



***DEPARTEMENT PEDIATRIE EN
KINDERGESONDHEID /
DEPARTMENT OF PAEDIATRICS AND
CHILD HEALTH***



**Jaarverslag inligting vir Tygerberg Hospitaal
en Stellenbosch Universiteit 2010
Annual Report information for Tygerberg Hospital
and Stellenbosch University 2010**

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UITVOERENDE OORSIG / EXECUTIVE SUMMARY – 2010

The Tygerberg Children's Hospital (TCH) is situated in the Tygerberg Academic Hospital Complex and serves as the large academic hospital for the Eastern Metropolitan region of Cape Town and the Western Cape. There were 13 856 children admitted during 2010 and 24678 (12 604 tertiary paediatrics and 12074 secondary paediatrics) seen in the outpatient departments. The services offered included general paediatric services, and paediatric specialist services for neonatology, pulmonology, cardiology, haematology-oncology, nephrology, gastroenterology, and infectious diseases and in collaboration with our paediatric surgeons' paediatric surgery. The TCH also offers both 24-hour emergency services, as well as dedicated paediatric intensive care.

Paediatrics and Child Health offer excellent education programmes to both under- and post graduate students, including subspecialist training. Several staff members are also involved in the Advance Paediatric Life Support Courses nationally. Collaboration between the University of Stellenbosch (US) and Vrije Universiteit Amsterdam has created the opportunity of a joint PhD program, with Dr Regan Solomons as the first staff member to enrol. Paediatric endocrinology has been successful in the appointment of a full time diabetic educator, extending our education role to parents and patients as well.

The year 2010 had many service challenges of which the most important challenge was the measles epidemic lasting from late January till April 2010, which necessitate the opening of an additional ward with 30 beds to cope with the work load. This challenge illustrated the lack of isolation facilities in general in the TCH, and the larger TBH. There was also an increased need for paediatric intensive care beds (PICU beds) and additional 2 beds were opened with the support of senior management at TBH. The measles epidemic coincided with the diarrhoea epidemic, for which the staff provided excellent care under tremendous stress. The measles epidemic did increase the mortality due to pneumonia, as a complication of measles in the young child.

Neonatology's burden of disease is especially very low birth weight babies, which increased by 10%. A wonderful achievement of the neonatology is the increase in survival of extreme low birth weight babies from 69% in 2009 to 72% in 2010, which is comparable to survival in developed countries. The huge workload due to prematurity lead to long inpatient stay with major overcrowding at times. Nosocomial sepsis with especially multidrug-resistant *Staphylococcus aureus* significantly disrupted service delivery, with closure of wards to isolate these infants.

The department is active in outreach activities to district hospitals and primary care clinics in the region, including assisting in morbidity- and mortality meetings and providing in-service training to staff in these facilities.

Deel 1/Part 1:
HULPBRONNE EN UITSET/RESOURCES AND OUTPUT

Menslike Hulpbronne/ Human Resources

Posts (full time)	Number	Filled
Professor/Chief Specialist	2	2
*Chief Specialist	1	1
Principal specialist	6	6
Senior Specialists	21	21
Specialist Registrars	7 (PGWC n=3)	7 (PGWC n=3)
Registrar (Number only)	30	30
Medical Officer	26	26
Posts (sessional – hours per week)		
Specialists	6 (58 hrs/week)	6 (58 hrs/week)
Locum posts	1	1
Number of beds (usable):	249	249

*Appointment of Dr E Malek - Head of General Paediatric Specialist Services for Metro East Geographic Service Area (*Newly created post*).

Uitsette/Output

SUBSPESIALIS PEDIATRIE/SUBSPECIALIST PAEDIATRICS

Totale pasient opnames 2010 (Clinicom data)

Total patient admissions 2010 (Clinicom data)

A9 ICU (NICU & PICU)	G1	G2	G3	G7	G8	G9	G10	A9 Measles	GG Short Stay	Total
1007	1045	2037	730	852	855	1249	1695	343	4043	13856

Neonatologie/Neonatology

Staff: Proff G Kirsten, J Smith, Drs P Henning, A Bekker, S Holgate, G Kali, A Madide, L van Wyk, SK van der Merwe, 4 Registrars, 10 Medical officers

A9 Hoërsorg en Intensiewe-Sorg-Eenheid | A9 High Care and Intensive Care Unit

Beds n=8	2010	2009	2008
Opnames/ <i>Admissions</i>	408	387 (420*)	503
Gemiddelde hospitaal verblyf in dae/ <i>Average Hospital Stay in days</i>	8.2 * (Clinicom data for NICU and PICU combined)	21.1	17.1
Gemiddelde bedbesetting % <i>Average bed occupancy%</i>	80% * (Clinicom data for NICU and PICU combined)	82.40%	63.29%

% Groei/ <i>Growth</i>	5.4%	-30%	
Keisersnitte/ <i>Caesarean sections:</i>	2122	2113	2391
Sterftes/ <i>Mortality</i>	76 (18.62%)	162 (38.5%)	(156) 32.2%
<i>*Data from clinicom</i>			

