



## **AllerGen St. John's Research Development Workshop**

### **Meeting Overview Report**

**Monday Feb. 11, 2008**

Rimrock Resort Hotel

Banff, Alberta

Bluebell Room



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## **1.0 Executive Summary**

On February 11, 2008, a group of AllerGen researchers and trainees from the CHILD and Manitoba birth-cohort (SAGE) research groups and researchers from the St. John's Institute for Population Health Research convened at the Rimrock Resort and Spa in Banff, Alberta, for their second workshop to discuss the research developments pertaining to the partnership between the two organizations through the International Partnership Initiative (IPI) programme. The group of researchers discussed the collaborative opportunities previously identified in the preliminary workshop on October 15-18, 2007, held in Bangalore, India.

During this meeting, the group collectively discussed the planned research collaboration, which focuses on the biologic and sociologic impact of nutrition in a large cohort of mothers through their pregnancy and evaluate the impact of nutrition on early life infections and well-being of the child in the initial years of life. The study examines the development of chronic disease such as allergies and asthma, in an environment where allergic disease has not yet become a major health problem, except among the privileged population.

The main focus of the discussion was the ongoing development of a collaborative birth cohort using both Indian and Canadian data, incorporating research questions focused on the social sciences. Overall, the project must align with AllerGen's mandate and the goals of the International Partnership Initiative. The findings and challenges encountered by the Indian researchers will inform AllerGen's CHILD study.

## **2.0 Welcome / Chair's Remarks**

This is the second workshop for the St. John's Institute of Population Health and Clinical Research and the AllerGen NCE Manitoba birth-cohort research groups.

Allan Becker welcomed the group and started the discussion with a summary of the purpose of the partnership, which is to align Canada and India's existing birth cohort data in order to compare the findings and to develop a detailed collaborative research plan to Indian and Canadian funding agencies (CIHR, IDRC) for nutritional and metabolic assessments in birth cohort studies.

Dr. Anura Kurpad introduced himself and his team to the group and explained that the primary overarching goal of this collaboration is to develop a consensus document on approaches to studies of biomarkers and psychosocial indicators of chronic disease risk in childhood for publication and translation into tools for clinicians and public health agencies. After doing this, the information will be disseminated by AllerGen in collaboration with health promotion experts and non-governmental organizations and advocates in Canada and abroad

## **3.0 Roundtable Introductions**

The group introduced themselves identified the leadership roles that they currently hold within the group, their areas of expertise and research interests.

## **4.0 Overview of St. John's and AllerGen Birth Cohorts**

Dr Allan Becker presented background information pertaining to the CHILD Study, discussing the roles of AllerGen researchers and the program direction with a plan for this study to focus on children based in five cities across Canada. Dr. Kurpad identified to the team that there were parallels between the St. John's birth cohort, the Manitoba (SAGE) and CHILD cohorts, with common nutritional queries regarding infant nutrition, environmental exposures, and factors that are defined through maternal health. It was suggested that the group focus on preliminary tasks to identify common SOP's which can be completed with little money, in order to bridge the gaps between the cohorts and try to unify data for the purpose of comparing and contrasting information regarding the different studies.

It was agreed that one of the first steps to the development of this cohort is for the St. John's research group to analyze the existing cohort and re-establish

contact with as many patients as possible. The group stated that this would take approximately six to eight weeks in order to complete this task, and identify patients that would still be interested in participating in this new collaborative.

## **5.0 Collaborative Activities**

This workshop brought together researchers from the Manitoba-based asthma and allergy-focused birth cohort with the Bangalore-based St. John's birth cohort, and focused on maternal and child nutrition and early life outcomes. As a result of this workshop, research protocols and standard operating procedures (SOP's) were exchanged between the research groups.

Communications between the group members following the workshop have provided an improved understanding of common research approaches used in both countries when assessing infant and maternal health. A target has been set for the development of pilot data to demonstrate the ability to direct both cohorts towards the same hypotheses comparing the results, and utilizing them in the development of a collaborative research plan to Indian and Canadian funding.

