CANCER RESEARCH UK | OXFORD CENTRE

Non Lab-based Academic Research

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Clinical and Radiation Oncology Research Training Meeting

Wednesday 28th June 2017

British Heart Foundation | MRC Medical Research Council | Oxford University Hospitals NHS Trust | NHS | UNIVERSITY OF OXFORD

Early Career

- Medical School – Cambridge (1994-1999)
- Medical Rotation – Including Oncology (2000-2004)
- Clinical Fellowship Oncology – Royal Marsden (2004)
- Specialist Training Clinical Oncology:
  - Oxford (commenced 2004)
  - FRCR – 2008
  - 1 year left in training…
  - What next?!

An Alternative Academic Career in Oncology?

- Interest in ‘evidence-based’ medicine and clinical trials
- Desire to practice ‘evidence-creating’ medicine and be actively involved in research (beyond ‘just’ trial recruitment/local PI)
- Personally not best suited to a typical ‘lab-based’ higher degree…
- What were the options?

Clinical Research Fellowship

- Clinical Trial Service Unit and Epidemiological Studies Unit ("CTSU") - "for work on reducing the risks of radiotherapy"
- Professor Sarah Darby (Statistician)
- Early Breast Cancer Trialists Group (EBCTCG)
- Meta-analyses of breast cancer trials
- Shown evidence for risk of heart disease from radiotherapy in breast cancer
- Applied for and obtained *1 year* CRF post

British Heart Foundation Centre of Research Excellence Clinical Research Training Fellowship

- Prepared a DPhil Research Proposal

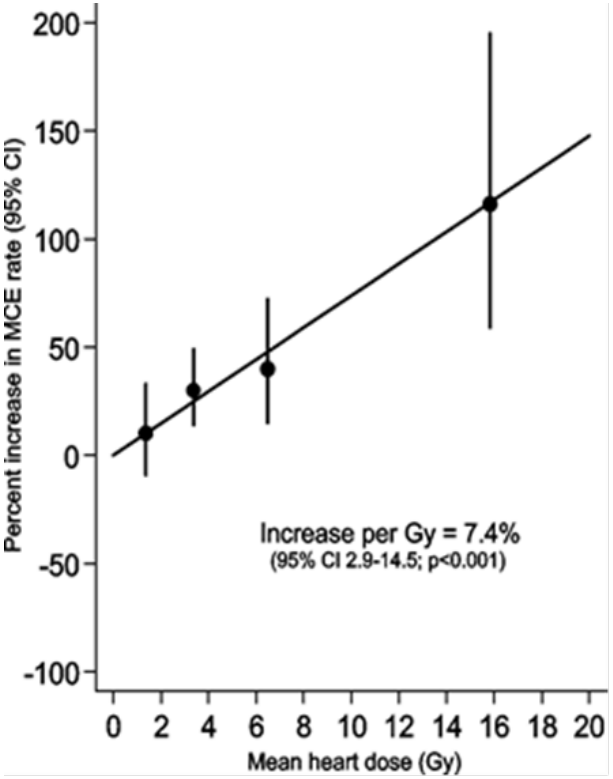
"Radiation-Related Cardiac Disease following Cancer Therapy"

- Applied for competitive external funding from the BHF CRE
- Interviewed Jan 2009
- Successful
- 3 years of independent funding for DPhil project

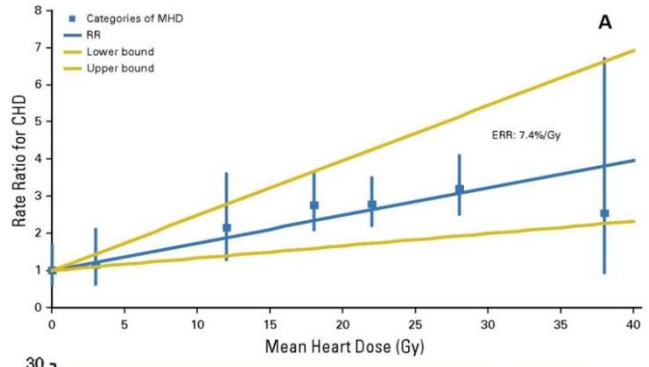
Contents of DPhil

- Cohort Study – British Childhood Cancer Survivor Study (BCCSS, Birmingham)
- Case-Control Study – Valvular heart disease in Hodgkin lymphoma survivors (Netherlands)
- Radiation Dosimetry Studies – Retrospective and contemporary doses to the heart (VHD study and within the UK RAPID trial)
- Imaging Study – Cardiovascular MRI in breast cancer radiotherapy (OCMR)