Saal G1: Neonatale-Eenheid / Neonatal Unit – Buite gebore babas/*Babies born outside TBH*

Beds n=36	2010	2009	2008
Opnames/ <i>Admissions:</i>	987 (1036*)	946	1018
Gemiddelde hospital verblyf in dae/ <i>Average Hospital stay in days</i>	10.5 *	11.5	11.3
Gemiddelde bedbesetting%/ <i>Average bed occupancy%</i>	96.6% *	75.9%	75.30%
% Groei / <i>Growth</i>	4.3%	-7%	
Sterftes/ <i>Deaths</i>	33 (3.34%)	27 (4.68%)	29 (4.58%)
<i>* Data from clinicom</i>			

Saal G2 Neonatale-Eenheid / Ward G2 Neonatal Unit – Binne gebore babas/*Babies born in TBH*

Beds n=38	2010	2009	2008
Opnames/ <i>Admissions:</i>	2017 (2037*)	2302	1780
Gemiddelde hospitaal verblyf in dae <i>Average Hospital Stay in days</i>	6.3 *	8.6	9.3
Gemiddelde bedbesetting/ <i>Average bed occupancy</i>	150% *	82.1%	84.60%
% Groei/ <i>Growth</i>	- 12.3%	29%	
Sterftes/ <i>Mortality</i>	53 (2.62)	57 (2.48%)	52 (2.9%)
<i>* Data from clinicom</i>			

Saal G8 Neonaat & Kangaroo-Moedersorg / Ward G8 Neonate & Kangaroo-Mother Care – Step Down facility

Beds n=30	2010	2009	2008
Opnames/ <i>Admissions:</i>	736 (855*)	835	533
Gemiddelde hospitaal verblyf in dae <i>Average Hospital Stay in days</i>	11.25 *	11.4	13.3
Gemiddelde bedbesetting%/ <i>Average bed occupancy%</i>	80% *	79.2%	27.07%
% Groei/ <i>Growth %</i>	-11.8%	36%	
Sterftes/ <i>Mortality</i>	2 (0.27%)	1 (0.12%)	2 (0.36%)
<i>*Data from clinicom</i>			

2010 PPIP indices:

Total births in TCH (TBH): 4693

PNMR($\geq 500\text{g}$) = 82/1000

ENNDR ($\geq 500\text{g}$) = 13/1000

PNMR ($\geq 1000\text{g}$) = 42.7/1000

ENNDR($\geq 1000\text{g}$) = 6.1/1000

Mortality of babies born in TCH (TBH) per birth weight category – n=96

Birth weight	% mortality
$\leq 1000\text{g}$	27.6
1001 to 1500g	3.1
1501 to 1999g	1.2
2000 to 2499g	1.8
$\geq 2500\text{g}$	1.8

Causes of death of babies born in TCH (TBH) – n=96

Cause of death	% of total
Prematurity-related complications	28.7
Extreme prematurity	19.8
Infection-related	21.8
Peripartum hypoxia	14.8
Congenital anomalies	11.9
Other	2.9

Deaths of babies referred to TCH per weight category – Admissions: n=493

Birth weight	% mortality
$< 1000\text{g}$	20.5
1000 to 1499g	25
1500 to 1999g	11.7
2000 to 2499	10.3
$\geq 2500\text{g}$	32.3

Causes of deaths of babies referred to TCH – n=86

Cause of death	% of total
Prematurity-related complications	16.2
Infection-related	26.5
Extreme prematurity	14.7
Peripartum hypoxia	11.8
Congenital anomalies	16.2
Other	14.7

Geographic distribution the NICU deaths of babies referred to TCH – n=45

Place(Hospital) of origin	Number
Paarl	13
Helderberg	07

Other	06
Worcester	05
Karl Bremer	05
Khayelitsha	04
Stellenbosch	02
Swartland	02
Robertson	01

Pediatriese Intensiewesorg en Trageostomie Eenhede/Paediatric Intensive Care and Tracheostomy Units – A9

Staff: Prof R Gie, Drs P Goussard, S Kling, L Heyns, 2 Registrars, Medical officer

Beds n=8	2010	2009	2008
Opnames/ <i>Admissions:</i>	629	625 (280*)	510
Gemiddelde hospital verblyf in dae/ <i>Average Hospital stay in days</i>	*	6	8.1
Gemiddelde bedbesetting%/ <i>Average bed occupancy%</i>	*	120% (137.5%*)	120% (112.2%)
% Groei % <i>Growth</i>	*	17-20%	17-20%
Sterftes/ <i>Deaths</i>	74 (11.8%)	73 (11.7%)	62 (12.1%)
* <i>Clinicom combined data with NICU – no split for PICU, therefore cannot provide data</i>			

Saal G9 Pediatriese Pulmonologie en Allergie / Ward G9 Paediatric Pulmonology and Allergy (Pulmonology 10 beds, Paediatric Tracheostomy 9 beds)

Staff: Prof R Gie, Drs P Goussard, S Kling, L Heyns, Dr A Vanker, Dr D Rhode, 2 Registrars, shared MO for G9

