

AN 'AGELESS' APPROACH TO TRANSLATIONAL RESEARCH

Wellcome Trust Clinical Research Facility
Birmingham Children's Hospital NHS Foundation Trust

UNIVERSITY OF
BIRMINGHAM

University Hospital Birmingham NHS Foundation Trust

wellcome trust

LUCY COOPER, PROFESSIONAL DEVELOPMENT RESEARCH SISTER WELLCOME TRUST CLINICAL RESEARCH FACILITY, BIRMINGHAM CHILDREN'S NHS FOUNDATION HOSPITAL

What is Translational Research?

Research is a fundamental tool of modern medicine.

Research is a medical invention that historically has and will continue to in the future, contribute to treatments, interventions and cures for the major causes of morbidity and mortality among the child and adult populations.

Since the beginning of the 21st century, translational research in medicine has emerged as a way of thinking about and conducting scientific research to make the results of research applicable to the population under study.

Translational research refers to "translating research into practice...ensuring that new treatments and research knowledge actually reach the patients or populations for whom they are intended and are implemented correctly" (Woolf, 2008). The end point of 'bench to bedside' translational research could be the production of a new drug, but this is only the starting point for our interpretation of translational research.

The 'ageless' approach marks a new era of translational research to our understanding of prevalent human diseases across diverse communities and populations.

The following represent major causes of morbidity and mortality in the United Kingdom and are priority areas for most health organisations.

- Cancer
- Cardiovascular, disease,
- Inherited metabolic disease,
- Diabetes
- Obesity-metabolic syndrome



Research programmes within paediatric, adolescent and adult populations offer the opportunity to identify novel therapies and to investigate disease mechanisms that could lead to cures and long-term health improvements throughout the ages.

Our Approach in Birmingham

The 'ageless' approach to research in Birmingham has been achieved by the development of a designated Paediatric Wellcome Trust Clinical Research Facility (WTCRF) at Birmingham Children's Hospital. This is a sister site to the pre-existing WTCRF at the Adult University Hospital Birmingham. Both the hospitals have close links with the University of Birmingham College of Medical and Dental Sciences.

The 2 research facilities work collaboratively on research projects enabling new disease mechanisms, treatments and outcomes in children and adults from differing ethnic backgrounds to be researched to inform current and future health care practices throughout the age ranges.

Patient pathways are tailored to the patients needs and are planned to accommodate the specific research requirements of the study.



Key Strategy

A key component of our research strategy is our seamless transition from childhood to adulthood.

The key ethos being the study of

- **Childhood antecedents of adult conditions**
- **Diseases of late adolescence.**
- **Long-term conditions and late effects.**

Collaborative Research Projects

In order for research to bridge the paediatric/adult transition and to ensure consistency, staff from both research facilities work closely together in approving and implementing research studies. The benefits of this approach is echoed in comments from the nursing team.

"We share knowledge and ideas and provide support for each other. It gives a wider insight into the adult world of research and how it can help inform and develop paediatric and adult health" (Research Sister, WTCRF).

"It allows us to work in partnership to develop documentation, standard operating procedures etc. Its a collaborative learning experience" (Research Charge Nurse, WTCRF).

A new study currently being set up as a joint collaboration will investigate the link between childhood and adulthood endocrinology conditions. Obesity and diabetes are recognised as an increasingly common health hazard. Polycystic Ovarian Syndrome (PCOS) is an important underlying problem and is a common cause of infertility in women. Causes of PCOS are unknown. There may be an enzyme mechanism that explains the link between PCOS, obesity and diabetes.

The study addresses the role of this enzyme and additional regulating enzymes and their contribution to the development of PCOS.

PCOS populations presenting in childhood and children with premature adrenarache and precocious puberty will be studied in the paediatric WTCRF..

Adults with existing PCOS and those presenting with a new, untreated case of PCOS will be studied at the adult WTCRF.

The potential results that the study will yield will benefit and inform health care practices in both adult and paediatric settings.

Future Plans....

In order to continue to develop the 'ageless' approach to translational research within the paediatric and adult WTCRF's we both have shared future plans, visions and aspirations.

- Shared appointments or secondments for nursing staff from the paediatric and adult sectors to facilitate the learning of new skills and knowledge within each speciality.
- Encourage principle investigators to adopt an ageless approach when designing their studies and to utilise the dedicated paediatric and adult research facilities that Birmingham has to offer.
- We plan to expand our model of translational research into the community with the introduction of a new Health Research Bus which will be launched in June 2010. The research bus is fully equipped as a research facility and nurses from the 2 WTCRF's will conduct a wide variety of research studies on the research bus.



The research bus with slide out-pod extended.

References

Woolf, SH (2008) The Meaning of Translational research and Why it Matters *JAMA* i299 (2) pp211-213.

Acknowledgements

With thanks to Professor T. Barrett and C. Langford for their assistance with the poster.

With thanks to the University Hospital Birmingham for photographic material