

Can living in an almshouse lead to a longer life?

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Remarkable
research for
healthy ageing
THE DUNHILL MEDICAL TRUST



Background

- Extension of the work done in 2017 on the longevity boost that female residents in Whiteley Village are receiving
- Dunhill Medical Trust, the Almshouse Association and Bayes Business School provided funds to allow us to investigate the mortality experience of almshouses across England
- A call was put out to see which Almshouses would be willing and able to allow the research team access to their data
- We had 17 positive responses though were only able to use 15 of the almshouses (including two currently incomplete)

Background

- Data was obtained in both electronic and paper form
- Paper form was entered into our database manually
- Records were often incomplete - used an external genealogy team to fill in the gaps where possible (eg date of death)
- Once we had clean data, we could begin the analysis ...

Eligibility criteria

- Specific eligibility criteria vary from almshouse to almshouse
- The common criteria of entry include
 - being of pensionable age
 - having few savings
 - limited financial means
 - in need of housing
 - able to live independently or with minimal support whilst being in good health

Payment structure

- Residents make weekly maintenance contribution
- Most would be covered by full or partial housing benefit for residents who are retired; or the housing element of Universal Credit for residents under retirement age
- Some almshouses also charge additional costs for council tax, bills and internet, as well as any extracurricular activities provided such as daytrips

Community and support structures

- Residents live in a supportive community – whereby activities are organised for them and by them
- Many almshouses arrange coffee mornings, luncheons, celebrations, daytrips, excursions, film and book clubs, gardening, fitness classes, bingo and sporting activities
- Wardens are usually present on the premises of almshouse and offer support to residents
- Medical support is available in some, but not all, almshouses

The 15 almshouses whose data is included in the study

- Charterhouse
- Chelsea Pensioners (Royal Hospital Chelsea)
- Durham Aged Mineworkers Homes Association (DAMHA)
- Hurst Consolidated Charity
- Morden College
- Richard Watts Charity
- Salisbury City Almshouse and Welfare Charity
- Sheppard Trust
- St Martin in the Fields Almshouse Charity
- The Davenport Homes
- The Richmond Charities
- Trinity Hospital, West Retford
- United St Saviour's Charity
- Walthamstow and Chingford Almshouse
- Yardley Great Trust

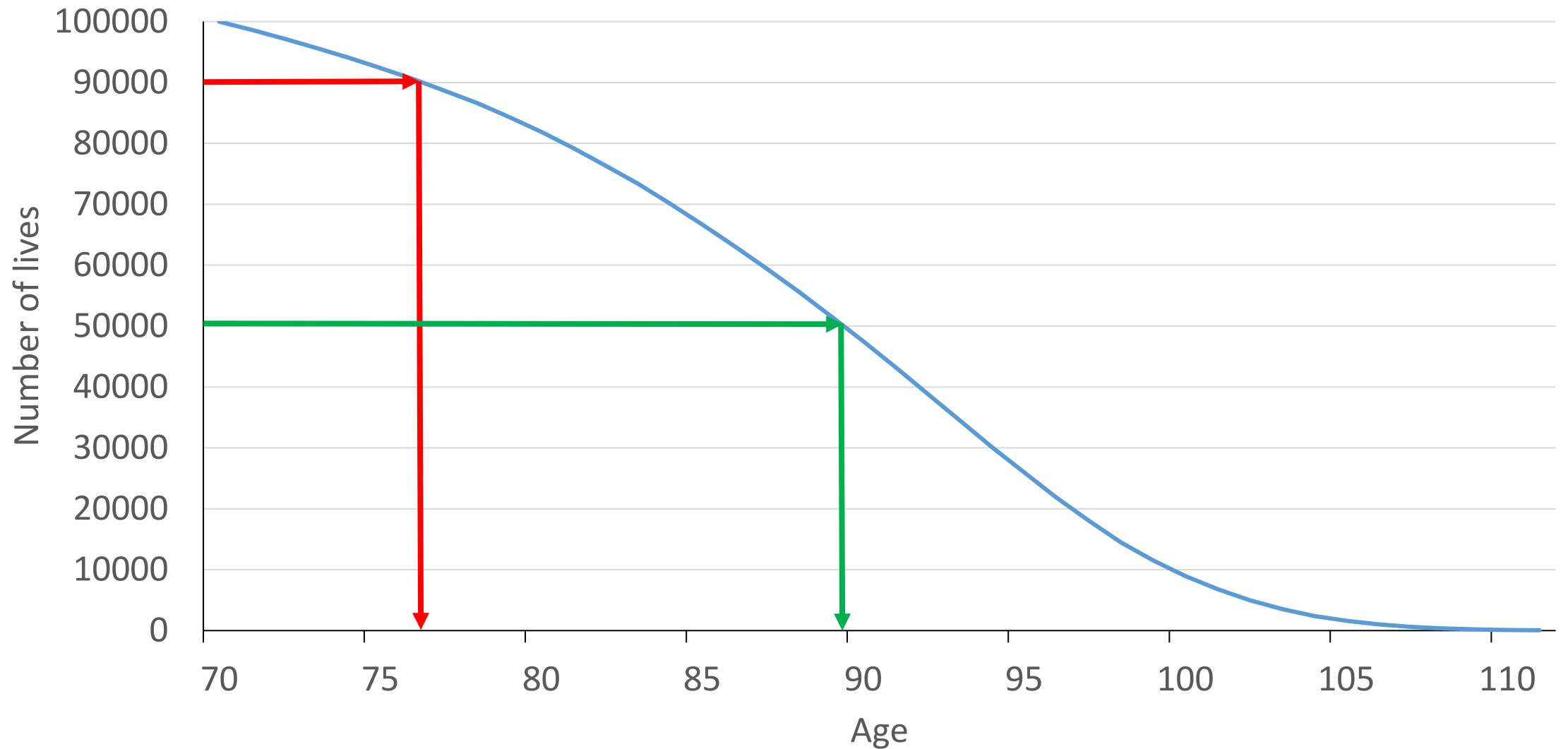
The hypothesis tests used in our analysis