Pulmonology Beds n=10 Tracheostomy Beds n=9	2010	2009	2008
Opnames Pulm/ <i>Admissions Pulm</i>	512	534(389*)	450
Gemiddelde hospitaal verblyf in dae <i>Average Hospital Stay in days</i>	7.0	7.0	8.2
Gemiddelde bedbesetting %/ <i>Average Bed occupancy %</i>	#76%	#76.67%	#73.35%
Sterftes/ <i>Deaths</i>	2 (0.4%)	4 (1.02%)	3 (0.91%)
MIV-verwant (CHIP) <i>HIV related (CHIP)</i>	1	1	0
Blootgestel/ <i>Exposed</i>	1	1	0
Infekteerd/ <i>Infected</i>	0	/	/

#Include for all 3 subdisciplines in G9: Pulmonology; Cardiology & Neurology

Procedures and other activities

1. Lung function tests (A5 Lung Unit Technologies) 886
2. Wet wraps 41
3. Asthma education 208
4. Allergy skin tests 78
5. Out of ward referrals 165
6. Teater prosedures / Theatre procedures:
 - a. Bronchoscopies 552
 - b. Thoracic surgery 51

Saal G9 Kardiologie / Ward G9 Cardiology

Staff: Dr J Lawrenson, L Andrag, G Comitis, R de Dekker (RXH), 2 Registrars, shared MO in G9

<i>Beds n=10</i>	<i>2010</i>	<i>2009</i>	<i>2008</i>
Opnames/ <i>Admissions</i>	147	155 (54*)	331 (83*)
Gemiddelde hospitaal verblyf in dae <i>Average Hospital Stay in days</i>	*	9.1	/
Gemiddelde bedbesetting %/ <i>Average Bed occupancy %</i>	*	*	*
Inpatient Consultation & Echocardiography	708	570	/
# <i>RXH Theatre procedures operations</i>	278	269	/
# <i>RXH Theatre Catheterizations</i>	212	258	/

* *Clinicom data combined all 3 subdisciplines – no split for Cardiology, therefore cannot provide data*

#*Done at RXH as common platform of service delivery*

Saal G9 Neurologie / Ward G9 Neurology

Staff: Proff J Schoeman, Drs R van Toorn, P Springer, Dr R Solomons (G10), Dr H Saunders (Senior Registrar), 2 Registrars, shared MO in G9

<i>Beds n=10</i>	<i>2010</i>	<i>2009</i>	<i>2008</i>
Opnames/ <i>Admissions</i>	397	245 (78*)	281 (189*)
Gemiddelde hospitaal verblyf in dae <i>Average Hospital Stay in days</i>	6.75	8.3	7.9
Gemiddelde bedbesetting %/ <i>Average Bed occupancy %</i>	129%	*	*
% Groei / % <i>Growth</i>	62%		
Sterftes/ <i>Deaths</i>	14 (3.52%)	1 (1.28%)	5 (2.64%)

**Clinicom data (Combined with paediatric pulmonology – Need to be addressed in 2010 by Clinicom)*

Other activities

Pediatriese & Neonatale EEG's rapporteer/ <i>Paediatrics & Neonatal EEG's reported:</i>	714
RT skandering brein/ <i>CT scans brain:</i>	1626
MRI skandering brein	448

Saal G7 / Ward G7 Gastroenterology Unit

Staff: Drs E Nel, L Cooke (G Ground), Registrar, shared MO in G7

<i>Beds n=9</i>	<i>2010</i>	<i>2009</i>	<i>2008</i>
Opnames/ <i>Admissions</i>	285	368 (256*)	302 (224*)
Gemiddelde hospitaal verblyf in dae <i>Average Hospital Stay in days</i>	15.4	11.2	13.8
Gemiddelde bedbesetting% <i>Average Bed occupancy %</i>	90,3%	91.5%	*
% Groei / % <i>Growth</i>	-22,5%	21.8%	

Sterftes/ <i>Deaths</i>	19 (6,6%)	18 (5%)	14 (6.25%)
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*Clinicom data CHIP data

Theatre procedures

- Gastroskopie/*Gastroscopy* (including enteroscopy): 20
- Kolonoskopie/*Colonoscopy*: 8
- Lewer biopsie/*Liver biopsy*: 6
- Sigmoideskopie/*Sigmoidscopy*: 1
- Volwasse sigmoideskopie/*Adult sigmoidoscopy*: 234

Saal G7 / Ward G7 Infectious Diseases Unit

Staff: Prof MF Cotton, Drs H Rabie (HIV Clinic), A Dramowski, Registrar, shared MO in G7

Beds n=14	2010	2009	2008
Opnames/ <i>Admissions</i>	193	219	170
Gemiddelde hospitaal verblyf in dae <i>Average hospital stay in days</i>	16,8	17.0	17.4
Gemiddelde bedbesetting %/ <i>Average bed occupancy %</i>	72%	91.5%	85.74%
% Groei / % <i>Growth</i>	- 11.9%	28.8%	
Sterftes/ <i>Deaths</i>	11 (5,6%)	8 (3.7%)	17 (8.13)
MIV-verwant (CHIP) <i>HIV related (CHIP)</i>	10	1	0
Blootgestel/ <i>Exposed</i>	0	7	16
Infekteerd/ <i>Infected</i>	10	4	1

