**KS3/4: Debating the Ethics of Healthy Ageing Research – Fact sheet**

Background on ageing

We’re all ageing, it’s a fact of life. And as we age we often experience many of the signs of ageing; aches, pains, illness, slower mental and physical responses. But do we have to? Is ageing really an essential part of getting older? Healthy ageing research at the Babraham Institute spans and unites our research themes. Our aim is to understand what changes in our body as we age and how that affects our lives. We hope that a deeper understanding of ageing biology could ultimately lead to lifestyle changes, policies and treatments that could help people to stay healthier as they age.

What is ageing?

* Growing old
* Time-dependent decline in physiological function
* Exponential increase in mortality

Who is ageing?

* Every living thing (animals, plants)

What are features of ageing?

* Frailty (weakness of muscles & bones)
* Organ function decline (muscle, eyes, lungs, brain etc.)
* Wrinkled skin
* Spine curvature
* Increased risk of infection & age associated diseases (e.g. cataracts, Alzheimer’s, arthritis)
* Sleeping problems

For more information, visit:

* Babraham Institute’s Healthy Ageing research summary - <https://www.babraham.ac.uk/our-research/healthy-ageing>
* ‘Babraham Institute – Helping to turn back the ageing clock (video)’ <https://www.youtube.com/watch?v=cWEZJhdXvO0>

What is healthy ageing?

**Lifespan vs. health-span**

The amount of time that we are expected to live for is deemed our lifespan. Whereas, the amount of time that we spend being healthy is known as our health span. Healthy ageing is about trying to extend our health-span, and reduce the amount of time that we are spent suffering from age-associated illness at the later years of our life.

Why is it important that we research it?

* The average woman currently lives 19 years of their life with age-associated disease (Office for National Statistics, 2015). Our lifespan has been increasing alongside our improvements in technology and medicine, unfortunately, our health-span has not been increasing at the same rate. This means that although we are now living for longer, we are living for longer with disease. This is a huge burden on our health services
* The number of years spent with ‘substantial care needs’ as doubled between 1991 and 2011 (May Bulman, The Independent, 2017). As we are surviving with diseases for longer, we require more social care and for longer. This is very costly, and a lack of independence will result in negative effects on mental health in the elderly and limit their social lives.
* 75% over 65s suffer from at least two diseases (Goldman *et al.,* 2013). If we could develop treatments that tackle ageing itself then it would negate the need of several treatments for each individual disease. This would reduce the amount of side effects that occur from each individual treatment, and so would improve the quality of life of the elderly.

What sorts of implications are there for research advancing healthy ageing?

Examples of potential problems for them to think about:

* Population size – would this treatment also increase lifespan? How would this affect food availability?
* Availability – will it be freely available or costly? How would this affect society differently, in terms of classism and politics?
* Retirement age – If people are healthy until later life, does this mean they should work for longer? Is a fair thing to do?
* Fertility and career development – if people are able to maintain health until later life, could this allow people to start families at an older age without increased risk of pregnancy complications? What could this mean for career development?
* Health insurance – how would the information be protected so insurance doesn’t unfairly charge people with specific genetic makeup