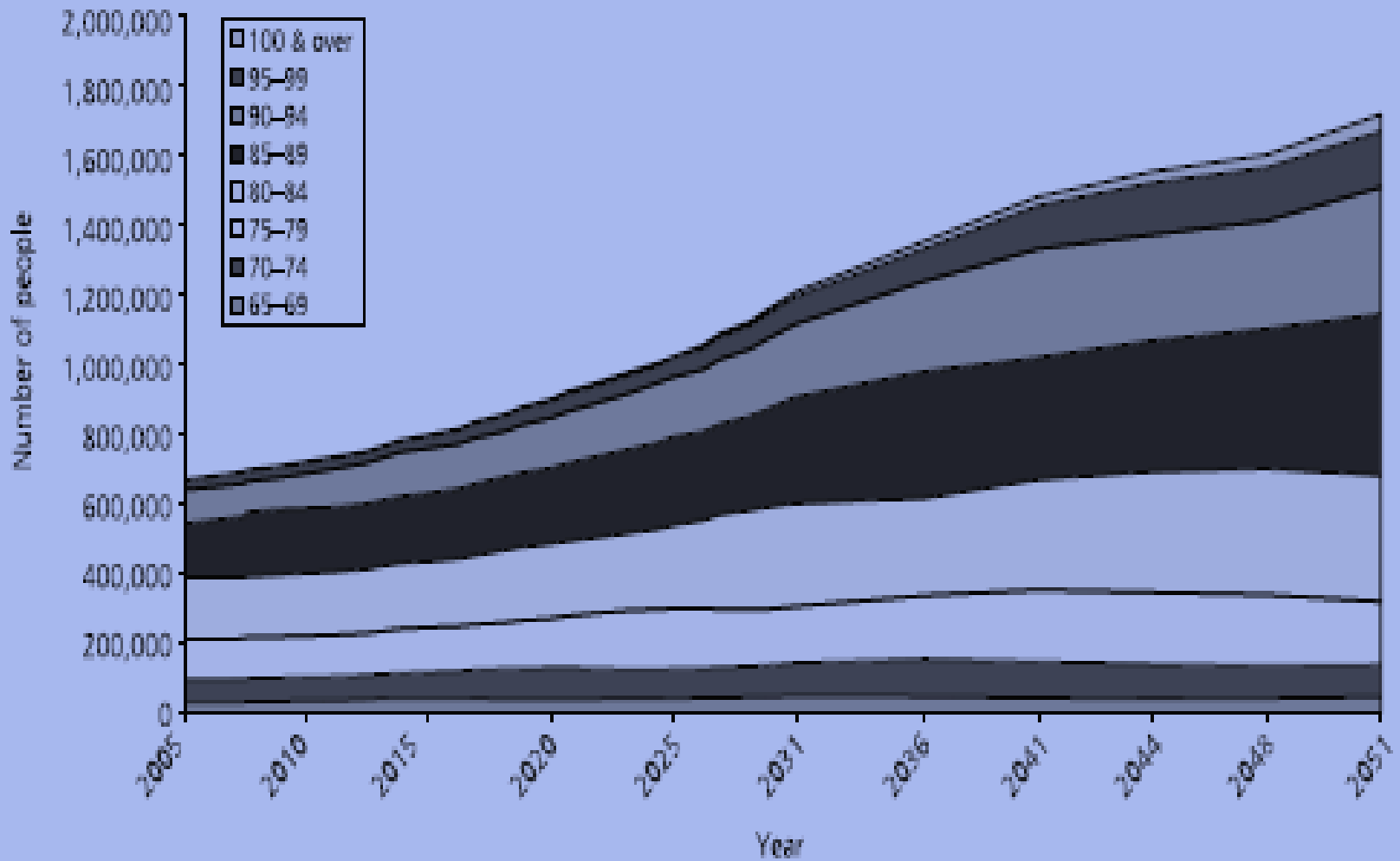


Projected Proportion of Population over 65 by LA, 2024



Dementia in the UK

Source Dementia UK 2007



Projected number of people with late onset dementia by age group (UK)

The **Vision** for Wales

Making Wales *the* place to do research into ageing and older people

- Collaborative infrastructure
- Evidence-based culture
- Services tailored to the needs of communities and individuals and delivered by research-aware practitioners.