Saal G3 / Ward G3 Oncology & Haematology

Staff: Proff M Kruger, C Stefan, Drs A Dippenaar, R Uys, Registrar

Beds n=9	2010	2009	2008
Nuwe pasiënte/ <i>New patients</i>	30 Haematology 60 Oncology	25 Haematology 46 Oncology	
Opnames/ <i>Admissions</i>	475	464 (587*)	668
Gemiddelde hospitaal verblyf in dae <i>Average hospital stay in days</i>	3.4	5.2	6.3
Gemiddelde bedbesetting %/ <i>Average bed occupancy %</i>	51.5%	90.5%(56.09%)	66.14%
Mortaliteit CHIP/ <i>Mortality CHIP</i>	4 (0.84%)	2 (0.43%)	1 (0.14)
% Groei / % <i>Growth</i>	23%		
Sterftes/ <i>Deaths</i>	10	15 (3.23%)	12 (1.80%)
Dag pasiënte/ <i>Day patients</i>	1317	1051	/

*Clinicom data

Saal G3 Nefrologie / Ward G3 Nephrology

Staff: Dr C du Buisson, Dr JL Shires – part time, Registrar, shared MO in G3

Beds n=9	2010	2009	2008
Opnames/ <i>Admissions</i>	140	/	/

Gemiddelde hospitaal verblyf in dae <i>Average hospital stay in days</i>	6	/	/
Gemiddelde bedbesetting %/ <i>Average bed occupancy %</i>	81%	/	/
Sterftes/ <i>Deaths</i>	1	/	/
Bestaande Nefrologie Buite pasiënte <i>Old Renal OPD patients</i>	978	/	/
Nuwe Nefrologie Buite pasiënte <i>New Renal OPD patients</i>	125	/	/

/ Geen data beskikbaar nie/No data available

Saal G3 Kinderendokrinologie / Ward Paediatric Endocrinology

Staff: Drs E Zöllner, D Abraham (sessions), Registrar, shared MO in G3

Beds n=5	2010	2009	2008
Opnames totaal/ <i>Admissions total</i>	171(139*)	151 (132*)	142 (75*)
Diabeet pasiënte/Diabetics patients	98	64	
Endokrien pasiënte/Endocrine patients	73	87	
Gemiddelde hospitaal verblyf <i>Average length of stay</i>	10	12 (11.5)	10.7
Gemiddelde bedbesetting %/ <i>Average Bed occupancy %</i>	82%*	137.5%	*
% Groei/ <i>Growth</i>	13.2%	6.3%	
Sterftes/ <i>Deaths</i>	1(0.6%)	2 (1.5%)	2 (2.6%)
<i>* Data from clinicom</i>			

General Paediatrics/Algemene Pediatrie

Kortverblyfsaal G Grond: <48 Uur Opname / Short Stay G Ground: < 48 hour admissions

Staff: Prof S Schaaf, Drs L Cooke, H Finlayson, M du Preez (part time), 3 Registrars, 4 Medical Officers

	2010	2009	2008
Totale opnames in GGrond/ <i>Total admissions to GGround</i>	4738	4834	4458
% toename van algemene opnames <i>% of increased general admissions</i>	↓2%	↑8.5%	/
Gemiddelde pasiënte opname/dag <i>Average patient admissions/day</i>	13	13	12
Gemiddelde hospitaalverblyf/dae/ <i>Average hospital stay/days</i>		1.7	2.0
% bedbesetting gemiddeld	75%	73%	70%

<i>% bed occupancy average</i>			
Gastro daaglikse besetting % <i>Gastro daily occupancy %</i>	74%	64%	/
Sterftes / <i>Deaths</i>	17 (0.13%)	20 (0.15%)	10 (0.1%)
MIV verwante mortaliteit <i>HIV related mortality</i>	2	11	5
MIV Blootgestel/ <i>HIV Exposed</i>	0	4	1

G10 Algemene Pediatrie / Ward G10 General Paediatrics

Staff: Dr R Solomons, 1 Registrar, Medical Officer

Beds n=20	2010	2009	2008
Opnames/ <i>Admissions</i>	820	306	232
Gemiddelde bedbesetting %/ <i>Average Bed occupancy %</i>	66.74%	137.5%(77.53%)	59.55%
Gemiddelde hospitaalverblyf/dae <i>Average hospital stay/days</i>	5.3	9.1	9.1
Sterftes/ <i>Deaths</i>	6 (0.73%)	11 (3.6%)	11 (4.74%)

**Clinicom data*

G10 Masels / Ward G10 Measles

Data tydens Masels uitbraak vanaf Maart – Junie 2010
Data during Measles outbreak from March – June 2010

