

**Annual Report 2011 – Steve Biko Academic Hospital**  
*A separate report follows for Kalafong Hospital*  
**Department of Paediatrics and Child Health, University of Pretoria**  
**Professor Robin Green (Professor and Head)**

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**Introduction**

I believe that Paediatrics is an important discipline in Medicine in South Africa and addresses many of the issues facing Clinical Medicine in our country.

The University of Pretoria is committed to excellence in teaching and research as well as the provision of outstanding medical services to all communities. The Department of Paediatrics and Child Health under the Leadership of Professor Robin J Green has identified key areas of health care provision that should be cultivated and nourished in line with the overall University Mission Statement. To this end the Department has revised its vision and mission statements and created a number of structures to promote excellence in this Department.

The documentation attached will support the fact that my Department has been at the forefront of service innovation to patients previously left to die of HIV-related complications. In addition this Department is carving a niche within the Academic pursuit of this discipline in South Africa. The three pillars of Academia are strongly supported by our team.

This Department has now trained 6 previously disadvantaged South Africans in Paediatric Pulmonology and they have all registered as sub-specialists in this discipline after passing the examination. This number is 70% of all South African Paediatric Pulmonologists registered in South Africa since the Certificate was offered by the College of Paediatrics. We have also trained another 2 sub-specialists and 3 are in training

This Department is one of the healthiest in terms of publication output in the Faculty of Health Sciences of the University of Pretoria.

**VISION**

To be the pre-eminent Department of Paediatrics in Africa; leading through Research, Teaching and Patient Care.

**MISSION**

To be a national and continental resource and advocate in Paediatrics and Child Health, advancing excellence in research, training and continuing professional development, clinical care, and administration and to be a sought after training centre for Paediatrics in Africa.

**CORE VALUES**

- Respect and kindness amongst all staff and patients
- Promotion of happiness for all who interact with us
- A culture of research and publication
- Leadership
- Passion with humility, honesty and integrity
- Contribution to upliftment of previously disadvantaged members of staff and community

**Organisations History and Impact**

The Department of paediatrics at the University of Pretoria began On 1 January 1946 with the appointment of the first Head: Professor E Jansen. Since then there have been 6 heads of the Department.

In line with the transformation in the country in the early '90's the University of Pretoria and our Department where amongst the first in the country to embrace this change. Our Department has a proud record of promotion and appointment of previously disadvantaged South Africans.

The Department of Paediatrics and Child Health operates from two Hospitals; namely Steve Biko Academic Hospital and Kalafong Hospital.

## **STEVE BIKO ACADEMIC HOSPITAL**

During the last year the activities of this Department have focused in the four areas of **Academic Medicine namely: Patient Care, Research, Teaching, Community outreach**

### **1. Patient Service**

The various Clinics at Steve Biko Academic Hospital have grown by 60% in four years. In 2010 we treated over 10 000 out-patients. We now offer a service to all patients in Gauteng and, Mpumalanga and limited service to Limpopo Provinces. We receive patients from state and Private Practice as the reputation of the staff has grown. Our clinics offer a full diagnostic service including comprehensive assessments of complex diseases such as chronic lung disease, cerebral palsy, congenital heart disease, epilepsy, genetic counselling, chronic renal failure and oncology in children. The Department has state of the art equipment.

We have a fully operational, and one of a kind, Clinic for HIV positive patients with Chronic Lung disease. Research is ongoing in this population group as International data on the management of HIV-related bronchiectasis is absent.

We are now successfully treating HIV-related bronchiectasis and have a very low rate of acute lower respiratory tract infections in this patient group as we have successfully implemented new treatment strategies. These form the basis of ongoing PhD research of Prof Refiloe Masekela, working in the Division of Paediatric Pulmonology. We have one of only 4 country wide fully comprehensive Cystic Fibrosis Clinics.

The Paediatric Intensive Care Unit is a 7 bed state of the art facility with full ventilator facilities (including HFOV, SiPAP). The mortality in this unit is amongst the lowest in Africa. We are now successfully ventilating and managing HIV-infected children with pneumonia. We are one of only two PICU's in Africa offering this care and we have lowered the mortality from PCP pneumonia from 100% before I started working here to a now 20%. This is the lowest mortality from this disease in the world

The Paediatric cardiology service operated by Prof F Takawira provides a level of excellence in care not available in any other state facility. Waiting times for surgery in children with congenital heart diseases is the lowest in the state sector in South Africa. Prof I Smuts has created a service by which children with neuro-metabolic conditions have access to a unique diagnostic service. This technology is otherwise not available outside of the first world. Prof I van Biljon is providing a consulting service to children with acute and chronic renal disease living in areas north of Johannesburg. Although all types of acute renal replacement are available most children with acute renal failure can still be managed successfully with acute peritoneal dialysis. Chronic renal replacement for children is limited to

continuous ambulatory/automated peritoneal dialysis to allow children who live far from dialysis centres to continue school attendance.

Dr David Reynders has successfully conducted the first bone marrow transplant in a child in Pretoria.