- To test how well residents in the almshouses compare to the general population of England and Wales we tested:
 - Does the average almshouse resident die before the 40th percentile of the general population?
 - Does the average almshouse resident survive to beyond the 40th percentile of the general population?
 - Does the average almshouse resident die before the 50th percentile of the general population?
 - Does the average almshouse resident survive to beyond the 50th percentile of the general population?

Methodology

- For each resident who entered at age 60 or older and who was observed to die, we recorded the percentile they reached of the general E&W population (using HMD data)
- This was based on the year they entered the almshouse, their age at entry and the duration from entering the almshouse until they died
- We included only lives who died in the almshouse, who died in end-of-life care after leaving the almshouse or who died within one year of leaving the almshouse
- We only included lives who would have been able to reach age 90 by the end of the survey (end of 2021)

Survival curve for a 70 year old



Example from Royal Hospital Chelsea (RHC)

- Resident entered RHC in 1986 at the age of 68
- We measured duration of their life after entering the almshouse and compared this to the E&W Cohort Life Table for a 68 year old in 1986
- The resident lived for 4.54 years which meant that they survived to the 17th percentile of the life table.
- Hence, according to the E&W Cohort Life Table, 17% of people aged 68 in 1986 died before reaching the age of 72.54
- This approach is carried out for all lives included in our analysis

Results: RHC – total observed deaths: 4,124

Percentage of deaths from E&W population	10%	40%	50%	75%
Observed deaths from RHC	580	1981	2439	3402
% of RHC population who have died	14.1%	48.0%	59.1%	82.5%

The hypothesis tests – for RHC

- We tested:
 - Does the average RHC resident die before the 40th percentile of the general population? **NO**
 - Does the average RHC resident survive to beyond the 40th percentile of the general population? **YES**
 - Does the average RHC resident die before the 50th percentile of the general population? **YES**
 - Does the average RHC resident survive to beyond the 50th percentile of the general population? **NOT TESTED**
- The average percentile reached by a RHC resident is **44**

Results: Charterhouse – total observed deaths: 379

Percentage of deaths from E&W population	10%	40%	50%	75%
Observed deaths from Charterhouse	32	152	187	272
% of Charterhouse population who have died	8.4%	40.1%	49.3%	71.8%

The hypothesis tests – for Charterhouse

- We tested:
 - Does the average Charterhouse resident die before the 40th percentile of the general population? **NO**
 - Does the average Charterhouse resident survive to beyond the 40th percentile of the general population? **YES**
 - Does the average Charterhouse resident die before the 50th percentile of the general population? **NO**
 - Does the average Charterhouse resident survive to beyond the 50th percentile of the general population? **NO**
- The average percentile reached by a Charterhouse resident is **52**

Summary of selected almshouses

Almshouse Population	Evidence residents are not surviving on average to the 40th percentile?	Evidence residents are surviving on average beyond the 40th percentile?	Evidence residents are not surviving on average to the 50th percentile?	Evidence residents are surviving on average beyond the 50th percentile?
Charterhouse	No	Yes	No	No
Royal Hospital Chelsea	No	Yes	Yes	No
DAMHA Males	No	No	Yes	No
DAMHA Females	No	No	Yes	No
Morden College Males	No	Yes	No	Yes
Morden College Females	No	Yes	No	No

