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Paediatric Respiratory Medicine as a New Subspecialty

1. Paediatric Respiratory Medicine (PRM, 兒童呼吸科) as a subspecialty is needed in Hong Kong.

Respiratory disorders have always been the most prevalent illness in children all over the world. Despite the many developments in modern medicine, pneumonia still ranks high among the causes of death in children in the world. In Hong Kong, asthma is the commonest childhood chronic disease with a prevalence of 5%. Respiratory disorders including pneumonia, acute bronchiolitis, obstructive sleep apnoea, asthma and croup are among the commonest reasons requiring admission into hospitals. Although such statistics does not exist in the private sector, it is common understanding that the scenario is very much the same. Many of these problems are managed by general paediatricians. However, with advances in management and diagnosis, many cases will need input or continuous care from a subspecialist, who is capable of executing specialized diagnostic procedures or initiating specific treatment. Take the example of the frequent wheezing pre-school child. Diagnostic evaluations may range from sophisticated infant and pre-school lung function, bronchoscopy, pulmonary scans, to 24-hour pH monitoring. These specialized procedures and tests will require extra training and experience on top of that provided in the training of general paediatrics. Another example is the habilitation and follow-up of an infant with chronic lung disease. Nowadays, a multi-disciplinary programme and interventions ranging from physiotherapist, occupational therapist, use of oxygen and BiPAP machine, and nutritional support is required to help the infant develop his full potentials and live as normal a life as possible. There is mounting evidence that early lung deficits are carried through the life of individuals and will have an impact on morbidity in later life. Subspecialist training is therefore required to understand, co-ordinate and monitor treatment progress for the best outcome.

Management of a child with severe or refractory asthma also requires specialized training to be able to evaluate the child thoroughly for causes of lack of response. This may include sophisticated tests like exhaled nitric oxide, cilia studies or broncho-alveolar lavage. Treatment may require the help of specialized nursing practitioners for compliance monitoring and medication use training, or rare drugs like anti-IgE. Thus, modeling on existing paradigms of training in many developed countries in the world, there is a need for Paediatric Respiratory Medicine subspecialists in Hong Kong.

2. PRM is new and different from existing subspecialties.

As mentioned in the above paragraph, there is much more to PRM than what is being covered in our basic and higher training General Paediatrics. This is entirely new from what we have in Hong Kong.

3. The knowledge, skills and practice required by PRM are identifiably distinct and are deemed appropriate and compatible with the practice of Paediatrics

The curriculum of training in PRM aims to build on top of what has been covered in basic and higher training in General Paediatrics. It develops the trainee's knowledge, skills and attitude to become a subspecialist that is capable of diagnosing, assessing, and treating various respiratory illnesses, and is able to co-ordinate other related professionals to best manage the patient. Please refer to **Curriculum of Training** for details.

4. PRM exists in other countries.

As indicated in our applications, PRM exists in, but not limited to, countries including the US, Canada, the UK, Australia, European Community countries, the Philippines, Taiwan, South Korea, Japan, and Thailand. Paediatric Pulmonology is one of the 14 subspecialties under the American Board of Pediatrics

(<https://www.abp.org/ABPWebStatic/?anticache=0.437936914016711#murl%3D%2FABPWebStatic%2FsubSpecCertification.html%26sur%3D%2Ffabpwebsite%2Fcertinfo%2Fsubspec%2Fsubintro.htm>).

In the UK, Respiratory Paediatrics is one of the 17 recognized subspecialties of the Royal College of Paediatrics and Child Health

(<http://www.rcpch.ac.uk/training-examinations-professional-development/careers/can-i-specialise/can-i-specialise>).

The Pediatric Assembly of the European Respiratory Society has recently finalized the syllabus for training and examination in the subspecialty for Europe (Pediatric HERMES, http://dev.ersnet.org/uploads/Document/de/WEB_CHEMIN_4260_1237469392.pdf). The first examination was conducted in September 2011.

In the Philippines, the Philippine Academy of Pediatric Pulmonologists (<http://www.papp.org.ph/>), the body responsible for training and certification of sub-specialists in the field, was formed in 1992. Similar bodies exist in Korea (Korean Academy of Pediatric Allergic and Respiratory Diseases, KAPARD), Japan and Thailand.

5. PRM is recognized at the institutional level.

In the Chinese University of Hong Kong, **Professor Albert Li** is a specialist in PRM with a major research interest in sleep-related disorders, sputum induction, and non-invasive ventilation. **Professor TF Leung** is a known allergist with research interests in molecular aspects of allergy and asthma. **Professor Gary Wong** is a world renowned asthma epidemiologist. **Professor Ellis Hon** and **Dr. Kam-lau Cheung** are in charge of PICU services, a closely related discipline, at the University hospital. In the University of Hong Kong, **Dr. So-lun Lee** is a Consultant Paediatrician working in PRM and Pulmonary Rehabilitation. **Dr. Nai-shun Tsoi**, Consultant Paediatrician in charge of the PICU and NICU, has vast experience in this closely related discipline. **Dr. Daniel Ng**, Consultant Paediatrician and Chief of Service in Kwong Wah Hospital, has great interest in PRM and has set up a comprehensive respiratory service with training facilities. Other specialists in PRM also include **Dr. Theresa Leung**, Consultant Paediatrician in Pamela Youde Nethersole Eastern Hospital, and **Dr. Shu-yan Lam**, Consultant Paediatrician in Tuen Mun Hospital.