### Inpatient service

<b>Total admissions</b>	<b><u>2011</u></b> <b><u>2371</u></b>	<b><u>2010</u></b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Paediatric inpatient wards</b>	250 Pulmonology 173 Neph 541 Gastro 429 Cardio	209 C 234 N 99 N 273 P 461 G <b><u>1276</u></b>	2198 wards 1,2,59	2080 wards 1,2,59	2340 wards 1,2,59	1519 wards 8.6 and 9.5	1477 wards 8.6 and 9.5	745 Cardiology Neurology Pulmonology	784
<b>Acute Care Ward</b>	978 + Deaths: 6	1274				1051	1553	1353	
<b>Deaths</b>	8 Neph 7 Pulm 24 Gastro 30 Cardio	11 P 12 G	6.1%	8.3%	6.7%	100	82	23+	
<b>Intensive Care</b>	373	404	293	213	270	336	408	501	365
<b>Deaths</b>	16%	22%	15.0%	25.4%	24.1%	26.6%	22.4%	18.4%	20.4%
<b>Neonatal Service – Total deliveries</b>	See below	2964	4901	6034	6553	5354	3726	4086	3874

## Outpatient Service

	2004	2005	2006	2007	2008	2009	2010	2011
Cardiology	1591	1618	1835	1871	2131	2167	2345	2106
Endocrinology	305	280	308	384	290		323	367
Haematology	157	161	182	237	275		269	248
Haemophilia	250	278	303	173	180		278	71
Oncology								1528
Nephrology	576	749	846	726	698	712	697	<b>777</b>
Pulmonology	626	733	1212	1714	1821	2049	2107	1798
High risk baby clinic	1161	1162		1439	n/a		912	-
Baby Clinic							583	-
Neurology clinic	2853	3014	3322	3720	4531	4893	4627	5567
ART clinic ( <i>new Sept 2004</i> )		168	1288	Service provided by TDH				
Gastroenterology/Liver clinic		89	134	466			563	808
<b>Total</b>	<b>7519</b>	<b>8163</b>	<b>9385</b>	<b>10398</b>	<b>10392</b>		<b>12704</b>	<b>13270</b>

## Divisional Reports

### Paediatric Neurology

The Paediatric Neurology Unit had a successful year and managed almost 6,000 patients in total:

<b>In patients</b>	<b>=</b>	<b>254</b>
<b>Out patients</b>	<b>=</b>	<b>5,567</b>
<b>Rehab</b>	<b>=</b>	<b>17</b>
<b>Total</b>	<b>=</b>	<b>5,838</b>

### 1. CLINICS

The Paediatric Neurology Unit runs 6 clinics per week. The follow-up patients are seen on Mondays and the clinic runs the entire day. A new multidisciplinary clinic was started for patients with muscle disorders. The pulmonologists and the orthopaedic surgeons are involved and it is going to make a big difference in the care of these chronically ill patients. See Table 1.

The average number of patients managed at the paediatric outpatient facility in 2011 per month was 477 and the average number of patients per clinic increased to 24.5. See Table 2. The clinic growth is graphically presented in Figure 1 and the distribution of the clinic patients in Figure 2.

Personnel allocated: two full time consultants, but Dr. Lubbe was on Sabbatical leave for a total period of six months, one registrar, a house doctor and Dr. Human did 8 hours sessions per week. Dr. Pretorius did sessions in the beginning of the year despite the fact that her session post was not approved. She was however remunerated by Paediatric Neurology and Departmental Funds. Dr. Lamb joined the Unit as a fellow since August 2011.

### Challenges

- a. The waiting lists for new patients are at least 4-6 months, despite daily clinics run by the allocated people. Patients with urgent or emergency neurological problems are admitted to be sorted out as in patients.
- b. The shortage of personnel in the Unit.

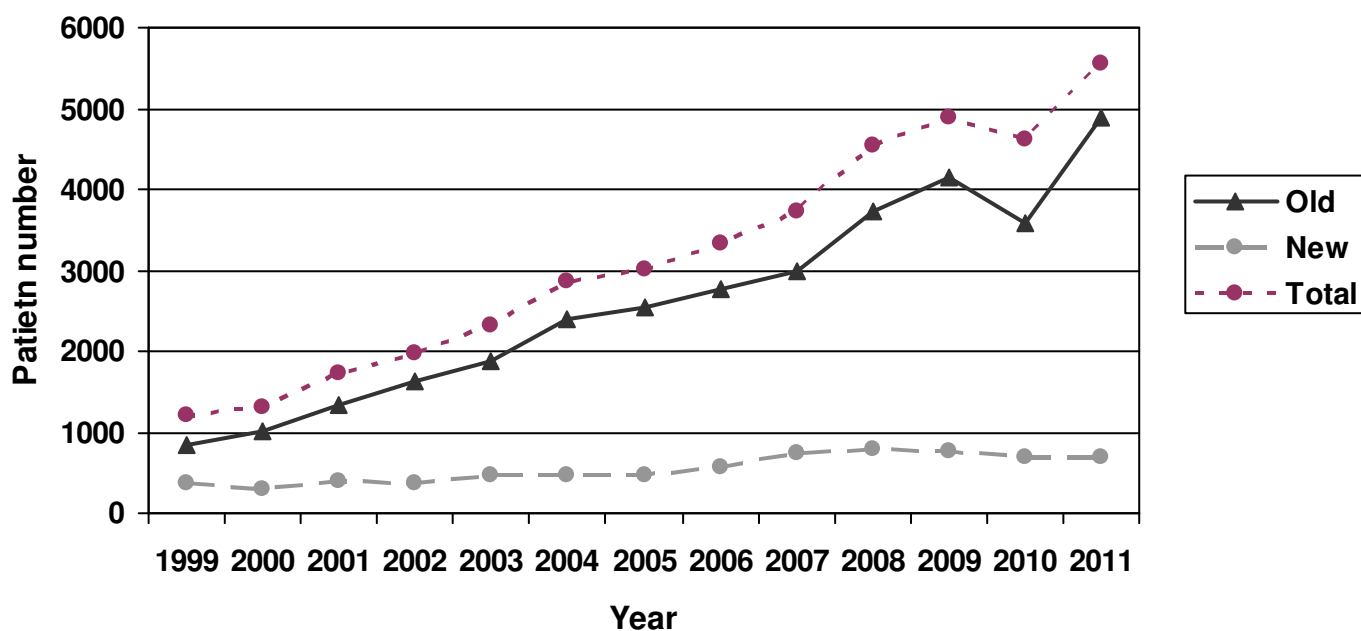
**Table 1: Patient numbers seen at the different clinics from 1998-2011**