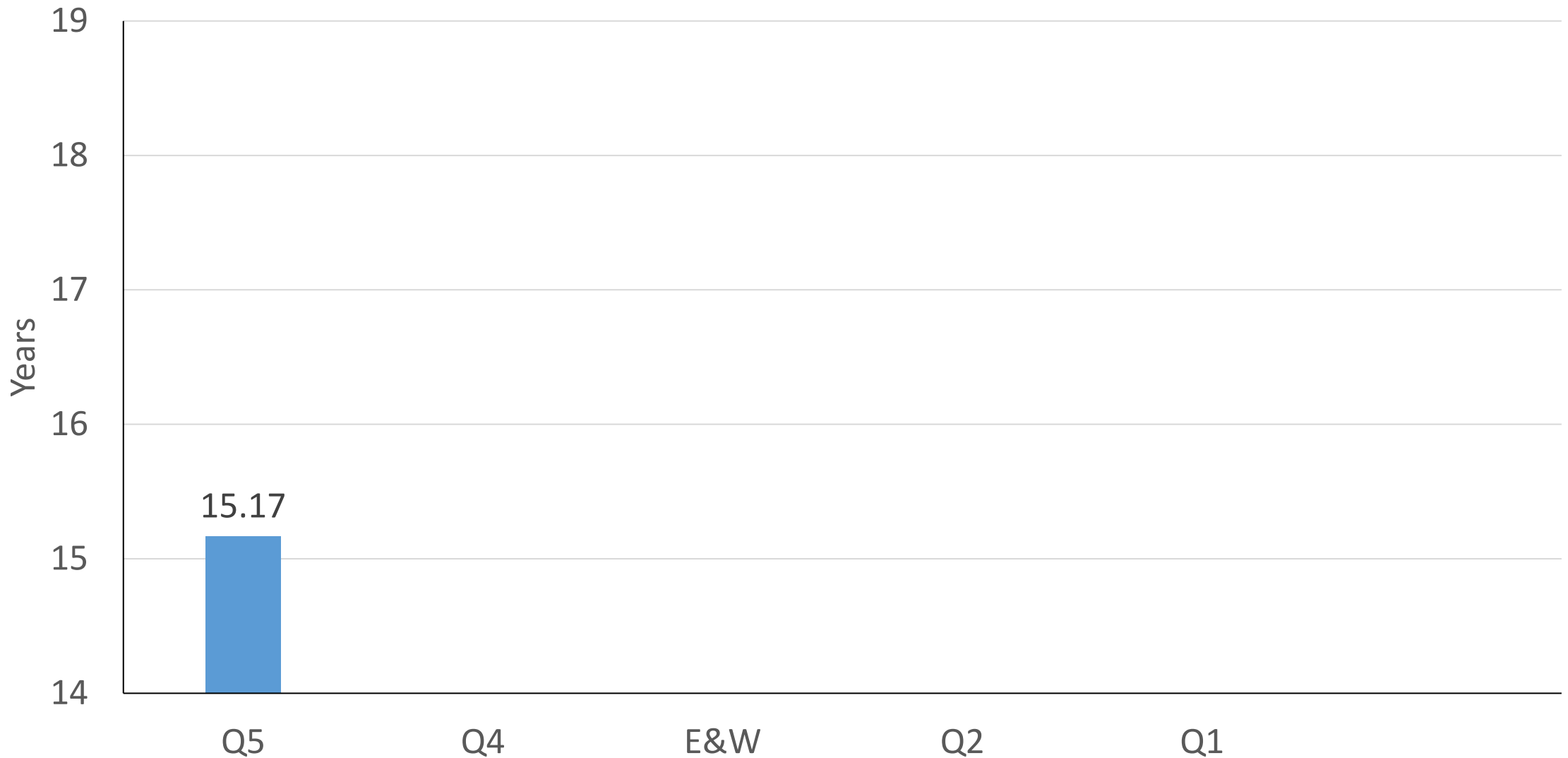
Determining the longevity boost from living in Charterhouse (1)

- We want to quantify the longevity boost but have two issues:
 - Residents enter at different ages
 - Residents enter in different years
- We will assume that:
 - All residents survive to the same average percentile regardless of age and year of entry
 - The average resident moves into Charterhouse aged 73

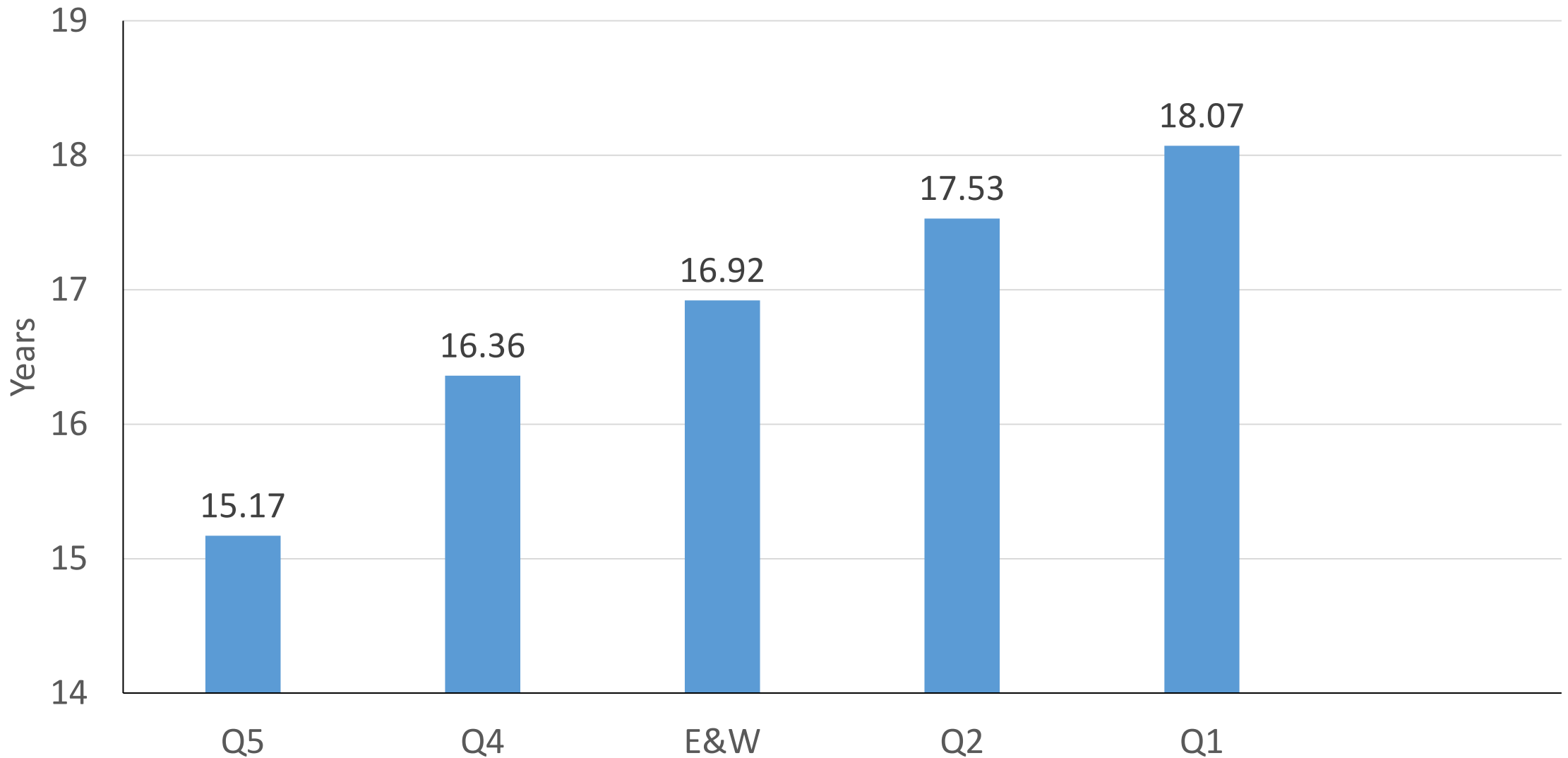
Determining the longevity boost from living in Charterhouse (2)

