

just AGEING?

fairness, equality and the life course



Equality and
Human Rights
Commission

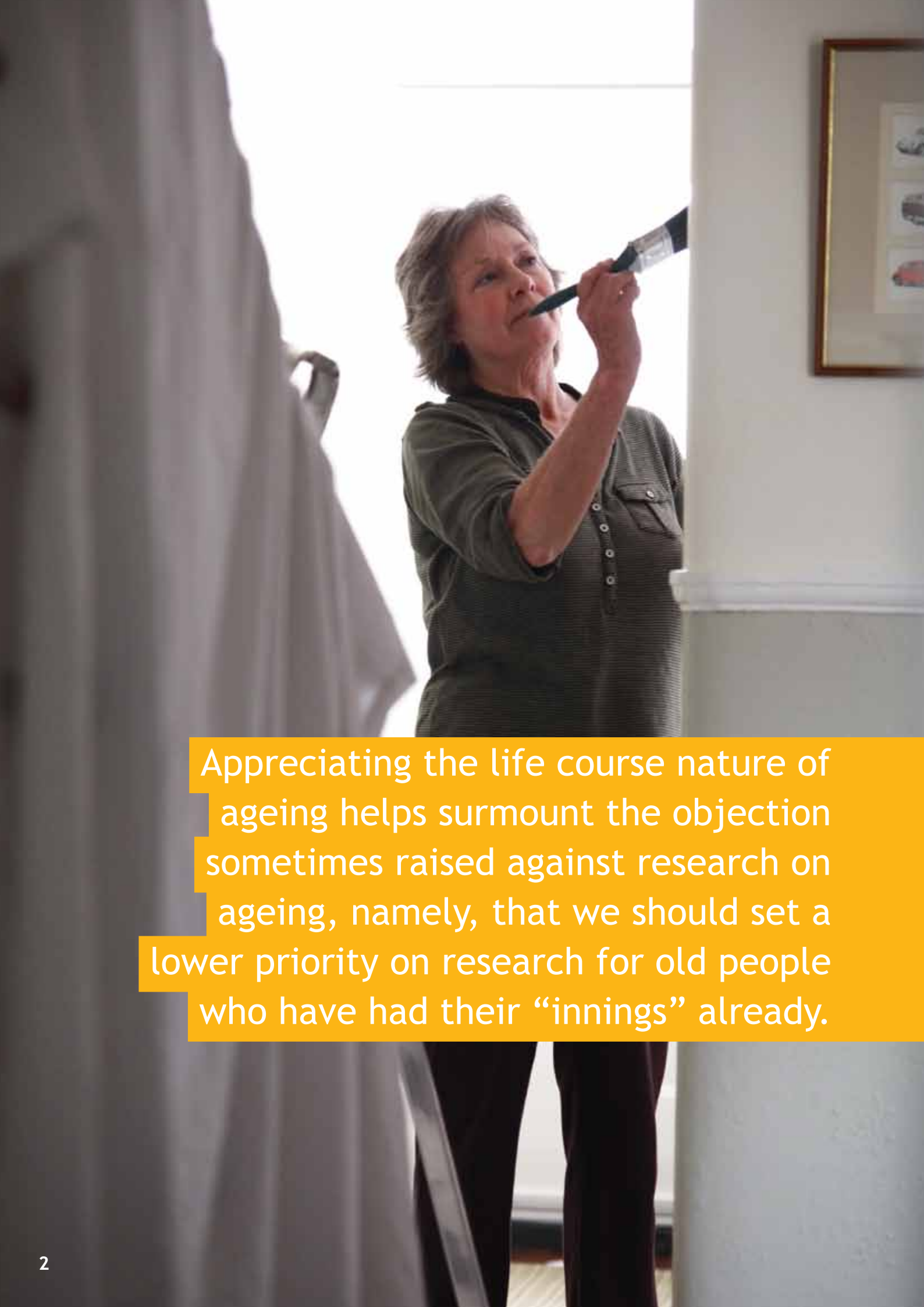


WE WILL

The future of ageing

By Professor Tom Kirkwood CBE





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Introduction

The ongoing increase in human life expectancy is without doubt one of the greatest changes to affect humanity in the last two hundred years. Over the last two decades, some of the most startling aspects of change have become clearly apparent but even now they are not nearly as widely appreciated as they need to be. Unlike other challenges of our time, the increase in longevity is a change that, although dangerous if we ignore it, is the product of quite extraordinary success and has the potential to contribute to even greater successes in the future. Policymakers, research scientists, industries and the public at large need to be helped to see this success for what it is and to realise the opportunities that it brings, as well as the challenges.