Year	Neurology Clinic			UP/Netcare Clinic			CP/NDI- Clinic			Grand Total	
	Old	New	Total	Old	New	Total	Old	New	Total	New	Total
1998										400	1015
1999	457	191	648				384	176	560	367	1208
2000	524	196	720				500	100	600	296	1320
2001	685	323	1008				644	71	715	394	1723
2002	892	296	1188				726	66	792	362	1980
2003	1023	396	1419				844	67	911	463	2330
2004	1466	388	1854				925	74	999	462	2853
2005	1610	406	2016				932	66	998	472	3014
2006	1899	474	2459	29	60	69	834	26	860	560	3322
2007	1988	619	2607	138	119	257	856		856	738	3720
2008	2414	665	3079	172	134	306	1146		1146	799	4531

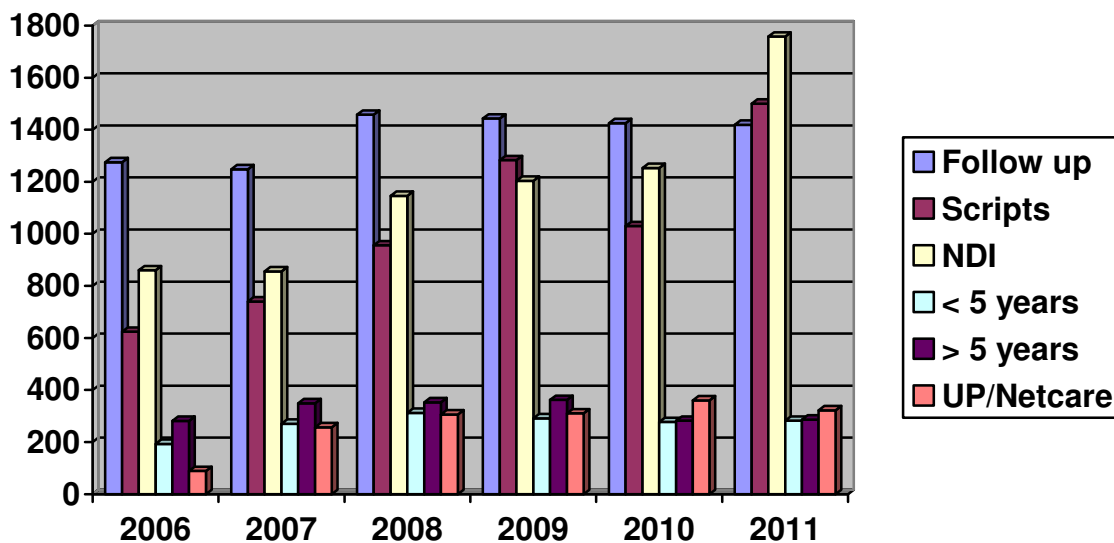
<b>2009</b>	2726	653	<b>3379</b>	209	101	<b>310</b>	1204		<b>1204</b>	754	<b>4893</b>
<b>2010</b>	2455	559	<b>3014</b>	220	140	<b>360</b>	1253		<b>1253</b>		<b>4627</b>
<b>2011</b>	2919	568	<b>3487</b>	202	120	<b>322</b>	1758		<b>1758</b>	588	<b>5567</b>

**Table 2: Mean number of patients seen per clinic at SBAH**

<b>2000</b>	6.5
<b>2001</b>	8.5
<b>2002</b>	9.8
<b>2003</b>	11.1
<b>2004</b>	12.7
<b>2005</b>	13.3
<b>2006</b>	11.0
<b>2007</b>	15.4
<b>2008</b>	18.4
<b>2009</b>	20.6
<b>2010</b>	18.3
<b>2011</b>	23.4



**Figure 1: Growth of the Out Patient Paediatric Neurology Service**



**Figure 2: Patient distribution of Out Patient Paediatric Neurology service**

## 2. IN PATIENTS

254 Patients were admitted to ward 8.6 during 2011. Only 25 patients stayed longer than 15 days and their mean stay was 24.5 days. The mean stay for the rest of the patients was 5 days.

## 3. REHABILITATION UNIT

The rehabilitation facility for Paediatric Neurology patients at the Tshwane Rehabilitation Centre made a big difference in terms of the long-term neurology patients. 17 patients were admitted in the 4 bed facility and weekly rounds were done there.