Discussions at this workshop were led by Dr. Anura Kurpad, Dean of the St. John's Institute and Dr. Allan Becker, AllerGen Programme Investigator of the Manitoba SAGE cohort. Specific discussions from the workshop are as follows:

Approaches to common research outcomes and tools include the following criteria:

- Birth weight – current weight at each time of examination, and BMI;
- Food and inhalant allergy skin testing – including records of food intake/nutritional status;
- Pulmonary function testing (PFT) (age appropriate) for child and parents;
- Recorded questionnaires which focus on physical activity pertaining to the child;
- Records of Immunization; and
- Issues documented pertaining to Stress (SES).

The group identified combined questionnaire requirements, focusing on the following topics:

- Nutrition – common questionnaires will be developed through collaboration of the two teams, and the final will require translation into Kannada, Tamil and Telugu;
- Allergy and asthma-association, including ISAAC; and
- Stress – maternal and child perception.

Specific Questions/Hypotheses arose from the group discussions, including:

- What is the prevalence of atopy in Bangalore to what food and inhalants are the children sensitized? Could there be a comparison conducted with Manitoba data?
- What standard Operating Procedures from each cohort are currently available?
- What process does each cohort have to go through in order to obtain antigens?
- It was agreed that the training of personnel in both Bangalore and Canada would be complete in the late spring, with testing to begin in the summer, 2008.
- Is birth weight a determinant of overweight status in later life? Nutrition in pregnancy as a critical factor. Data are available from both cohorts. Question of “catch-up” weight is critical.
- What is the role of fatty acids in the development of allergy and asthma? Measurements of multiple fatty acids have been undertaken in both cohorts. Lead researchers on each side (Carla Taylor and Sumithra Muthayya) will assess correlations with birth weight, and subsequently with allergy following assessment of allergy in the St. John’s cohort.

## **6.0 Areas of Focus for Compiling Joint Datasets**

The group agreed on the following areas of focus regarding the compilation of data for both countries.

- **Physical Activity**

The domains and units associated with physical activity will be developed into a common tool for assessment with both cohorts.

- **Pulmonary Function Testing**

One of the key components regarding the compiled data will be focused on the testing and evaluation of the patients in the cohort in Bangalore using the implementation and monitoring of pulmonary function, looking at the feasibility of sputum testing. This testing is currently being conducted in Manitoba, however, it was noted that there is no pulmonary function data for a normal data set.

The St. John’s cohort will begin to have pulmonary function testing performed in those children of appropriate age. The group agreed to the development of common pulmonary function testing (PFT) protocols and will begin pulmonary function testing for children in the Bangalore cohort. It was also agreed that although it is difficult to do PFT in small children, it would be beneficial to test the parents in order to establish a baseline of heritable asymptomatic airway responsiveness. In order to properly conduct these tests in both India and Canada, standard SOP’s need to be developed.

- **Immunization**

Immunization records are complete for both countries and available for both cohorts. The data will be collated in order to combine the information for the joint cohort.

- **Database Development**

A common database structure will be critical for sharing outputs. Database managers from St. John's and Manitoba will interact and work toward development of a common database. In terms of questionnaire development, it is anticipated that this will require about 6 months.

- **Child and Maternal Nutrition**

Consideration should be given to development of new tools for food frequently used in the assessment. The AllerGen investigators will work with the Dean in Human Ecology at the University of Manitoba as a new collaborator, and trainees in Human Nutritional Sciences will be involved in the cohorts both in Canada and India.

It was agreed that a parallel assessment of fatty acid composition of children in both cohorts would be performed. A Pediatrician involved in allergy will be enrolled in the project in Bangalore and atopy assessment will be initiated with the Bangalore cohort.

A teleconference is planned for the late spring to assess progress. As long as progress is reasonable, a further workshop will be planned for the late fall 2008, possibly in India.

## **7.0 Adjournment**

The meeting adjourned at 5:00 pm.

## Appendix A: List of Meeting Participants in Attendance

Name	Position	email
Allan Becker	Professor, Department of Pediatrics, University of Manitoba	becker@cc.umanitoba.ca
Anita Kozyrskyj	Associate Professor, Pharmacy & Community Health University of Manitoba	kozyrsk@cc.umanitoba.ca
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