- Using projected E&W data (though we are using a period life table for these calculations), the average life expectancy for the 50th percentile of a 73 year old person in 2023 is 16.92 years
- Assuming that a resident at Charterhouse survives to the 52nd percentile, their life expectancy is 17.38 years
- A 73 year old from the lowest socio-economic group in England and Wales is expected to live 15.17 years

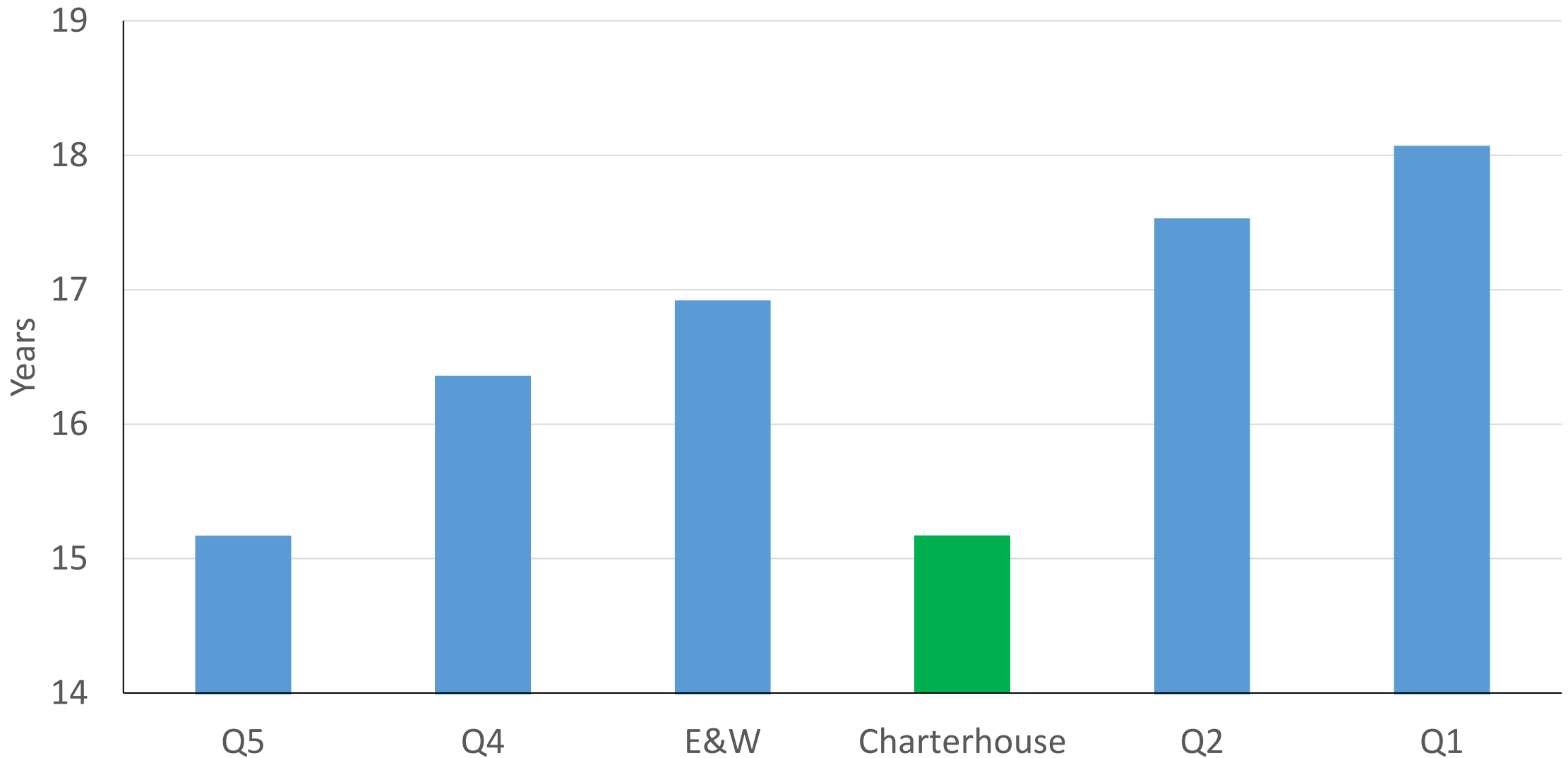
Median life expectancy by quintiles (2023)