## 4. FCP PART II EXAM

Prof. Smuts co-ordinated the FCP Part II exam.

## 5. TRAINING

- A paediatric fellow Dr. Lamb sponsored by DOE and Discovery started his training in August 2011.
- Prof. Smuts and Dr. Lubbe did the training course in the application of ADOS.
- Dr. Lubbe was sponsored by the Paediatric Neurology Unit to attend the Cerebral Palsy Conference



- d. One occupational therapist and one physiotherapist were sponsored by the Paediatric Neurology Unit to attend the Cerebral Palsy Conference and one occupational therapist was sponsored by the Paediatric Neurology Unit to attend a visual training course.

## 6. RESEARCH PROJECTS

- a. The mitochondrial project with several sub projects is making steady progress .
- b. Prof. Smuts submitted her PhD

- c. Two Posters were presented at Faculty day:

- i. van der Walt EM, **Smuts I**, Louw R, Taylor RW, Elson JL, Turnbull DM, van der Westhuizen FH. Molecular genetic characterization of mitochondrial DNA in a cohort of South African patients with mitochondrial disorders using next-generation DNA sequencing.
- ii. **Lubbe E**. Paediatric Myasthenia Gravis at Steve Biko Academic Hospital.

### d. The following posters were presented at international meetings

- i. van der Walt EM, **Smuts I**, Louw R, Taylor RW, Elson JL, Turnbull DM, van der Westhuizen FH. Molecular genetic characterization of mitochondrial DNA in a cohort of South African patients with mitochondrial disorders using next-generation DNA sequencing. Poster presentation. Joint **Conference** of the African and Southern African Societies of Human Genetics, Cape Town, South Africa. 6-9 March **2011**.
- ii. van der Westhuizen, van der Walt EM, Elson JL, McFarland R, Turnbull DM, Taylor RW, Louw R, **Smuts I**. mtDNA variation in muscle of 42 African paediatric patients with respiratory chain deficiencies. Euromit, Zaragoza, Spain. 20-23 June 2011.
- iii. Koekemoer G, van der Westhuizen, **Smuts I**, Reinecke C. Description of concurrent class analysis and its application in defining a biosignature for mitochondrial respiratory chain deficiencies. 7th International Conference of the Metabolomics Society, Cairns, Australia, 27-30 June 2011.
- iv. Wortmann SB, Kluijtmans LAJ, Rodenburg RJ, Sass JO, Nouws J, van Kaauwen EP, Kleefstra T, De Vries MC, Oshanni P, **Smuts I**, van der Westhuizen FH, Reinecke C, Thorburn D, Smeitink JAM, Morvava E, Wevers RA. 3-Methylglutaconicaciduria- Lessons from nearly 50 genes and more than 900 patients. A metabolomics approach. Annual symposium of the Society for the study of inborn errors of metabolism (SSIEM), Geneva, Switzerland, 30August- 2September 2011.
- v. Reinecke CJ, Koekemoer G, van der Westhuizen FH, Mienie LJ, **Smuts I**. The search for biomarkers for respiratory chain deficiencies: A metabolomics approach. Oral

presentation. Annual symposium of the Society for the study of inborn errors of metabolism (SSIEM), Geneva, Switzerland, 30August- 2September 2011.

## 7. PUBLICATIONS

- i. Reinecke CJ, Koekemoer G, Van der Westhuizen FH, Louw R, Lindeque JZ, Mienie LJ and Smuts I. Metabolomics of urinary organic acids in respiratory chain deficiencies in children. *Metabolomics* Apr: DOI:10. 1007/s11306-011-0309-0, 2011.
- ii. Riordan GT and Smuts I. When to consider and inborn error of metabolism: an approach to paediatric neurometabolic disorders. *Continuing Medical Education* Apr:162-164, 2011.
- iii. Van der Walt E, Smuts I, Taylor R, Elson J, Louw R, Van der Westhuizen FH. Characterization of mtDNA variation in a cohort of South African paediatric patients with mitochondrial disease. *European Journal of Human Genetics* (Accepted for publication).
- iv. **Smuts I**, Van der Westhuizen FH, Louw R, Mienie LJ, Engelke UFH, Wevers RA, Mason SW, Koekemoer G, Reinecke CJ. Disclosure of a putative biosignature for respiratory chain disorders through a metabolomics approach. *Journal of Inherited Metabolic Disease* (Submitted for publication).

## 8. INTERNATIONAL VISITORS

Prof. Moyra Smith from the University of California at Irvine, USA

Prof. Alec Hoon from the Kennedy Krieger Institute, Johns Hopkins University, USA.

### Paediatric Nephrology

There was a significant increase in the number of Nephrology admissions in 2011 compared to 2010, most likely generated by the appointment of a fellow which increased the work capacity of the unit. The unit functioned at maximum capacity – a work tempo that will not be sustainable without a fellow.

**Dialysis:** In total 11 patients required acute dialysis . All modalities of haemodialysis were used, including peritoneal dialysis, was used in 6 patients. Peritoneal dialysis was done in 3 infants post cardiac surgery. Two died in ICU due to multiorgan failure. In the other patient renal function recovered completely and dialysis could be discontinued. The patient later demised in ward 8.6 due to septicaemia.