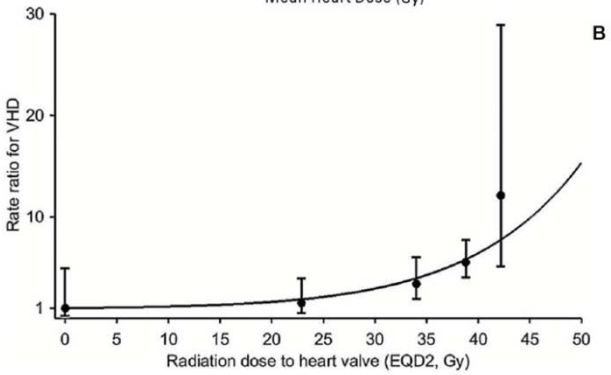
Dose-response relationships…



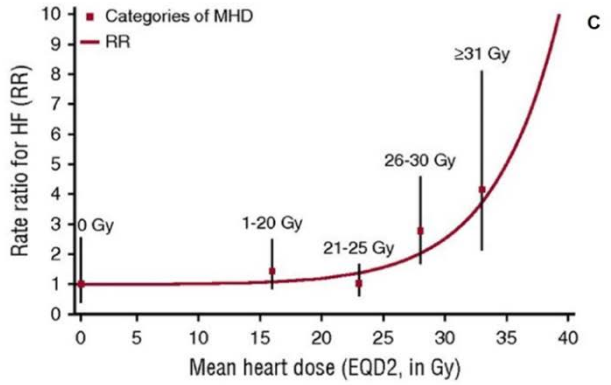
IHD in Breast Cancer
Darby *et al*, NEJM 2013



IHD, JCO 2016



VHD, JNCI 2015



Heart Failure, Blood 2017

Completed 2013 - Outputs…

- Thesis (obviously!)
- Also:
  - Papers in peer-review journals
  - International abstracts and presentations
  - Invited book chapters
  - National and International collaborations

- But where next…?

Post-Doc (2013 to present)

- Completed specialist training and obtained CCT during latter part of DPhil
- Consultant job reconfiguration was in progress at OUH…
- Proposed a part-time (60%) clinical post (Paediatric RT, lymphoma and TYA sarcoma) with 40% time that would be ‘bought back’ by the University for research (i.e. 100% NHS contract with honorary research fellowship)