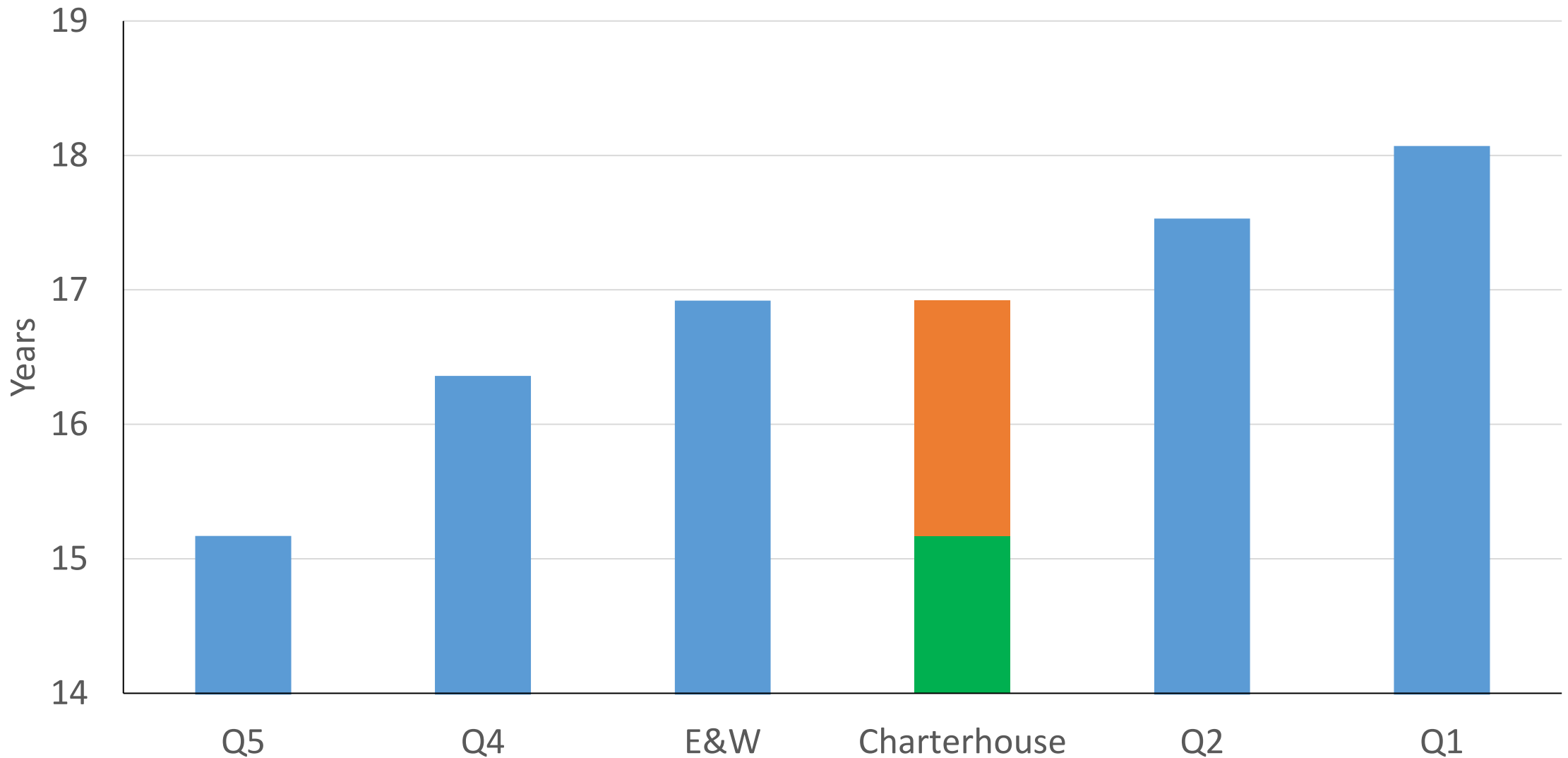
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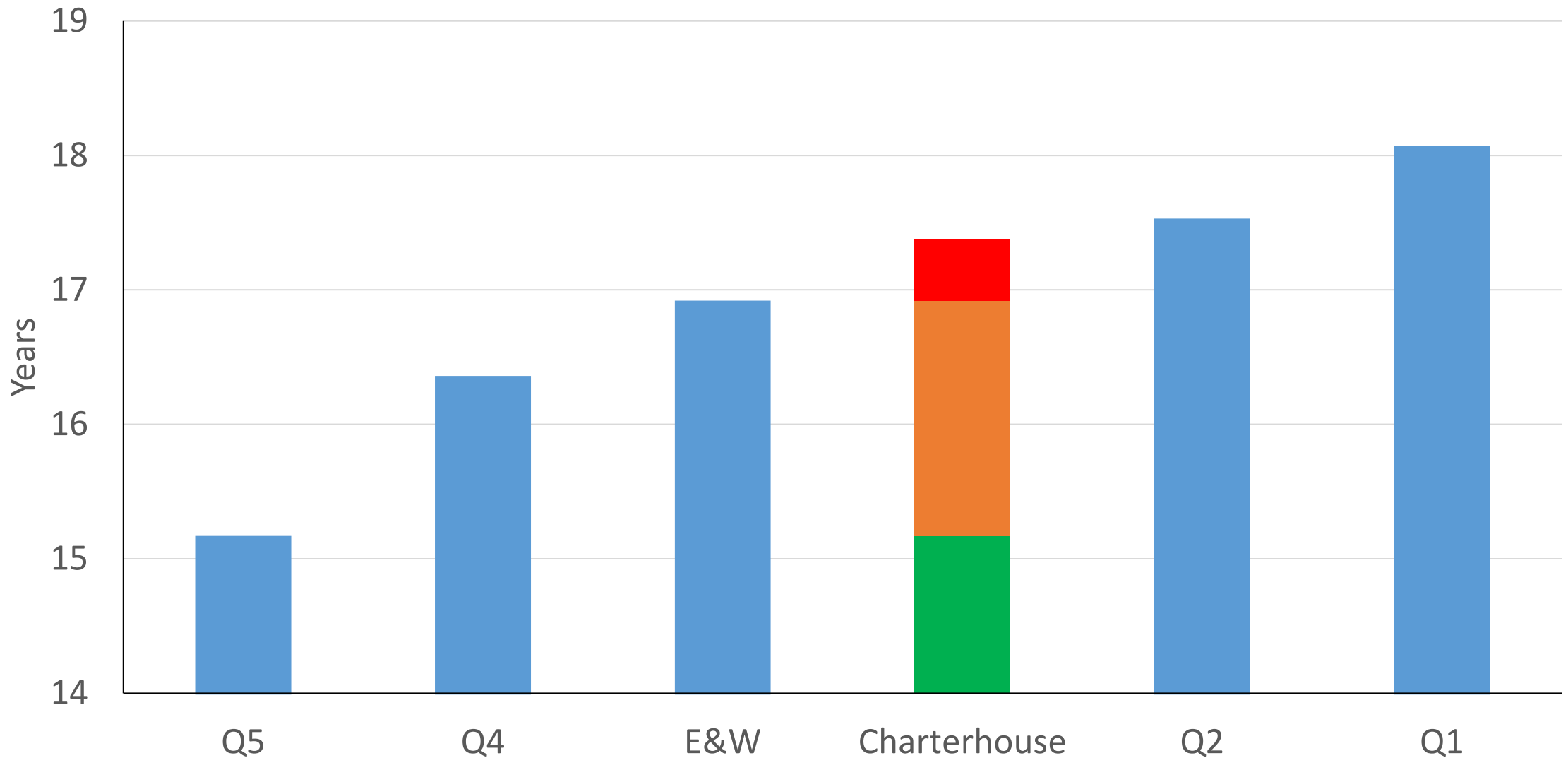