There was an increase in the number of older children with more complicated multisystem disease with acute renal failure. Three children were finally referred to adult nephrology because they required ongoing dialysis after incomplete recovery of renal function.

Chronic ambulatory dialysis was started in 3 new patients with stage 5 CKD. One patient was from outside our referral area (Limpopo Province) and 2 of the children were from Mpumalanga Province.

Several patients (5) were declined chronic dialysis due to a combination of reasons, including patient clinical condition, social and logistic issues. In total there were 5 patients receiving chronic dialysis. Two children who were started on chronic peritoneal dialysis demised at home (stroke and cardiovascular causes). Patient data was reported to the National Dialysis Registry as required of all registered dialysis units in South Africa. All patients on chronic dialysis were referred for evaluation of eligibility of renal transplantation. No child received a renal transplant in the past year. The main challenge for 2012 will be to get those children who need renal transplantation successfully transplanted.

### **Article published**

- Nephrotic Syndrome in Children – Studies from South Africa in sub-specialist book : An Update on Glomerulopathies - Clinical and Treatment Aspects. Pp 439-454 InTech: Open Access Publisher ISBN 978-953-307-673-7

World Kidney Day 10 March 2011: **Participated in outreach to local schools to measure blood pressures and monitoring for kidney disease. National Kidney Foundation Project**

### **Paediatric Gastroenterology**

This service has grown dramatically as a result of the active interest of Dr Terblanche.

Dr Meyer joined our unit on the 1<sup>st</sup> of November 2011 as a fellow. Her presence has had a massive positive impact on the quality of patient care and in reducing the burden of an ever increasing workload. She will be leaving in June 2012 to complete a Fellowship in Paediatric Gastroenterology, Hepatology and Clinical Nutrition in Melbourne, Australia.

1. A new paediatric theatre was opened and a formal theatre slot was allocated on Wednesday mornings from 8h00 to 13h00. This has led to a marked improvement in appropriate patient care and endoscopies can be fully utilised as diagnostic and therapeutic tool. Consequently the number of endoscopies performed increased from 2 to 7 per week. Therapeutic interventions offered now include gastroscopy, colonoscopy, balloon dilatation, sclerotherapy, banding of esophageal varices, removal of foreign bodies as well as other procedures. The interventions now offered are available ONLY at Steve Biko Academic Hospital and patients are referred to the unit from Gauteng, Mpumalanga, Limpopo and the private sector.

## **Research publications and presentation at congresses**

### **Netshimboni R, Terblanche AJ, Wittenberg DF**

The impact of HIV infection in patients admitted with diarrhoea  
ALLSA Congress, Sun City, 21-23 October 2011

### **Potgieter J, Wittenberg DF**

Haematological abnormalities in paediatric patients with diarrhea and HIV infection.  
ALLSA Congress, Sun City, 21-23 October 2011

## **Peer reviewed journal publications and other**

### Stephen CR, Bamford LJ, Patrick ME, **Wittenberg DF (eds)**

Saving children 2009: Five years of data  
A sixth survey of child healthcare in South Africa  
Pretoria: Tshepesa Press, MRC, CDC 2011

### **Wittenberg DF**

Management Guideline: Acute infective diarrhoea – Acute gastroenteritis  
SAfr Med J 2011. *In press*

### **Terblanche AJ, Netshimboni R, Wittenberg DF**

Does the high prevalence of paediatric HIV infection impact on the routine approach to patients admitted to a referral hospital with diarrhoea?  
SAJCH (submitted)

### **Terblanche AJ**

Paediatric Celiac disease  
Pediatric Focus, 2011

### **Terblanche AJ**

Paediatric Gastroesophageal Reflux Disease  
Professional Nursing Today, 2011

## **Invited lectures**

### **Wittenberg DF**

Chronic Abdominal Pain: *more than a belly ache?*  
Annual Paediatric Update 13 March 2011  
Bacterial intestinal disease: who needs antibiotics?

ALLSA Congress, Sun City, 21-23 October 2011  
Management of acute diarrhoea in children  
PMG Update Zinkwazi Nov 2011

### **Terblanche AJ**

New Developments in Celiac disease  
Annual Pediatric Update 13 March 2011  
Paediatric Gastro-esophageal reflux disease  
Astra Zenica Launch: Nexium 10 mg sachets  
Centurion Lake Hotel, 11 August 2011  
Pediatric Gastro-esophageal reflux disease  
Invited joint lecture Dave Richards for Astra Zenica Meeting  
Sandton, 25 October 2011

### **Paediatric Pulmonology**

#### **1. Overview**

- Successful completion of Fellowship Programmes of 7 Fellows
- New Fellow appointed – Salome Abbott
- Successful 18 Diplomates in Allergology
- PICU mortality 16%
- Publications 2011 – 6 Peer-reviewed, 13 Non-peer-reviewed, 5 Published Abstracts
- Presentations (2011) at 5 International Congresses, 10 Local Congresses
- 3 Faculty Day Lectures, 3 Posters
- International Research Collaboration – 2 Projects

#### **2. Research**

**I have set priorities for Paediatric research at UP in the areas of need, namely**

- HIV-related disease
- Asthma
- Cystic Fibrosis
- Allergy
- Intensive Care Management

