**Funding Source:** Wellcome Trust

**Proposed start date:** 01.10.2024

**Eligibility:** UK applicants only

**Department/School:** Department of Respiratory Sciences

**Supervisors:** Dr Hamish McAuley (hjcm1@leicester.ac.uk), Dr Neil Greening (neil.greening@leicester.ac.uk), Dr Enya Daynes (enya.daynes@uhl-tr.nhs.uk)

**Project Title:** Characterizing phenotypic biomarkers of physical frailty, sarcopenia and intrinsic capacity as predictors of outcomes in chronic respiratory disease.

**Project Description:** Individuals with chronic respiratory disease are known to suffer premature ageing and physical decline, furthermore, Women and individuals living in areas with higher deprivation are at a greater risk. Attempts to target and treat these phenotypes to date have largely been unsuccessful. One potential explanation may be that current clinical characterization focusses on lung function or the severity of symptoms such as breathlessness which may fail to account for differences in the multitude of underlying processes that lead to physical decline, in particular differences between sexes and ethnic groups. This project aims to address this gap by studying in detail measures of physical function, body composition and muscle over time across patients with chronic respiratory disease to help unravel the complex and interconnected mechanisms across these areas and to define biomarkers of phenotypic disease allowing future interventional trials to correctly target the right patients. A clinically orientated healthcare professional who wants to address this knowledge gap and improve the care of patients known to be underserved by current evidence and practice will have the opportunity to develop expertise in measures of physical frailty, sarcopenia and intrinsic capacity as well as shape the direction of future research in this field.

**References:**

1. McAuley, H.J.C., et al., *Longitudinal changes to quadriceps thickness demonstrate acute sarcopenia* 2. McAuley, H.J.C., et al., *Longitudinal changes to quadriceps thickness demonstrate acute sarcopenia following admission to hospital for an exacerbation of chronic respiratory disease.* Thorax, 2021. **76**(7): p. 726-728.

3. McAuley, H.J.C. and M. Maddocks, *Gaining muscle mass in COPD: a work in progress.* ERJ Open Res, 2023. **9**(4).

4. Fried, L.P., et al., *Frailty in older adults: evidence for a phenotype.* J Gerontol A Biol Sci Med Sci, 2001. **56**(3): p. M146-56.

5. Beard, J.R., et al., *Intrinsic Capacity: Validation of a New WHO Concept for Healthy Aging in a Longitudinal Chinese Study.* J Gerontol A Biol Sci Med Sci, 2022. **77**(1): p. 94-100.

6. Cruz-Jentoft, A.J., et al., *Sarcopenia: revised European consensus on definition and diagnosis.* Age Ageing, 2019. **48**(1): p. 16-31.

**Funding details:**

*Students on this programme will be supported by a generous funding package. This will include:*

* *Postgraduate research fee waiver at standard College of Life Sciences UK rates for three years of the PhD*
* *Wellcome Trust stipend covering your salary for all three years of the PhD*
* *Research grant for training, research and travel costs*

**Entry requirements:**

Applicants are required to hold/or expect to obtain a UK Bachelor Degree 2:1 or better in a relevant subject. UK Bachelor Degree 2:2 may be considered, subject to approval from the Dean of the Doctoral College.

The University of Leicester [English language](https://le.ac.uk/study/research-degrees/entry-reqs/eng-lang-reqs) requirements apply where applicable.

This programme is open to:

* allied health professionals
* nurses
* midwives
* junior doctors
* general practitioners

Fellows recruited to the programme must be practicing healthcare professionals and be registered with a national professional regulatory body (e.g. the General Medical Council, Health and Care Professions Council) in the UK/Republic of Ireland.

Medical graduates must be registered on a UK/Republic of Ireland specialist training programme or must be a registered GP.

All fellows must have completed their undergraduate degree and be registered with the relevant professional body.

**Application advice:**

For full application advice, please go to: <https://le.ac.uk/study/research-degrees/healthcare-inequalities/application-help>.

To apply, please go to: <https://le.ac.uk/study/research-degrees/funded-opportunities/leicestershire-healthcare-inequalities-improvement-dtp>

With your application, please include:

* Full up to date CV
* Personal statement of 700 words (excluding references). For detailed instructions on what we will be looking for in your personal statement and your CV, please review the guidance here: <https://le.ac.uk/study/research-degrees/healthcare-inequalities/application-help>. **Please do not exceed the word limit, as your application may be delayed.**
* Degree Certificates and Transcripts of study already completed and if possible transcript to date of study currently being undertaken
* Evidence of English language proficiency if applicable
* In the reference section please enter the contact details of your two academic referees in the boxes provided or upload letters of reference if already available.
* A filled out Widening Participation Questionnaire

In the funding section please specify that you wish to be considered for **Wellcome Trust LHII DTP**

In the proposal section please provide the name of at least one or at most two of the projects you are interested in (please indicate title and name of supervisor). The first project you list will be taken to be your preferred choice.

Upload the Widening Participation form (found on the above link) to the proposal section

**Project / Funding Enquiries to:** **lhiip@leicester.ac.uk**

**Application enquiries to** **pgradmissions@le.ac.uk**