Staff: Prof B Marais, Dr H Finlayson, Dr M du Preez

<i>Beds n=20</i>	<i>Maart/ March</i>	<i>April/ April</i>	<i>Mei/ May</i>	<i>Junie/ June</i>	Tot.
Opnames/ <i>Admissions</i>	332	317	178	116	943
Pasiënte gesien/ <i>Patients seen</i>	454	410	217	124	1205
IE Oorplasinge/ <i>ICU Transfers</i>	4	6	3	4	17
Gemiddelde bedbesetting/ <i>Average occupancy</i>	27 (90%)	32 (91.5%)	22 (73.3%)	14 (46.7%)	24(80%)
Sterftes/ <i>Deaths</i>	2	7	1	0	10

CHIP MORTALITEIT VIR ALLE PEDIATRIESE SALE / CHIP MORTALITY FOR ALL PAEDIATRIC WARDS (2010)

CHIP Mortaliteit <i>CHIP Mortality</i>	Sterftes <i>Deaths</i>	Hosp mortaliteit ratio <i>Hosp mortality rate</i>
*0-28 dae/ <i>days</i>	9	6.7
28 dae – 1 jaar/ <i>28 days – 1 year</i>	75	55.6
1-5 jaar sterftes/ <i>1-5 year mortalities</i>	40	29.6
5 – 13 jaar/ <i>5 – 13 years</i>	9	6.7
Onbekend/ <i>Unknown</i>	2	1.50
Getal sterftes/ <i>Number of mortalities</i>	135	

**Let wel: Neonatale sterftes uitgesluit/Excluding neonatal mortalities*

Duurte van verblyf <i>Length of stay</i>	Getal <i>Number</i>	%
Dood met aankoms/ <i>DOA</i>	4	3
<24 uur/ <i>hours</i>	32	23.7
1-3 dae/ <i>days</i>	41	30.4
4-7 dae/ <i>days</i>	23	17
8-14 dae/ <i>days</i>	19	14.1
>14 dae/ <i>days</i>	16	11.9

Geslag <i>Gender</i>	Getal <i>Number</i>	%
Vroulik/ <i>Female</i>	62	45.9
Manlik/ <i>Male</i>	67	49.6
Onbekend/ <i>Unknown</i>	6	4.4

Hoof oorsaak van kinder sterftes/ <i>Main causes of death in children</i>	Getal <i>Number</i>	%
Pneumonie, Akute respiratoriese infeksie/ <i>Pneumonia, ARI</i>	39	28.9
Akute diaree met hipovolemiese skok/ <i>Acute diarrhoea with hypovolaemic shock</i>	19	1.5
Septisemie, moontlik ernstige bakteriële infeksie/ <i>Septicaemia, possible serious bacterial infection</i>	20	14.8
Ander Senuwee sisteem/ <i>Other Nervous system</i>	7	5.2
Kroniese diaree/ <i>Chronic diarrhoea</i>	5	3.7
Sirose, portale hipertensie, lewerversaking, hepatitis <i>Cirrhosis, Portal hypertension, liver failure, hepatitis</i>	5	3.7

5 Fasiliteite van waar meeste pasiënte verwys is: /
5 Facilities where most patients were referred:

Verwysende fasiliteit <i>Referring facility</i>	Getal <i>Number</i>	%
Helderberg Hospital	26	19.3
Delft CHC	15	11.1
Not referred	14	10.4
Karl Bremer Hospital	12	8.9
Eerste River Hospital	11	8.1
Paarl Hospital	9	6.7

MIV Mortaliteit/HIV Mortality

MIV Kliniese Stadium <i>HIV Clinical Stage</i>	Getal <i>Number</i>	%
Stadium I/ <i>Stage I</i>	0	0
Stadium II/ <i>Stage II</i>	0	0
Stadium III/ <i>Stage III</i>	4	3
Stadium IV/ <i>Stage IV</i>	17	12.6
Nie gestadieer (maar aangedui)	7	5.2

<i>Not staged (but indicated)</i>		
Nie gestadieer (nie aangedui) <i>Not staged (not indicated)</i>	81	60
Onbekend/ <i>Unknown</i>	26	19.3

MIV Mortaliteit volgens kategorie/HIV Mortality according to Category

HIV-Lab Kategorie <i>HIV Lab Category</i>	Getal <i>Number</i>	%
Negatief/ <i>Negative</i>	64	47.4
Blootgestel/ <i>Exposed</i>	12	8.9
Infekteerd/ <i>Infected</i>	20	14.8
Geen uitslag/ <i>No result</i>	5	3.7
Nie getoets (maar aangedui) <i>Not tested (but indicated)</i>	14	10.4
Nie getoets (nie aangedui) <i>Not tested (not indicated)</i>	13	9.6
Onbekend/ <i>Unknown</i>	7	5.2

Mortaliteit volgens Gewigskategorie/Mortality according to Weight Category

Gewig Kategorie <i>Weight Category</i>	Getal <i>Number</i>	%
Oorgewig vir ouderdom/ <i>OWFA</i>	7	5.2
Normaal/ <i>Normal</i>	69	51.1
Ondergewig vir Ouderdom/ <i>UWFA</i>	28	20.7
Marasmus	10	7.4
Kwashiorkor	11	8.1
Marasmic Kwashiorkor	3	2.2
Onbekend/ <i>Unknown</i>	7	5.2