One of the most pressing challenges relates to the great inequality in life and health expectancy that exists between different regions and socioeconomic groups, even within a society as financially developed as the UK, where each citizen shares entitlement to comprehensive health and social services. The fact that large numbers of individuals living, for example, in parts of Glasgow, Teesside, and London, may have life expectancies, which are a full decade less than other UK citizens, presents a challenge equally for our understanding of what actually causes these differences, and for our capacity to develop and implement effective policies to reduce them.

The hope for progress must come through the clear indications for malleability of the ageing process itself. There is plenty of evidence for this, both from the demography of recent decades, when life expectancy has increased contrary to forecasts of a ‘longevity ceiling’, and from basic science. In order to exploit this malleability we need a more detailed understanding of the complex mechanisms that underlie ageing and age-related disease, and of how environmental factors, including housing, exercise and nutrition, modulate these mechanisms. Armed with this knowledge we will be able to design better ways to deliver increased health and vitality in our later years.

Although there are many who think that ageing begins at 40, 50 or 60, we are learning that the underpinning mechanisms of ageing play out their mischief throughout the life course. Appreciating the life course nature of ageing helps surmount the objection sometimes raised against research on ageing, namely, that we should set a lower priority on research for old people who have had their ‘innings’ already. Indeed, if we can deliver a world that gives greater health to older people, it will be our children and grandchildren who will benefit the most.

The roots of inequality

Since 1800, life expectancy for the population as a whole has shown a remarkably uniform rise. Although considerable poverty and squalor existed still, the gradual trend towards improved sanitation, cleaner drinking water, and improved housing led to a steady decline in the rates of mortality due to infectious disease. This had previously caused particularly severe losses amongst infants but also generated deaths across all generations. In time, the control of infection was advanced through the development of vaccines and, from the mid-20th century, by the discovery and general use of antibiotics. From the time that antibiotic use became widespread during the 1950s and 1960s, the death rates in the early and middle years of life dropped so low that although death from infection still occurred, there was no room for significant further increase in life expectancy as a result of further reducing mortality rates during the early and middle years of life. The continuing increase in life expectancy that has been seen in recent decades is driven by something entirely new - the rapidly declining mortality rates among those who are old already.

At the same time that population ageing has been transforming the previous age-mix of societies, a series of important advances in our biological understanding of the ageing process has revealed that ageing is indeed more malleable than used to be thought. From the late 1970s onwards, the idea that ageing is due to some fixed biological programme for senescence and death, has come to be seen as false. The

current consensus is that ageing is driven by the lifelong, gradual accumulation of a broad variety of molecular faults in the cells and tissues that make up our bodies. Further work has confirmed that, as has long been believed, there is a tendency for a genetic predisposition to above or below average longevity to run in families. Genes have been estimated to account for about a quarter of what determines length of life for the typical individual. However, the way in which genes exercise this influence on longevity comes not from controlling some kind of clock-like timing mechanism but rather from influencing the activity of the key cellular maintenance systems, such as DNA repair and antioxidant defence. Genes also appear to influence important features of our metabolism, such as how the body handles cholesterol, which in turn has an impact on the age-related accumulation of damage within the cardiovascular system.

Since genes do not programme the ageing process in a strict, clock-driven sense, there is much scope for non-genetic factors to affect how fast or slowly the burden of molecular and cellular damage builds up during our lives. This underscores, from a mechanistic stance, the life course nature of how our bodies age. The damage that will determine our health, vitality and level of independence in later life has been accumulating since we were in the womb. Indeed there is emerging evidence that some of the more important kinds of damage have their origins very early in our development. This means that research on the biology of ageing concerns not only those who are older already but is equally relevant to children of all ages. >>





It is the new scientific recognition of the intrinsic malleability of the ageing process that provides the potential for innovative connections with social science and policy. It has been recognised for some time that socioeconomic disadvantage confers greater risk of disease. What has not been apparent until recently is the connection between social disadvantage and the mechanisms that underpin the ageing process itself. Sub-optimal foetal nutrition, coupled with poor diet, housing and education may commit individuals to a trajectory of lifelong health and wellbeing that places them at a chronic disadvantage not only in material, but also biological, terms.