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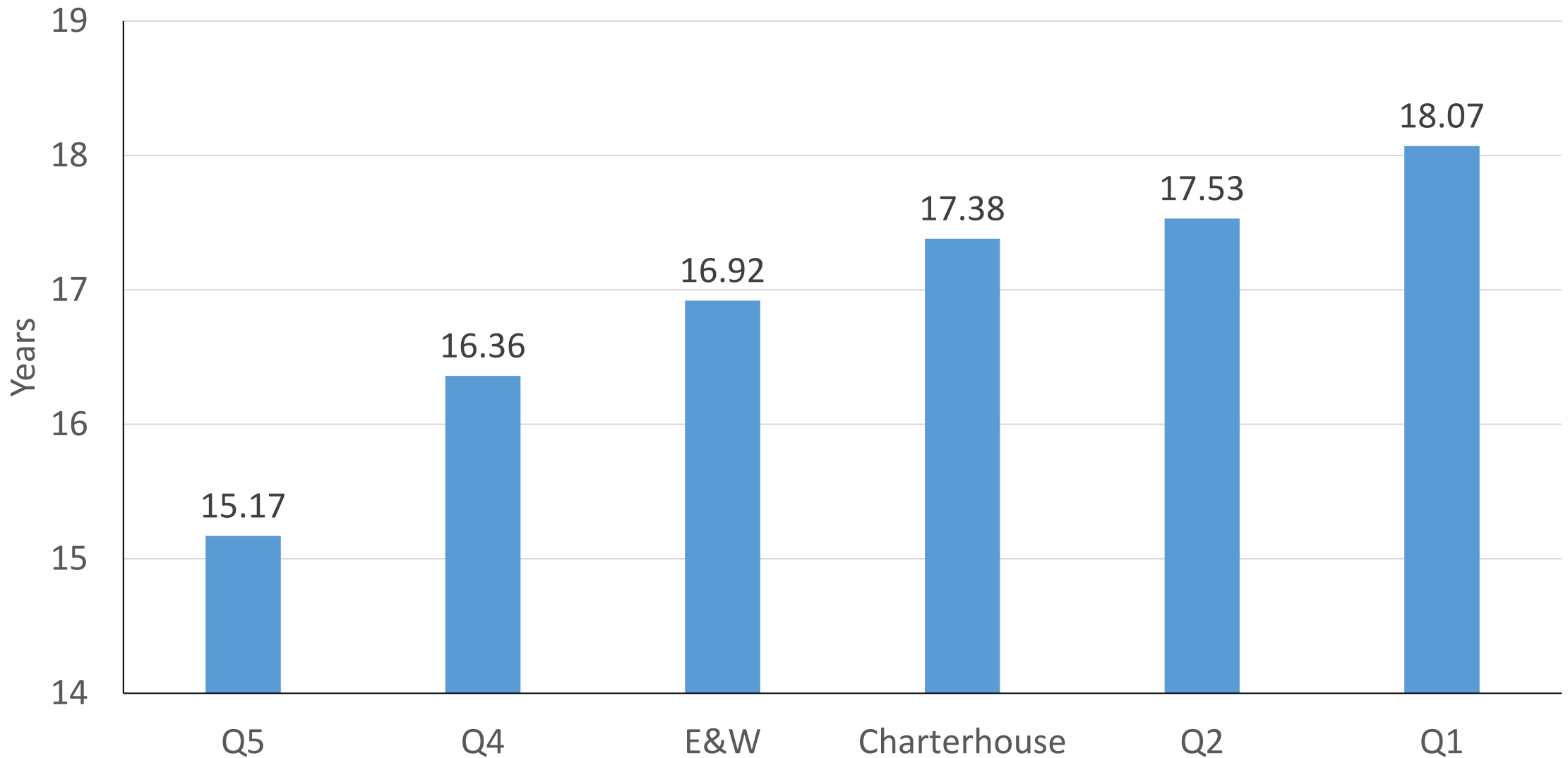
Median life expectancy by quintiles (2023)