Aims

The Centre for Ageing & Dementia Research (CADR) will develop a world class integrated research Centre in Wales spanning multi-disciplinary activity and develop areas of expertise from biological, through psycho-social and environmental to social policy in ageing and dementia.

The Centre

- Enable leading researchers in ageing and dementia research to compete globally by further developing critical research strengths and collaborations.
- Develop and build research capacity underpinning future increased grant capture, establishing essential research resources, novel skills and technologies, and building critical mass for early career researchers, PhD students and Research Fellows.
- Provide a platform for internationally competitive multi-disciplinary and translational research that will have impact on the health and well being of the people of Wales.

The Centre

- Engage with policy makers and practitioners, disseminating research findings and establishing research priorities and collaborations and work with them to improve services for older people in Wales.
- Engage the public to ensure that Centre research addresses the needs of older people, people with dementia and carers as well as the public in general.
- Develop and facilitate business and clinical linkages, contributing to the health and wealth of Wales as well as enhancing the Life Science sector.
- Facilitate translation of biological and psychosocial findings into clinical and social care practice within Wales

1: Environments of Ageing (Swansea)

The work will link in with the 'Ageing Well in Wales' initiative and specifically with age friendly and dementia supportive communities streams. It will cover themes associated with existing strengths for example, accommodation and care - residential, improving home care including telecare; prisons; outdoor environments- age friendly and dementia supportive communities; transport; housing; climate change and emergency preparedness; rural, and deprived area issues; technologies of ageing.



2.1 Psychosocial aspects of ageing: loneliness, social exclusion, intergenerational relations, social networks (Bangor & Swansea)



2. 2 Social Care (Swansea)

This will further the Developing Evidence Enriched Practice (DEEP) model in relation to older people working with a number of organisations (local authorities and 3rd sector) in South Wales. The Centre's approach to translational research will be a strong element in bringing local authority social care together with business and industry. For example, we will bring technology companies working on assistive living and retailers developing dementia friendly stores together with older people, people with dementia and practitioners working with older people



3. Well being and ageing (Bangor)

3.1 Creativity, Ageing and dementia

3.2 Resilience, well-being and healthy ageing



4.1: Further understanding the causes of dementia (Cardiff)

Our challenge is to identify rare genetic susceptibility variants which contribute a significant individual impact on disease development. Predications are that individuals with the early onset form of Alzheimer's disease (EOAD) will have a higher loading of genetic risk variants, having an estimated heritability of 92%. We therefore plan to collect the most powerful sample of EOAD available to researchers world-wide, including 2000 cases: 500 already being collected and 1500 from H&CRW funding

4.2: Translation of Genetic Findings into clinical and social impact (Cardiff)

In 4.2 we will create human cell models of AD using induced pluripotent stem cells (iPSCs) derived from individuals at the highest risk of developing dementia and those most likely to age healthily. This will allow us to better understand the elements which are abnormal in diseased cells and allow us to test new therapies to correct these abnormalities and reduce the risks of developing disease. Our research could allow the development of diagnostics for early stage disease, and we will endeavour to advance this in collaboration with industry.

4.3: CRISPR/Cas9 Genome Editing to Model AD Risk Variants with Isogenic Pluripotent Stem Cells (Cardiff)

In this work package, we plan to combine iPSc and genome editing technology to further our understanding of AD genetics and pathogenesis. We will use patient-derived iPSCs to model known causal variants in AD (for example rs59335482 in *BIN1* (4) and rs75932628 in *TREM2* (5)).

This will create powerful cell models for dissecting the effects of single causal AD risk genes. The identification of an expanding number of genetic susceptibility loci for AD provides an opportunity for new molecular and therapeutic insights.