One of the immediate challenges requiring engagement between social scientists and other disciplines is therefore to understand how much of the 75% of that which determines length of life from a non-genetic standpoint, can be modulated from a societal perspective. Part of this spectrum of factors will include nutrition, which is part biological but also, to a very significant extent, socially modulated. Another part relates to lifestyle, including exercise, where the same inter-connection between biology and social science must be addressed. Another is also related to education, housing, employment status and the nature of work. The final part is related to the adverse effects of chronic stress, particularly that which is experienced by those with limited opportunity to exercise autonomy in their life choices. The nexus of connections is extensive and urgently needs to be explored.

The social sciences are also the locus for exploration of attitudes to ageing and the psychology surrounding our journey through the life course. The range of problem attitudes to ageing is legion. These include fatalism (the belief that ageing is fixed and cannot be altered), denial (the pretence, until it is too late, that one is immortal), negative stereotyping (the pervasive scourge of overt and covert ageism), tunnel vision (the inability to see alternative ways of addressing the challenges), and fantasy (the delusion, fuelled by popular imagination and an ever-eager media, that a 'cure for ageing' will soon be found).

It is sometimes believed that when it comes to matters concerning ageing, old people are the fountain of all knowledge and wisdom. The truth, of course, is very different. Older citizens have experience of what it means to be old and some of them can put this experience to outstanding use. For others, however, old age is, as Trotsky once remarked, the most surprising thing that can happen to them. Many older people are confused by the experience of being old, have had little or no useful preparation for this state, and many have simply carried ageist prejudices formed in youth into their own old age. To find oneself the object of one's own negative prejudice is an unhappy state indeed, but one which appears far from uncommon. There is some evidence that those who have benefited from above-average education are better equipped to deal with the adversity that comes with old age than those who have been educationally disadvantaged.

Evidence-based interventions and the development of policy

Although there is now a wealth of observational and epidemiological data showing that health in later life is strongly influenced by behavioural and social factors, there is a worrying lack of evidence about interventions that are effective in improving health and wellbeing and reducing inequality. Gaining the evidence that interventions are effective will be essential if successful policies are to be introduced.

There is good biological evidence, although mainly from animal studies, that factors such as metabolic stress, inflammation and oxidative stress all contribute to the accumulation of the molecular and cellular damage that drives the ageing process. There is also proof-of-principle from experimental work that factors such as sedentary behaviours, poor diet and an adverse

environment accelerate ageing, whereas good diet, physical activity and a favourable environment may slow down ageing and postpone age-related frailty, cognitive impairment and disease.

For contemporary societies, the most important factors influencing the ageing trajectory are thought to be smoking, alcohol and drug misuse, poor diet (excess saturated fats, excess sugar, lack of fresh fruits and vegetables), physical inactivity, and social disadvantage which often, although not necessarily, connects with all of the previous factors.

Population-based studies of more than 2000 Europeans have indicated that a healthier lifestyle based on good diet, non-smoking, and moderate physical activity was associated with a greater than 50% reduction in age-related mortality. Similar data has also been reported from follow-up research over more than two decades of middle-aged



American women where the negative factors taken into consideration were smoking, being overweight, lack of physical activity and poor diet. The relationship between social inequalities and differential exposure to factors affecting healthy or unhealthy ageing is extremely complex. Differential access to resources may be a determinant, but access to resources is itself subject to a complex, interacting network of factors, which needs to be understood in sufficient detail for the key nodes to be made the target of policy interventions. Furthermore, interventions should ideally be assessed for their efficiency and cost-effectiveness with the same rigour that is used for clinical trials. This raises obvious difficulties since the conventional designs for such trials, such as randomised control trials, may not be feasible.

A further factor limiting the evidence-based development of effective interventions in the context of healthy ageing is the scarcity of good baseline data against which impacts can be assessed. This is particularly the case for the oldest old, those over 85 years, where there is a serious lack of comprehensive data on the current health and wellbeing of the current population. This lack of data is being addressed, for example, through the MRC-funded Newcastle 85+ Study, which is collecting extensive data on the social, medical, biological and psychological factors associated with healthy ageing. In addition to the regular monitoring of populations trends in health that occur through existing public health monitoring mechanisms, further studies will be needed, including long-term cohort studies, to track how the changing patterns of health can be linked to policy and other interventions.



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Opportunities from novel technologies

With ageing comes increased vulnerability through to a range of disabilities and functional impairments. Yet disability is not an intrinsic state of incapacity but tends far more often to represent the failure of our environment to adequately meet our needs. Often, a relatively simple modification of the environment can remove what was previously an insuperable obstacle, for example, in the case of a wheelchair user, the provision of a ramp and a door wide enough to take a wheelchair. For a person with arthritis of the hand, use of a conventional mobile phone may be impossible, so such a person faces a barrier in communication whilst on the move. However, simple technological solutions exist, at least in principle for this problem.