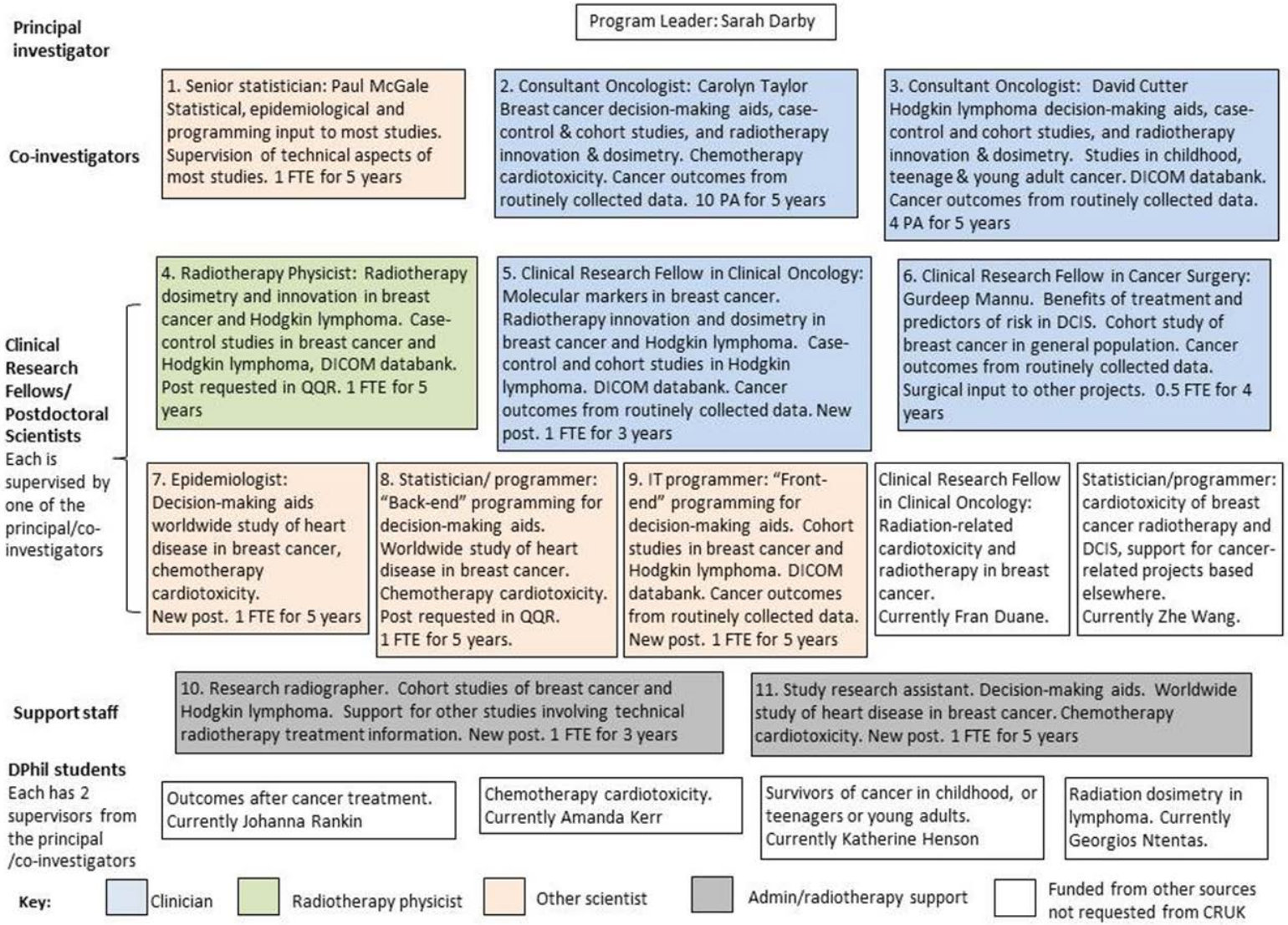
Pros and Cons

- Advantages:
  - 100% NHS contract to ‘fall back on’
  - Some Timetable Flexibility
  - Research *directly* relevant to clinical practice (and vice versa)
- Disadvantages:
  - Maintaining balance - 60% clinical easily becomes 80%+!
  - Requires funding (typical Clinician Scientist funding not suitable)

CRUK Programme Funding

- CRUK Population Research Committee (i.e. different from the Scientific Research Committee)
- 5 years
- *No set funding limit*
- Group applied during 2015 round
- Led by Prof Sarah Darby (PI)
- Co-applicant (with Carolyn Taylor)
- 2-phase written application
- Interview by Committee
- Received support commencing April 2016

“Risks and Benefits of Cancer Treatment”



My work within the Programme…

- Co-investigator and DPhil Supervisor
- Radiotherapy ‘risk calculation tool’ for use in Hodgkin lymphoma (for use within the forthcoming RADAR trial in early HL)
- Comparison of modern photon versus proton beam therapy for mediastinal HL (for use in development of a planned randomised trial)
- Development of early surrogate markers (CMR, blood biomarkers) of cardiac damage from RT
- Development of the use of routinely-collected data to study outcomes in lymphoma (PHE)

‘Freedom’ for Academic Involvement

- Member of CTRad (Workstream 4 – New technology, physics and quality assurance)
- Member of the NCRI Lymphoma Clinical Studies Group (and HL Sub-group)
- Member of the NCRI Teenage & Young Adult Clinical Studies Group
- Member of the CCLG Late Effects Group

Looking into the future…

- Need to secure funding as a PI
- Succession planning
- Next 5 years (2021-26)
- Carolyn Taylor and I will apply to act as Principle Investigators/Programme Leaders to continue the themes of our programme

Non Lab-based Research

- Variety of types:
  - Clinical studies/trials (imaging collaboration)
  - RT Physics/technical development (Physics collaboration)
  - Epidemiological research (Stats and Epi collaboration)
- Could still involve ‘lab’ collaboration:
  - ‘Translational’ elements in trials
  - Genetics
  - Other biomarkers etc.
- Collaboration opens-up funding options beyond the typical individual post-doc routes

Conclusions

- There is a lot more to Oncology research than the lab…
- Research often involves wide collaboration and multi-disciplinary teams
- This approach opens more funding options
- ‘Team’ (programme grant, grand challenge etc.) is an ambitious (but realistic) alternative to ‘individual’ funding that can provide a stable platform

Questions?