BUITEPASIËNTEKOMPLEKS/ OUTPATIENT COMPLEX

Subspesialisklinieke / Subspecialist Clinics

	2010	2009	2008
Klinieke/ Clinics	Aantal/ Total	Aantal/ Total	Aantal Total
Hematologie/Haematology	177	155	/
Lewer/Liver	1	/	5
Immunologie/Immunology	113	166	149
Onkologie/Oncology	392	410	507
Respiratories/Respiratory	1308	1258	1154
Gastroenterologie/Gastroenterology	604	664	649
Hoë Risiko Babas/High Risk Babies	1442	1390	1557
Neurologie/Neurology	2537	2271	2249
Allergie/Allergy	689	762	736
Prematuuropvolg/Premature follow up	347	288	332
Nefrologie/Nephrology	1103	1120	1145
Kardiologie/Cardiology	1032	1069	1180
Bronchopulmonale displasie/ Bronchopulmonoray Dysplasia	23	30	50
Diabetes/Diabetic	586	479	401
Endokrinologie/Endocrinology	490	447	771
Rumatologie/Rheumatology	205	184	158
Infeksie siektes/Infectious diseases	1003	848	655
Genetika/Genetics	293	265	267
Aptek voorskrifte/Chemist prescriptions	250	236	260
Totaal/ Total	12604	11983	11865

Algemene Pediatrie Klinieke / General Paediatrics Clinics

Klinieke/ Clinics	2010	2009	2008
Nood/Emergency			
BP 8am- 4pm OPD 8am-4pm	2538	7695	6932
Daaglikse gemiddelde gesien Daily average seen	29	30	27
BP na-ure 4pm-8am & naweke OPD after hours 4pm- 8am & weekend	4797	5246	3660
BP na ure 4pm-8am % OPD after hours 4 pm- 8am %	39%	40%	35%
Totaal/Total	12074	12941	10592

Clinical Governance

Achievements:

1. Establishment of a General Paediatric Specialist Service Platform within the Department of Paediatrics.
2. Strengthening of General Paediatric specialist and subspecialist clinical outreach and support services within the Metro East GSA, as well as subspecialist outreach to Paarl and Worcester.
3. Commencement of a General Paediatric Specialist Outpatient Clinic at Tygerberg Hospital.
4. Coordination of Metro response to service pressure crises during the measles outbreak.
5. Participation in Provincial Strategic planning processes (Paediatric High Care; DHS Child Health Plan).
6. Formal liaison with Western Cape Provincial Department of Health programmes, processes and role players; including Provincial MCWH & Nutrition, Metro East District Health Services, and City of Cape Town Health Department.
7. Drafting of Metro East Child and Neonatal Service Plan for the Metro East Women and Child Health Technical Task Team.
8. Establishment of Paediatric Departmental Quality Assurance Committee to oversee all QA matters within the Department of Paediatrics and Child Health at Tyberberg Hospital including standards, policies, adverse incidents, clinical audit processes; including mortality and morbidity audit. (CHPIP and PPIP data, participation in provincial and national PPIP and CHPIP processes).
9. Clinical guidance and leadership for the Paediatric Technical Working Group Report on Impact Assessment of the New Kayelitsha District Hospital and related service drainage shift - drafting of extensive documentation and presentation to GSA.
10. Technical support and leadership for Paediatric Provincial Coordinating Committee activities including Provincial Child Nutrition Technical Task Team, Provincial Child-Friendly Standards of Care Working Group and the Paediatric Emergency Standards Task Group.
11. Clinical Guidance for the District Health Service Diarrhoeal Disease Season processes and protocols

Infrastruktuur ontwikkeling/ Infrastructure development

Endocrinology:

- Moved to G9 (from G3)
- Acquisition of stadiometer, roller mat, tuning forks

Neurology:

- Created new clinic space in C3A West.

Haematology/Oncology:

- Ward renovations with new paintings and a television for the playroom.

Ambulatory Paediatrics:

- Toy boxes in clinics – donation by Dr M du Preez
- Introduction of Emla topical anaesthetic for procedures.
- Two additional cardiac and saturation monitors for the resuscitation area; one to be used be used for transfer of patients to PICU.
- An open incubator with neopuff for small infants with apnoea to be transported to the NICU.