The development and widespread application of technologies to change the expectations and functional abilities of older citizens is such an obvious priority that it is truly remarkable that, to date, the advances have been so modest. There has been some valuable development of

alarm systems for frail or isolated older people; but the scope for technology to be implemented at a deeper level to overcome the inequalities associated with disability has been under-used. Technology, properly developed and applied, will liberate large numbers of older people from entirely unnecessary social isolation and enforced dependency. The result, even if the technology solutions were funded entirely by the state resources, would be savings in the provision of high-dependency support services that would easily repay the necessary investments. However, there is no need to see the future provision of technology solutions as requiring state support. The market opportunities for companies are enormous already and growing every year. It is hard to escape the impression that what is holding these developments back is nothing less than a persistent lack of imagination, propelled perhaps by equally persistent ageism. It may well be that there is a role for enlightened policy makers to initiate programmes to kick-start a few positive exemplars.

The need for joined-up policy

As has been emphasised several times already, the interventions and policies required to address inequalities associated with ageing are likely to be complex. This will require unprecedented coordination across the domain of different agencies and disciplines. Both the 2005 House of Lords Science and Technology Select Committee Report on Ageing and the 2008 Government office for Science Foresight Report on Mental Capital and Wellbeing stressed the need for new levels of strategic policy coordination.

A recurring concern in the context of policy initiatives to address the challenges of population ageing is the financial cost, sometimes phrased as the 'burden' of caring for the increased numbers of older people. The reality is that, although health and social services do of course demand resources, these

are to a significant extent offset by the fiscal benefits to Gross National Product that accrue from the simple fact that people are living longer. Furthermore, inequalities in healthy life expectancy are themselves intrinsically costly, since the factors that push large numbers of those socioeconomically disadvantaged groups towards premature ill health and death are themselves the source of significant financial burdens in terms of lost productivity and increased, high-cost dependency.

Addressing the issues of fairness and equality across the life course is not just important on the grounds of morality and social ethics; it is also essential if we are to harness the potential for increased economic and mental capital and wellbeing that has been created by the trend towards longer lifespans.

Further reading

EU FP6 AgeAction:
Changing Expectations of Life.
Institute for Ageing and Health (2007)
Visit: <http://ageaction.ncl.ac.uk>

Foresight Report on Mental Capital
and Wellbeing. The Government Office
for Science (2008).

House of Lords Science and Technology
Committee. Ageing: Scientific Aspects.
The Stationery Office (2005).

Kirkwood, T. Time of Our Lives:
The Science of Human Ageing.
Oxford University Press (1999).

Marmot, M. Status Syndrome:
How Your Social Standing Directly
Affects Your Health and Life Expectancy.
Bloomsbury (2004).

What is Just Ageing?

The Equality and Human Rights Commission, and the new merged charity Age Concern and Help the Aged, have joined forces to investigate and develop an understanding of equality over the life course and to identify solutions to inequalities in later life.

To find out more about the Just Ageing? programme and receive details of future events, please email justageing@equalityhumanrights.com. You can also visit our website to find out more at www.equalityhumanrights.com/justageing

Who we are

The Equality and Human Rights Commission is working to eliminate discrimination, reduce inequality, protect human rights and ensure that everyone has a fair chance to participate in society.

Find out more about the Equality and Human Rights Commission via our website at:

www.equalityhumanrights.com
or by contacting one of our helplines.

England helpline: 0845 604 6610
Textphone: 0845 604 6620

Scotland helpline: 0845 604 5510
Textphone: 0845 604 5520

Wales helpline: 0845 604 8810
Textphone: 0845 604 8820

Monday to Friday, 9am-5pm

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Age Concern and Help the Aged

have joined together to form Age UK, a single charity dedicated to improving the lives of older people. We are a new charity with a clear vision: a world in which older people flourish. We work with a range of partners to ensure that together we can improve the lives of older people.

To find out more about Age Concern and Help the Aged visit our website at:

www.ageconcern.org.uk

or e-mail us at:

info@ace.org.uk

or call us on:

020 8765 7200

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Age Concern England (charity number 261794) has merged with Help the Aged (charity number 272786) to form Age UK, a charitable company limited by guarantee and registered in England: registered office address 207-221 Pentonville Road, London, N1 9UZ, company number 6825798, registered charity number 1128267. Age Concern and Help the Aged are brands of Age UK. The three national Age Concerns in Scotland, Northern Ireland and Wales have also merged with Help the Aged in these nations to form three registered charities: Age Scotland, Age NI, Age Cymru.