Making the most out of your SPCR award

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A little about me...
From post-doc to permanent academic (≈ 5 years)

• Post-doctoral period (Oct 2013 – June 2018)

• University of Nottingham Fellowship (Oct 2013 – May 2016)

• NIHR SPCR Career Launching Fellowship (June 2016 – June 2018)

• Assistant Professor (July 2018 – current)
What I did with my award...

• **Proposed new ideas** – I proposed developing risk algorithms using machine-learning, a skill which I did not have at the time

• **Skill up through training** – 7 external short courses on research methodology (hard skills), 3 external training events on soft skills (leadership/communication/media training), 2 grant writing workshops, 3 SPCR training meetings, and 1 visiting researcher attachment with another University.

• **Spent significant time writing grants** – At least 20% of my time. Submitted 10 grants of varying sizes, with 6 successful funding decisions as both principal investigator and co-investigator – my current active portfolio stands at £1,741,733

• **Travelled and networked** – 6 conferences (2 international, 4 within the UK)

• **Outputs and media** – 12 peer-reviewed publications, 2 radio interviews, various presentations/dissemination/talks
Reflecting on key themes...

• Something new, something old

• Take ownership of your work

• Think about impact - priority areas

• Offer your services, in particular for writing grants

• Learn how to be an academic

• Connect and talk to people
**Something new, something old**

- Project should challenge you
- Will require new skills to be developed
- Will draw on and be relevant to your previous experience and work
- Identify your weaknesses
- Develop a training plan to address those weaknesses
**Something old:** Previously developed risk algorithms using standard epidemiological approaches:
- Infant Risk of Obesity Tool (*Pediatrics*)
- Inherited Lipid Disorders Tool (*Atherosclerosis*)

**Something new:** Fellowship proposal included developing and validating four machine-learning algorithms for CVD

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[Image of a network diagram showing factors related to cardiovascular disease, with labels for factors such as male gender, smoking, hypertension, and more.]
My methodological skills training...

Advanced modelling methods for health economic evaluation (University of Glasgow)

Cochrane Systematic Review Course (University of Nottingham)

Advanced Topics in the Analysis & Reporting of Systematic Reviews (University of Oxford)

Introduction to Genetic Epidemiology in the GWAS Era (University College London)

Design and Analysis of Randomised Controlled Trials (University of Bristol)

Using Machine Learning in Health Research (University College London – Farr Institute)

Intensive R Course (Nottingham Trent University)

Visiting researcher at the School of Computer Science (University of Dundee)
Taking ownership

• Put your own stamp on your project
• Write the first draft
• Acknowledge collaborative nature of the project
• Any opportunity for dissemination/presenting your work – take it!
• A supportive team helps
Think about impact early

• What are the research priority areas?

• Flavour of the month

• Identify stakeholders are you going engage with to generate impact

• Attend and present at international conferences

• Target 4* journals for publications (systematic reviews good for impact)

• Press releases through your own University
Systematic review and meta-analyses of risk factors for childhood overweight identifiable during infancy

Stephen Franklin Wang, 1 Savin A Radulovick, 1 Judy A Swihart, 1 Min Yang, 1 Cristina F Glazebrook 1

ABSTRACT
Objective: To determine risk factors for childhood overweight that can be identified during the first 3 years of age, and to identify and target high-risk children.

Design: Systematic review and meta-analysis.

Search Strategy: Electronic database search of MEDLINE, EMBASE, Web of Science, and Cumulative Index to Nursing and Allied Health Literature. Eligibility criteria: Prospective observational studies following up children from birth to at least 2 years.

Results: Twenty-six prospective studies were included. They were significant and strongly independent associations with child overweight at age 3 years, and the child's weight and height at birth. This finding was consistent across studies of birth to age 2 years. In the analyses of childhood overweight, high birth weight and rapid weight gain during the first year of life were associated with childhood overweight, regardless of the study. Children who were small for gestational weight and were breastfed were less likely to become overweight by age 3 years.

Conclusions: Overweight in infancy is strongly associated with overweight at age 3 years, and the child's weight and height at birth. This finding was consistent across studies of birth to age 2 years. In the analyses of childhood overweight, high birth weight and rapid weight gain during the first year of life were associated with childhood overweight, regardless of the study. Children who were small for gestational weight and were breastfed were less likely to become overweight by age 3 years.

What is already known on this topic:

- There is evidence that overweight or obesity during childhood increases the risk of adult obesity.
- Previous reviews have identified rapid weight gain, high birth weight and maternal smoking during pregnancy as important risk factors for childhood obesity.

What this study adds:

- Early rapid weight gain, high birth weight, maternal pre-pregnancy overweight and maternal smoking in pregnancy increase the likelihood of childhood obesity and overweight.
- Breastfeeding and the introduction of solid foods is moderately protective against childhood overweight.
- Other maternal and infant factors were not associated with childhood overweight.