6. The sub-specialty has administrative support from one of the constituent Colleges of the Academy

We are given to understand that the College of Paediatricians will

give support to our subspecialty if we satisfy the vetting procedures and all subspecialty accreditation requirements of the College.

7. **Subspecialty Development**

The first Professor in Paediatrics, Professor C. Elaine Field, had a keen interest in respiratory diseases, as she was known for her work in bronchiectasis, an important problem in children from the 50 to 60's. Since the early 80's when several Hong Kong paediatricians were first sent to the UK and Australia to be trained in paediatric respiratory medicine, interest in the subspecialty grew, and by the 90's there was a sizeable group of paediatricians in the public service dedicating themselves to the work of the subspecialty, setting up respiratory teams within hospital departments, and performing spirometry, exercise testing, allergy assessments, and asthma education. This also coincided with the development of paediatric and neonatal intensive care services during the time. **Flexible bronchoscopy** service first started in Queen Elizabeth Hospital and Queen Mary Hospital around 1990-91. Now there are respiratory paediatricians performing these procedures in all major Paediatric Departments of public hospitals.

The official sub-specialty group, the **Hong Kong Society of Paediatric Respirology** (HKSPR, www.hkspr.org/), was formed in 1997, with Dr. SO Kwan-tong as the first President. Since then the Society has organized **Annual Scientific Meetings** every year, with attendances of up to 200 professionals. Membership of the Society stands at 211 (87 life members, 134 full members) at the end of 2011. The Society also organized the **International Pediatric Respiratory Allergy and Immunology Congress** (IPRAIC) in 2004, a world congress with about 800 attendances and over 70 international speakers.

We were also among the founding groups of the **Asia Pacific Association of Pediatric Allergy, Respirology and Immunology** (APAPARI, www.apapari.org/), which was formed in 1998 by countries along the Asia Pacific rim. APAPARI is very active, with annual meetings held in cities around Asia and teaching courses in less developed areas. We have also been in touch with our counterparts in mainland China, participating in their annual

national meetings in pediatric respiratory medicine.

Because of our unique position, we have also been in close contact with fellow paediatric pulmonologists in Taiwan, participating in their annual conferences as well. Since 2009, we were instrumental in organizing a **Cross-Strait Pediatric Respiriology Congress** to be hosted in turn by Hong Kong, the mainland and Taiwan, to promote scientific exchange and sharing in the sub-specialty. Hong Kong has been the host for the year 2011. The meeting coincided with our Annual Scientific Meeting from 8-9 October 2011, and was attended by over 180 delegates.

Professor Albert Li has also organized an **Update in Paediatric Respiratory Diseases/Sleep-related Disorders Conference** yearly in the Prince of Wales Hospital since 2007, with international faculties.

Locally, the Society meets monthly for clinical case and topic presentations, organizes lectures on the sub-specialty for general paediatricians and paramedical professionals. Several **Certificate Courses** on topics like pediatric bronchoscopy and sleep medicine have also been organized for paediatricians and subspecialty trainees locally and internationally. Education of the general public is done through our involvement with the **Hong Kong Asthma Society** (HKAS, www.hkasthma.org.hk/), a patient self-help group of over 20 years history. A panel of medical advisors, nominated by the Society Council, helps HKAS in lectures, interviews and articles on the topic. A month-long project of offering spirometry to the public was organized in October 2010 as our contribution to World Spirometry Day together with HKAS and Hong Kong Thoracic Society, the society for adult chest physicians. Over 2800 spirometry measurements were done over a one month period for the public in various districts in Hong Kong.

Scientific research has been an integral part of the development of the subspecialty. Normal spirometric values for Hong Kong children were first established in the 80's by workers in the University of Hong Kong. Researchers in both the Chinese University of Hong Kong and the University of Hong Kong participated in the ISAAC study, the

most ambitious long-term global study on the natural history of asthma, yielding valuable data on epidemiology of asthma and other allergic diseases. Health effects of air pollution on children, epidemiology of bronchiolitis and other respiratory infections, pulmonary function of infants and young children, molecular research on asthma and other allergies, paediatric sleep disorders, and childhood respiratory infections were among the major research topics straddling both universities and major clinical units. The official journal of HKSPR, **Journal of Paediatric Respiriology and Critical Care**, published quarterly, was established in 2005 for the promotion of scientific exchange among colleagues locally. Members of the subspecialty also publish numerous articles in international journals annually.

Teaching and training is done in most hospitals by qualified trainers according to the requirements of the College of Paediatricians. Subspecialty training is often done partly overseas, when the trainee spends 3 to 12 months in institutes in the UK, USA, Canada or Australia.