**To this end the outputs in the last year from the Department include  
Masters theses of 8 Registrars in training**

- Dr S Abbott. Family history of atopy in asthmatic children.
- Dr M Kwofie-Mensa. Quality of life in children with wheeze. Improvement with Montelukast
- Dr C Els. Atopy in a Pretoria Asthma Clinic
- Dr O Kitchin. Cost of hospitalisation for pneumonia in children
- Dr T Moodley. Aspects of bronchiolitis in children
- Dr S Kunene. Anthropometric measurements in children with chronic lung disease
- Dr P Sigwadi. A survey among parents or guardians about administration of over-the-counter medications to their children
- Dr J Potgieter. Platelet counts in HIV-infected children with diarrhoea

### **We have undertaken collaborative studies with International colleagues**

- a. Study on 'Concerns of patients with allergic rhinitis'. International collaboration with Prof D Price, Dundee UK.
- b. Study on 'Asthma Control Assessment in South Africa'. Local collaboration with South African Thoracic Society.
- c. Study on Cystic fibrosis related outcomes. University of Leuven, Belgium
- d. Human rhinovirus in bronchiolitis. University of Western Australia

### **Publications arising (2011)**

1. Green RJ. Pediatric asthma in Southern Africa. *Open Allergy J* 2011;4:8-15
2. Green RJ, Halkas A, Weinberg EG. The ten commandments of managing pre-school wheeze. *S Afr J Family Pract* 2011; in press
3. OP Kitchin, R Masekela, A Pentz, J Potgieter, MK Mensah, C Els, D White, RJ Green. Cytomegalovirus pneumonia occurring soon after initiation of highly active antiretroviral therapy in an infant. *S Afr J Epidemiol Infection* 2011;26(2):90-91
4. Refiloe Masekela, Ronald Anderson, Teshni Moodley, Omolemo P Kitchin, Samuel M Risenga, Piet J Becker, Robin J Green. Demographic, environmental and inflammatory factors in children with human immunodeficiency virus-related bronchiectasis in Pretoria, South Africa. *Int J TB Lung Dis* 2012; in press
5. Kitchin OP, Wessels F, Masekela R, Becker P, Green RJ. Costs of admission for paediatric pneumonia in a setting of human immunodeficiency virus infection. *Int J TB Lung Dis* 2011; 15: 1702-1706

### **Conference Proceedings (2011)**

1. Kwofie-Mensah M, Masekela R, Kitchin O, Moodley T, Green RJ. Quality of life assessment in wheezy infants before and after using Montelukast (Singulair). Congress of American Academy of Allergy and Immunology 2011, San Francisco, USA, 18-23 March 2011

2. Masekela R, Green RJ, Gongceka H, Sathekge M. The lack of correlation between lung uptake of 18FDG PET/CT and inflammatory and disease activity markers in children with human immunodeficiency virus-related bronchiectasis. *Paediatric Respiratory Reviews* 2011;15:1702-1707. CIPP Congress, Versailles, France 25-27 June 2011
3. Kitchin O, Masekela R, Moodley T, Risenga S, Els C, White D, Kwofie M, Green RJ. Thinking differently about Pneumocystis pneumonia (PCP) in HIV-infected children – Describing a new syndrome. Congress of American Thoracic Society 2010, Denver, USA, 13-18 May 2011
4. Green RJ. Viral infections of the respiratory tract in HIV-infected children. *J Antiviral Anti-retroviral* 2011; 3: 193
5. *Abbott S, Green RJ.* The relationship between maternal atopy and childhood asthma. ALLSA Congress, Sun City, South Africa, 20-23 October 2011 Biko Academic Hospital, South Africa. *Pediatr Nephrol* 2010;25 (3):1932.

### **3. Teaching**

Prof Green was Chairman of Paediatric Undergraduate Studies at the University of Pretoria (4<sup>th</sup> years). To this end paediatric allergology and pulmonology in South Africa has received greater emphasis.

#### **Prof Green is also**

- part-time lecturer and Member of the Quality Control Committee of the Foundation for Professional Development. I have implemented courses in Asthma and Allergies.
- implemented Courses in Allergology for potential Diplomates in the Diploma Allergology (College of Medicine South Africa). Three courses run (15 weeks each). 6 Successful Diplomates (100% pass rate). One candidate awarded the medal in Allergology.
- implemented and started the Gauteng Paediatric Respiratory and Allergy Forum. This group meets monthly and aims to discuss problems in Paediatric Pulmonology in both private Practice and Academia and to share research interests.
- enlisted the services of Prof M Klein (retired Director of Paediatric Pulmonology, UCT) as part-time lecturer in the Division of Paediatric Pulmonology, University of Pretoria.
- lectured regularly at Local and International Medical Meetings
- lectured regularly at Pharmaceutical Company Meetings
- Paediatric editor of the South African Respiratory Journal

- examiner in the FCPaed Part 1 exam, Diploma Allergology (College of Medicine South Africa), subspeciality Certificate in Paediatric Pulmonology and MMed (University of Pretoria)