Median life expectancy by quintiles (2023)



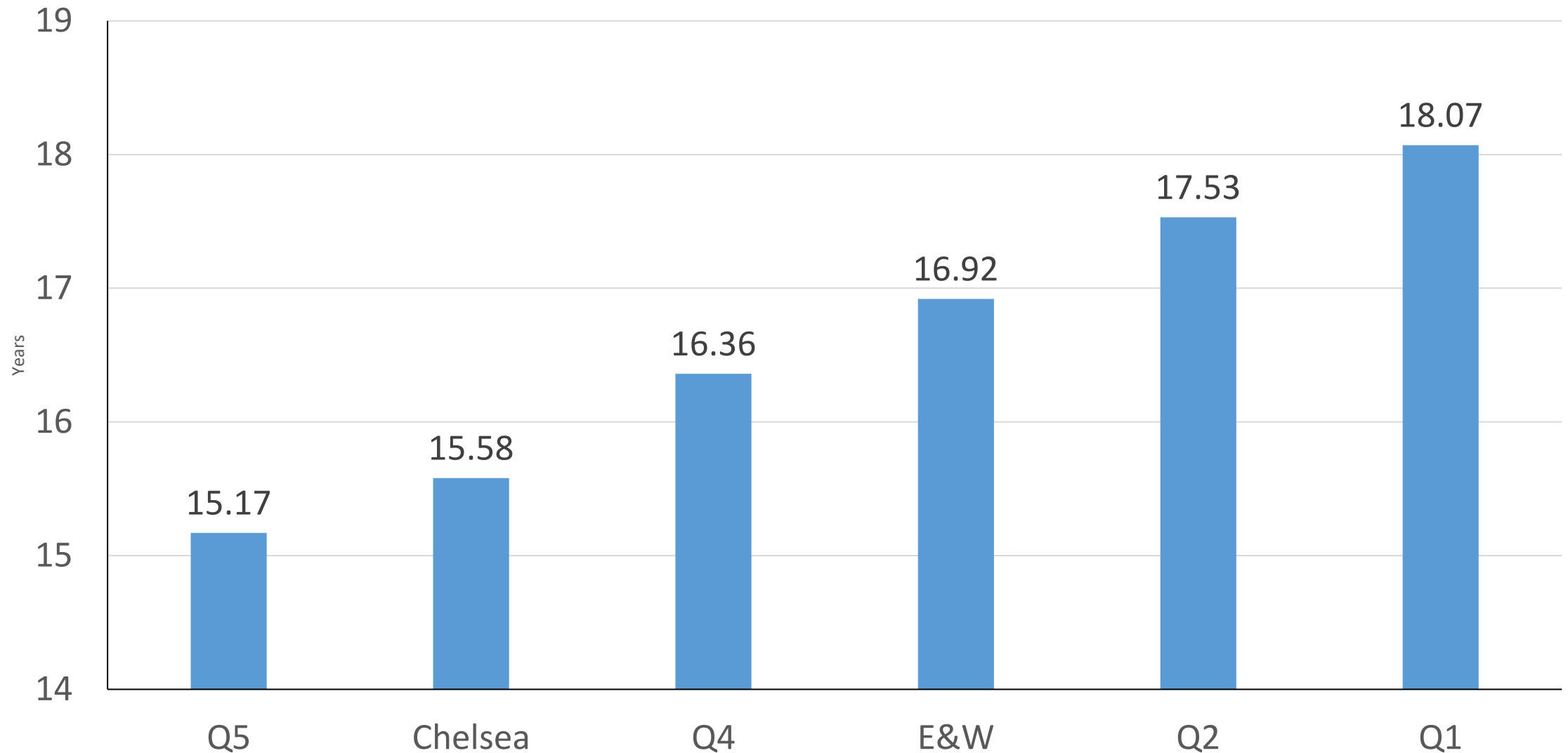
Median life expectancy by quintiles (2023)



Does RHC get a boost?