Tygerberg Children's Hospital Trust Contribution to Infrastructure

Company	Equipment/Ward	Purchase Price
Browning Surgical CC	Tuning forks for Endocrinology	R 2,144.25
Browning Surgical CC	1 x Magill catheter for G7	R 253.65
Calaska Trading 132 (Pty) Ltd t/a Meditek-Hemco	5 x bassinets; 4 x trolley drawer anaesthetic; 1 x dressing trolley For G8	R 22,729.10
Fresenius Kabi (Pty) Ltd	3 Syringe Drivers for wards G1(2) and G8	R 18,895.50
Harlow Printing Limited	2 Leicester Height Measures; 2 Dunmow; 1 Carriage for Endocrine Unit	R 5,112.36
Katago Trust	Desk, systems cabinet, files & pigeon hole unit for C3A	R 8,825.31
Katago Trust	Desk, systems cabinet, files for C3A and Sr Opperman	R 8,926.08
Masstores t/a Makro SA	Chairs and tables for upgrading of Paed Surgery Reg Room G4	R 7,127.00
Masstores t/a Makro SA	Projector for upgrading of Paed Surgery Reg Room G4	R 3,998.99
Medhold Medical	Vivid Cardiac System for new Echocardiography Laboratory	R 536,206.93
Medhold Medical	4 x Dinamaps for G3, G9 and G10	R 53,664.92
Medihosp cc	Theatre carts and drawers for ward G Ground	R 63,324.84
Paul Davies Construction	Building at G Lower Ground Psychiatry: 50% deposit	R 21,675.00
Paul Davies Construction	Building at G Lower Ground Psychiatry: 50% balance	R 21,675.00
Sanbonani Holdings (Pty) Ltd	10 x Kangaroo Chairs for G8	R 29,930.50
Sidewinder Medical	Refurbishment of Bedfront Nitric Oxide Dosing & Monitoring System for Neonatology Unit	R 37,050.00
Silverforms Landscaping	Landscaping for G Lower Ground Psychiatry outside recreational area	R 38,233.00
Silverforms Landscaping	Landscaping for Hospital School Ithuba Unit outside recreational area	R 39,610.00
Siyakhanda Medical Services	1 x medical trolley for G8 and 1 x resus trolley for G1	R 19,267.73
Tafelberg Furniture Stores	Dryer & Top Loader for Ward G8	R 16,898.00
Tafelberg Furniture Stores	Dryer for Ward G1	R 6,899.00
Tafelberg Furniture Stores	6 Fridges for wards G1, G2, G8 & G9 and Washing machine for G9	R 22,205.00
Tafelberg Furniture Stores	Sleeper couch for upgrading of Paed Surgery Reg Room G4	R 2,599.00
University Stellenbosch	Computer for Registrar Office, A9	R 8,436.00
University Stellenbosch	Printer for secretary at C3A	R 1,995.00
Waltons	Notice and White board for C3A	R 1,783.71
Waltons Stationary	Optiplan 5 drawer filing cabinet for secretary at C3A	R 6,494.58
Waltons Stationary	Optiplan 4 drawer filing cabinet for C3A	R 2,278.02
Waltons Stationary	Chairs for C3A	R 2,676.72
Waltons Stationary	Optiplan Cabinets for C3A	R 6,494.58
West Coast Technology	3 Foot operated suction units for PICU	R 3,334.50
Ysterplaat Medical Supplies	Exam Couch and Bed Step for HoD at C3A	R 2,673.30
Ysterplaat Medical Supplies	3 x exam couch and 2 x bed step for C3A (2) and G8	R 7,392.90
Total		R 1,030,810.47

Deel 2/Part 2

Gemeenskaps-uitreikprogramme/gemeenskapsdiens en – interaksie/ *Community outreach programs / community service and interaction*

International

- WHO Childhood TB Subgroup of the DOTS Expansion Working Group of Global STOP TB Strategy – Prof R Gie (chair)
- Continental President of the International Society of Paediatric Oncology (SIOP) – Prof M Kruger
- Advocacy Group of SIOP – Prof M Kruger (Chair)
- African workshop in collaboration with IARC (International Agency for Research on Cancer) regarding cancer tumour registries and cancer registration – Local organizing committee: Proff C Stefan (Chairperson), M Kruger, Drs A Dippenaar, R Uys, Mrs P Permall. Fourteen African countries participated (105 participants).
- Oncology/Haematology Twinning project with Windhoek General Hospital, Namibia – Prof C Stefan
- Outreach to Paediatric Oncology Units in other African countries
 - Maputo, Mocambique – Prof C Stefan
 - Addis Ababa, Ethiopia – Prof C Stefan
 - Harare, Zimbabwe – Prof C Stefan
 - Kigali – Rwanda – Prof C Stefan
 - Bansa Baptist Hospital, Mbingo Baptist Hospital en Mutengene Baptist Hospital, Cameroon – Proff P Hesseling & M Kruger. Memorandum of Understanding on Cooperation between The Cameroon Baptist Convention Health Board and the Department of Paediatrics signed in December 2010.