#### **Outputs (Invited Lectures) in last year**

- The allergic march. Immunology Workshop. Wits. 7 April 2011
- ABC of chronic lung disease. Advancing kids Symposium. Arabella, Cape Town. 28 May 2011
- Optimal use of antibiotics. Combined Congress of the SATS/CCSA. Durban. 29 July 2011
- Advances in the care of children with asthma. Combined Congress of the SATS/CCSA. Durban. 29 July 2011
- Allergy testing – Does size matter. ALLSA Masterclass. Durban. 6 August 2011
- Is the diet to balme for allergy. Allergy testing – Does size matter. ALLSA Masterclass. Durban. 6 August 2011
- Acute respiratory infections. Child Care Summit (DOH). Bloemfontein. 10 August 2011
- Falsely ascribing changes in disease patterns to climate change. UP Faculty Day. 28 August 2011
- Pertussis update. ALLSA/PMG congress 2011. Sun City. 22 October 2011
- Pre-school wheeze – New directions from new guidelines. ALLSA/PMG congress 2011. Sun City. 22 October 2011
- Robin J Green. Viral respiratory tract infections in HIV-infected children. Virology Congress, Baltimore, USA. 5-7 September 2011
- Robin J Green. Aetiology of asthma. World Allergy Congress, Cancun, Mexico. 6-10 December 2011

#### **4. Community Service**

The Department runs outreach Programmes at Witbank and Limpopo Hospitals and regular visits by doctors are made to both services. Our Department has recently trained the Professor of Pulmonology for the University of Polokwane. Professors Green and Masekela are active Executive Members of the National Asthma Education Programme. We run successful asthma meetings for patients and doctors and now recently wellness days for large Companies. A facility for rehabilitation of children with neurological problems was created at the Tswane District Hospital. Mothers are admitted with their children and then trained to manage these children and their therapy is optimised. They are then empowered to take care of these children in the community. It is the only facility of this nature that we are aware of.

#### **PICU STATS 2011**

<b>No admissions</b>	<b>Average per month</b>	<b>Mortality</b>
373	62	16%



## **Paediatric Oncology**

The paediatric oncology service at Steve Biko Academic Hospital had a busy Year .The unit consists of 30 in-patient beds 5 of which form part of a high care isolation unit that is equipped to perform haematopoietic stem cell transplants, there are 10 day care beds in the outpatient clinic. The paediatric oncology service is run under the guidance of 2 consultant paediatric oncologists and 2 paediatric registrars. The clinical service admits approximately 100 new cases a year; there are approximately 1500 outpatient visits per annum. The service is able to offer paediatric allogeneic haematopoietic stem cell transplantation; this is the only paediatric unit to offer this care in a state hospital in South Africa. The Paediatric oncology unit which is part of the Paediatric Department, has close working relationship with radiotherapy, adult medical oncology, nuclear medicine and our patients are often presented at multidiscipline meetings such as the head and neck, orthopaedic and neuro-oncology combined meetings.

## **Haematopoietic Stem Cell Transplant**

Steve Biko Academic Hospital is currently the only state paediatric service to offer allogeneic stem cell transplant. To date one of the biggest obstacles in this life saving treatment has been the availability of suitable donors. During the last year we have managed to perform two bone marrow Transplants both the patients have done extremely well.

## **Clinical Unit Accreditation (SAOC and JACIE)**

The unit meets all the criteria set out by SAOC (South African oncology Consortium) for accreditation.

With co-operation with a large adult transplant unit in the private sector systems are being put in place to obtain JACIE accreditation. This accreditation will ensure the highest standard of patient care is achieved.

## **Teaching and Training**

We hold regular, weekly training programs with nurses and junior medical staff. We are looking forward to enrolling Two fellows Dr Buchner, and Dr Vermeulen.

Undergraduate teaching both Dr Omar and Dr Reynders are Chair and Manage the Haematological block for third year medical students.

The unit organised and hosted a South African Paediatric Oncology training course for 30 nurses' form over south Africa.

Dr Omar has delivered two lectures for the Islamic Medical Association in the past year.

## **Outreach**

The paediatric oncology unit is actively involved in outreach and in November of this year we held an awareness campaign for the department of health, the northern Gauteng Region. In early 2012 we will visit three Mpumalanga Hospitals, Rob Ferrera, Barberton and Temba Hospital with the view of establishing a shared care program to reduce the number of hospital admission from this region.

## **Research and publications**

We will be in the process of setting up and hosting a national acute lymphoblastic leukaemia protocol. This will offer excellent opportunity with regard research outputs and also assist in leukaemia treatment in Southern Africa.

Collaborative research with other departments such as pharmacology and haematology are on-going as is national research projects driven by the SACCSG ( South Africa Children's Cancer Study Group).

*Omar F E*, Acute lymphoblastic leukemia in children and L-Asparaginase.. Medical Chronicle October 2011

## **Meetings Hosted**

Dr Reynders attend and presented a paper at the SASCeTS annual meeting in February, he also chaired and organised the 25<sup>th</sup> annual SACCSG meeting as part of the meeting we had visits from Dr John Moppet UK based expert in minimal residual leukaemia and is involved with the UKALL protocol.

## **Neonatology**

The Neonatal Unit consist of 29 beds and is the designated referral site for high risk complicated deliveries including ante-natal diagnosed foetal abnormalities in Central and Eastern Tshwane district. The mothers therefore present with a wide range of obstetric and medical problems. High percentage of caesarean sections (54%) and infants with low birth weight (35%) are recorded. In addition to ill inborn infants, sick babies are transferred from the regional service.