- Whilst Charterhouse was seen to have a boost compared to the E&W population, RHC seemed to be doing less well
- However, let's again compare the average resident entering RHC with our E&W population quintiles ...

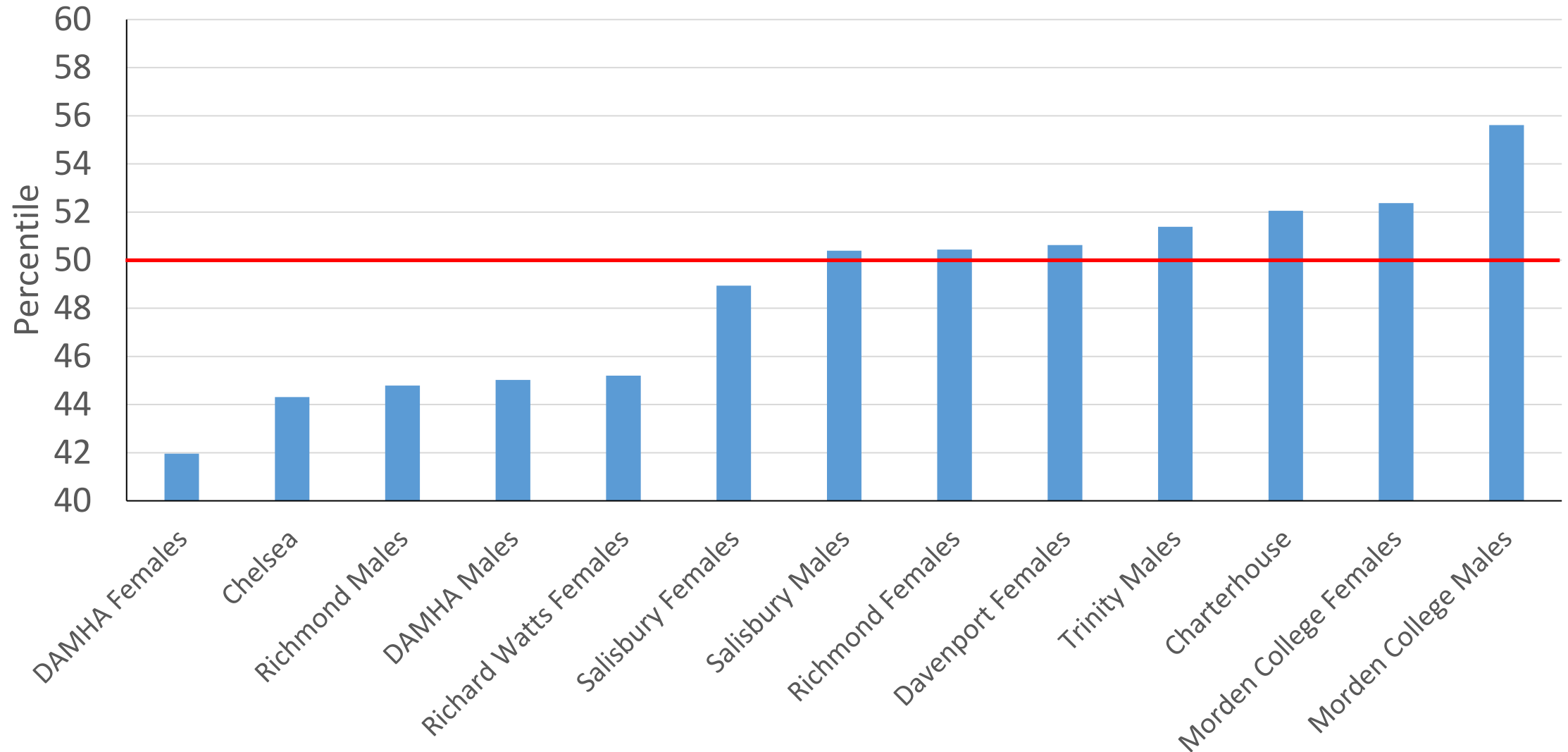
Median life expectancy by quintiles (2023)



Does RHC get a boost?

- Whilst Charterhouse was seen to have a boost compared to the standard E&W population, RHC seemed to be doing less well
- However, let's again compare the average resident entering RHC with our E&W population quintiles
- Therefore, when we take into account the residents' military background and that RHC is more of a hospital than other almshouses, the residents are getting a boost

Average percentile reached for the larger data sets



Key findings

- Residents in almshouses in England are receiving a longevity boost relative to people of the same socio-economic group from the wider population
- The best performing almshouses, Charterhouse and Morden College, have shown a longevity boost which increases life expectancy close to that of a life in the second highest socio-economic group - a remarkable outcome
- We estimate that a 73 year old male entering Charterhouse today would receive a longevity boost of 2.2 years (an extra 14.6% of life) compared to his peers from the same socio-economic group

Key findings (continued)

- This longevity boost could be due to the strong sense of community within almshouses which helps combat the loneliness epidemic amongst older age groups
- Further research is needed to fully understand the factors contributing to the longevity boost in almshouses so that the effects can be maximised and replicated in sheltered housing more generally
- Our conclusion is that almshouses (or their equivalents) could help in the Government's aim to reduce mortality inequalities experienced in lower socio-economic groups