The US National Academy of Medicine (NAM) was contacted by the National Institute of Child Health and Human Development (NICHD) to review the literature on childhood overweight and obesity and to propose recommendations for future research.

E-cigarette use among youth and young adults: a report of the Surgeon General

The Surgeon General's report examines the current evidence on e-cigarettes and their role in public health, including their potential to prevent tobacco use among youth and young adults, and to help individuals quit smoking. The report concludes that e-cigarettes are not a safe or effective tool for reducing tobacco use and that more research is needed to understand the long-term health effects of e-cigarettes.

The first thousand days: an evidence paper

Analysis byunding the evidence presented in the paper.

Proposed policy priorities for preventing obesity and diabetes in the Eastern Mediterranean Region

The World Health Organization (WHO) is the directing and coordinating authority for health within the United Nations system.
Getting involved with writing grants

- Start simple – offer to proof-read/tidy references
- Grant writing courses through local research design services
- Offer to peer-review grants
- Understand the role of stakeholder involvement
- Get yourself named as a co-applicant
- Start writing grants as principal applicant (start small)
**My Grant Journey**

**Principal Investigator:** 2017 - 2018 "External validation of FAMCAT algorithm" Funder: **NIHR SPCR.** Award Amount: **£61,736**

**Principal Investigator:** 2017 - 2019 "Development of risk algorithm for uncontrolled cholesterol" Funder: **AMGEN.** Award Amount: **£80,000**

**Principal Investigator:** 2015 - 2018 "Novel methodologies to improve risk prediction in clinical decision tools for use in primary care" Funder. **NIHR SPCR.** Award Amount: **£135,000**

**Co-investigator:** 2016 - 2019 "Evaluating alternative protocols for identifying and managing patients with familial hypercholesterolaemia: cost-effectiveness analysis with qualitative study" Funder: **NIHR HTA.** Award Amount: **£840,509**

**Co-investigator:** 2016 - 2018 "Improving identification of familial hypercholesterolaemia in primary care using a new case ascertainment tool" Funder: **NIHR SPCR.** Award Amount: **£399,235**

**Co-investigator:** 2016 - 2018 "Quantifying severity of chronic conditions in English Primary Care using the Clinical Practice Research Datalink". Funder: **NIHR SPCR.** Award Amount: **£327,361**

**Co-investigator:** 2015 - 2016 "Is systematic identification of Familial Breast Cancer risk more cost-effective that the currently recommended opportunistic approach?" Funder: **NIHR-SCPR.** Award Amount: **£56,184**

**Co-investigator:** 2014 - 2016 "Development and feasibility testing of an interactive, educational programme to facilitate Proactive Assessment of Obesity Risk during Infancy" Funder: **MRC PHIND.** Award Amount: **£151,576**

**Co-investigator:** 2014 - 2015 "Improving Identification of Familial Hypercholesterolaemia in General Practice: Intervention Optimisation Study and Systematic Review" Funder: **Nottingham City CCG.** Award Amount: **£29,000**

**Named Researcher:** 2012 - 2013 External validation of the Infant Risk of Obesity Checklist [IROC]. Funder: **NIHR CLAHRC-NDL.** Award Amount: **£10,105**

**Named Researcher:** 2012 - 2013 "Systematic review of interventions to prevent the risk of obesity in infants and development of guidelines for health visitors". Funder: **Burdett Trust for Nursing.** Award Amount: **£49,966**

**Named Researcher:** 2010 - 2012: "Systematic review of the risk factors for childhood obesity and development of an Infant Risk of Obesity Checklist" Funder: **Nottingham County PCT.** Award Amount: **£12,995**
Learning how to be an academic

- Learn about mundane tasks
- Get involved with teaching, mentoring juniors and supervision of students
- Understand the importance of REF
- Get involved with School Committees
- Understanding costing templates from various research funders
Understand how to cost a grant

Get into supervision/teaching
- 2 PhD Students (Starting Oct ’18)
- 1 NIHR In-Practice Fellow (Starting Nov ’18)
- 2 MPH Students (Past Year)
- 4 GP Academic Clinical Fellows (2 Current)
- Developing R course for data science for School of Medicine

Getting involved
- School of Medicine Research committees
- Writing impact case studies for REF
- Speaking at the SPCR training event
- Writing for the SPCR newsletter
- Methodological reviewer for special edition for PLOS Medicine collection on machine-learning
Talk to people

• Communicate with your line managers what you need for support, request reviews of progress against goals

• Network with people – don’t be afraid approach new collaborators

• Take any opportunities to join external committees (*CPRD Independent Scientific Advisory Committee Member, Genomics England Clinical Interpretation Partnership Member for Machine-Learning and Cardiovascular Disease*)

• Have a strategy at conferences – read the programme before hand and highlight presentations and speakers of interest and get into contact before the conference to schedule meeting
Most of all...enjoy your post-doctoral/training period
With thanks to my mentors and supervisors

Professor Nadeem Qureshi
Professor Joe Kai
Most importantly, just remember to put it all in perspective