Staff: Consultants: Prof TW de Witt; Dr LG Lloyd; Dr A Colquhoun (since Nov 2011)

Registrars: On rotation (3)

Interns: 2-3

Secretarial support

Sick neonates admitted to the neonatal intensive care unit are vulnerable and in order to provide them with optimal care, it is vital to know their health profile and the current quality of care they receive. For this reason "The Steve Biko Academic Hospital Neonatal Database and Clinical Audit: Quality Improvement for Neonatal Care" was started in 2011.

The reason why a clinical audit is important in the Neonatal Intensive Care Unit is to improve patient outcomes by improving professional practice and the general quality of services delivered. Performing

audits may also help in learning to understand the health processes in the complex field of a Neonatal Intensive Care Unit. It can also help to refine clinical protocols. Further benefits are that it provides information to show management the effectiveness of the service and provide data to plan for future services. It can ensure better use of resources and increase efficiency. Gathering information is not necessarily going to improve performance. Information must be translated into action.

Many different clinical neonatal data systems have been developed since the early 1980's. The Vermont Oxford Network (VON) was established in 1988. This network is today comprised of over 850 Neonatal Intensive Care Units around the world. With the financial support of the Private Management Group the Unit became a member of the VON. Participation of neonatal units in a database such as the Vermont Oxford network (VON) provide a benchmark for comparison with other neonatal facilities and opportunities for research in collaboration with these other neonatal units. Having recent, valid statistics would assist in forward planning for therapeutics interventions, budgeting and staffing with the aim of improving outcome. Local data relevant to a developing country is essential in facilitating this planning.

The final statistical analysis of the VON data for 2011 will only be available during the 2<sup>nd</sup> quarter of 2012.

Data related to perinatal care is being collected at all the maternal and neonatal services in the area using the Perinatal Problem Identification Program. Thus perinatal indices (perinatal, neonatal mortality rates, low birth weight rate) patterns of disease and modifiable factors are known.

Table 1 SBAH

	2011
Total deliveries	2873
LBW Rate (<2500g)	35%
PNM	95.7/1000
NNMR	47.7
ENMR	33.7/1000
LNMR	14/1000
Perinatal Care Index	1.80

Table 2 District Central &amp; Eastern Tshwane

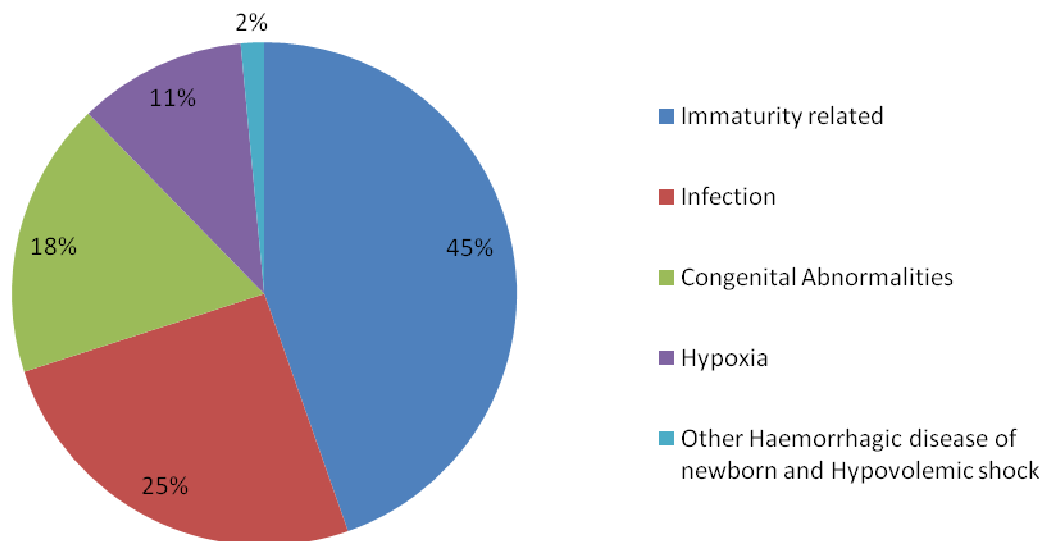
	2011
Total deliveries	16068
LBW Rate (<2500g)	16%
PNM	37/1000
NNMR	12.8
ENMR	10.1/1000
LNMR	2.7/1000
Perinatal Care Index	1.50

Table 3 SBAH Neonates (Inborn) Table 4 Total for district

			NNMR
500-999g	167	58	4100
1000-1499g	176	110	28600
1500-1999g	259	90	7500
2000-2499g	406	111	2000
≥2500g	1865	649	12000
Stillborn:Neonatal †	1.1:1		

			NNMR
500-999g	313	19	43600
1000-1499g	311	200	21300
1500-1999g	573	61	461000
2000-2499g	306	85	101000
≥2500g	1333	844	27000
Stillborn:Neonatal †	2:1		

## Final Cause of Neonatal Death: Steve Biko Inborn



On-going service was provided:

Follow-up clinics for high risk babies

Outreach to referral hospitals – TDH and Mamelodi

Neonatal Resuscitation Courses offered together with the Johnson and Johnson Group

Implementation of different projects to improve quality of care in NICU:

- Prevention of hypothermia on admission to NICU
- Cord blood p H for identification and grading of birth asphyxia
- Improvement of data collection
- Use of human breast milk and breast milk banking in the unit
- Prevention of nosocomial infection
- Best care practices: CLABSI
- Therapeutic hypothermia for improvement of outcome for babies with HIE.