5. Developing and evaluating interventions in dementia care (Bangor)

- Psychosocial interventions in dementia care
Good links with Trials Units (e.g. NWORTH), health economics and implementation science
- The Centre will focus on implementation of evidence-based approaches:
 - *What are the levers and barriers to take up of research findings?*
 - *How can implementation be facilitated?*
 - *What are the appropriate outcome measures?*

Engaging people with dementia and caregivers in research studies

- The Centre will be the link for Wales with 'Join Dementia Research' <https://www.joindementiaresearch.nihr.ac.uk/>
- UK-wide initiative to bring together potential participants and researchers
- Plan is for JDR to subsume NEURODEM participant register, which has been operating for a number of years already

Systematic reviews and evidence recommendations

- Cochrane review of reminiscence and life review work underway
- Work on digital life story books developing (with business partners – ‘Book of You’)
- Further work on cognitive stimulation – individual manual for carers now available in Welsh

Public Involvement & Engagement

- Participatory research
- Involvement in the advisory group
- Ambassadors at events
- Developing and supporting documentation
- Exhibitions
- Public Events, seminars annual conference
- Media
- Website





Melanie Dunstan



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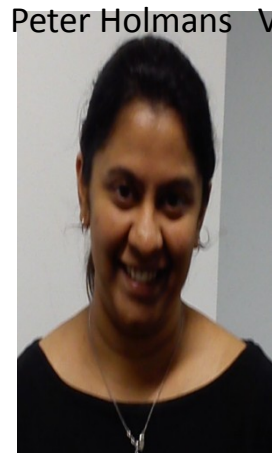
Professor Julie Williams



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Taniesha Morgan



Rhodri Thomas



Nicola Denning



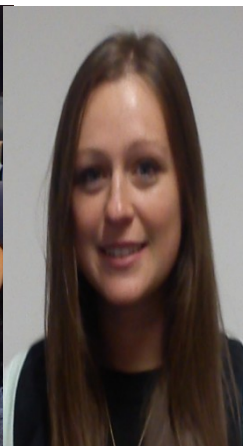
Amy Braddel



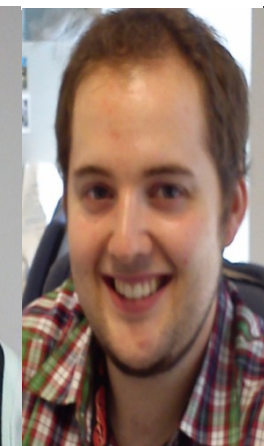
Charlene Thomas



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Rachel Marshall



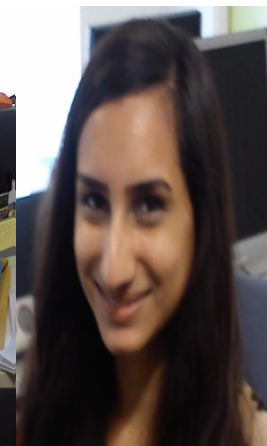
Nicola Denning



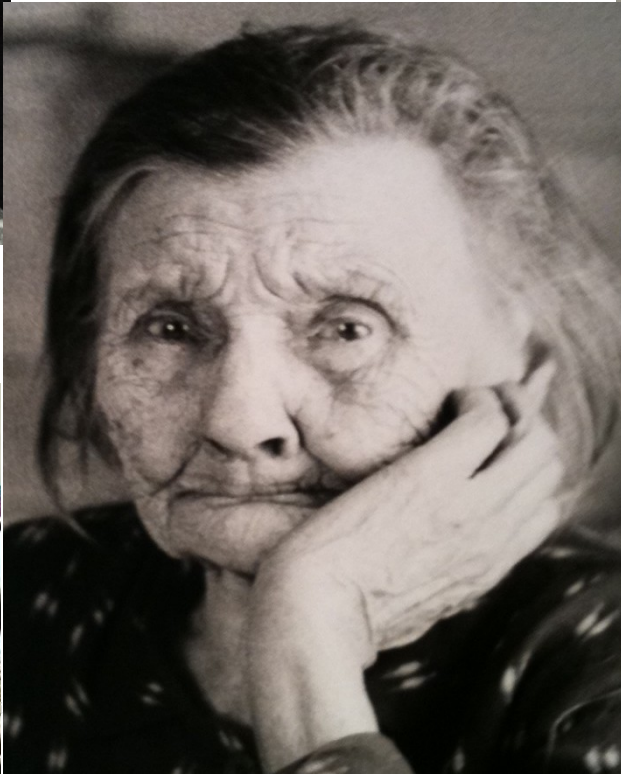
Amy Braddel



Charlene Thomas



Alun Meggy



**Thank You –
Diolch yn Fawr**