National

- Workshops regarding “Early management of VLBW infants” in Cape Town, George, Bloemfontein and Johannesburg – Prof G Kirsten
- CMSA outreach visit to Nelson Mandela Academic Hospital in Umtata in May 2010 – Prof J Smith & Dr G Kali

Regional

- Oncology/Haematology outreach visits & teaching to Paarl & Worcester and other clinics
- Participation in GP training course at Constantiaberg with lecture on hematological emergencies – Prof C Stefan
- Focus area – outreach and support to district hospitals and CHCs in the Eastern Metro, where there are no resident paediatricians under leadership of Dr E Malek
- Attendance and CME lectures at Eerste River – Helderberg and ERH Hospitals.
- Assistance with implementation of CHIP systems at Eerste River – Helderberg and ERH Hospitals.
- Close liaison with the PGWC and City of Cape Town during the Diarrhoeal campaign with education and skills sessions and regular meetings within the Eastern and Tygerberg subdistricts.
- Outreach to Brooklyn Chest Hospital by Proff S Schaaf, B Marais & P Donald with registrars – 142 children (long term) were admitted to BCH in 2010.
- HIV-rollout programme every second week at Brooklyn Chest Hospital – Dr Helena Rabie.
- An MDR-TB clinic in Khayelitsha with approximately 15-25 children seen per month – Prof S Schaaf

- Scottsdale MDR-TB clinic started in 2010: 15 children/clinic – Prof S Schaaf. This is a child-friendly initiative to minimize travelling time and expenses for families with a child with MDR-TB.
- Workshop regarding “Nasal CPAP” at Swartland Hospital in Malmesbury (now 4th district in Metro East to manage mild RDS) – Prof G Kirsten & Dr S Holgate
- Neonatal Resuscitation Workshops at Worcester and Malmesbury – Dr P Henning

Deel 3/Part 3

Onderrig en Opleiding/ Teaching and Training

Undergraduate students

97% pass rate

Postgraduate students

Successful candidates in PhD

Prof DC Stefan - A framework for an undergraduate haematology curriculum at Stellenbosch University. *Promotor: Prof EM Bitzer & Co-promotor: Dr F Cilliers*

Newly Registered PhD Students

Dr UD Feucht – Evaluating and improving the care of HIV-infected and HIV-affected children in the first years of the implementation of a large-scale antiretroviral therapy programme in Pretoria, South Africa. *Promotor: Proff M Kruger & B Forsyth*

Dr P Goussard – Bronchoscopy findings and management of children presenting with significant airway obstruction due to tuberculosis. *Promotors: Proff RP Gie & CT Bolliger*

Dr SEV Innes – Lipodystrophy and metabolic abnormalities among children on HAART in South Africa. *Promotors: Proff MF Cotton & Rozenkranz*

Dr EWA Zöllner – Adrenal suppression in asthmatic children on steroids. *Promotors: Proff S Hough & E Irusen*

Dr A Mandalakas – Development of a novel conceptual framework of childhood tuberculosis within which to study the impact of an isoniazid preventative therapy (IPT) program for childhood TB prevention in high burden communities. *Promotors: Proff AC Hesselning & RP Gie*

Joint PhD Degree with Amsterdam Vrije Universiteit

Dr R Solomons with NRF bursary – Improving early diagnosis of tuberculous meningitis in children. Study leaders: Proff J Schoeman (University of Stellenbosch); M van Furth (Amsterdam)

Successful candidates in the FC Paed(SA) Part I

Dr MJ de Wet

Dr R Stander

Dr TA Ferreira-Van der Watt

Successful candidates in the FC Paed (SA) Part II

Dr PAM Brink

Dr CC Edeani

Dr H Hassan

Dr NL O'Connell

Dr GA Poole

Dr PC Rose

Successful candidates in the MMed(Paed)

Dr D Rhode under the supervision of

Title: *Lung surgery in children in a middle income country: indications, surgical course, complications and short-term outcome.*

Dr A van der Schyff under the supervision of

Title: *Clinical characteristics and outcome of rhabdomyosarcoma in South African children* also published in *Afr J Haematol Oncol* 2010; 1(2): 40-47.

Dr PC Rose under the supervision of

Title: *Value of bone marrow biopsy in children with suspected disseminated mycobacterial disease.*

Successful candidates in the *Cert Pulmonology(SA) Paed*

Dr D Rhode

Dr A Vanker

Successful candidates in the *Cert Neonatology(SA)*

Dr L van Wyk

Successful candidates in the *Cert Cardiology(SA) Paed*

Dr G Comitis

Training awards:

Discovery Foundation

Dr HH Saunders – Developmental Paediatrics

Dr A Vanker – Paediatric Pulmonology

Dr TC Gray – Paediatric Pulmonology

NRF Scholarship

Dr R Solomons – PhD research

SACORE (Southern Africa Consortium for Research Excellence) in conjunction with Stellenbosch University CID (Centre for Infectious Diseases)

Dr Steven Innes – A PhD scholarship for the amount of R190 000. The grant is funded by Wellcome Trust.

Novartis bursary

Dr Liz Walters – MSc Clin Epidemiology: R40 000

Education related activities

- Dr L Heyns – Diplomat representative, Senate of the Colleges of Medicine of SA (CMSA), Member, Council of College of Paediatricians of SA and Member, Finances and General Purposes Committee, CMSA
- Dr L Heyns – Advanced Paediatric Life Support Courses nationally
- Dr S Kling – Secretary, Council of College of Paediatricians of SA
- Prof Johan Smith – Hosted a high frequency oscillatory ventilation workshop, March 3-5 2010 at Stellenbosch University.
- Prof Johan Smith – College of Medicine CME visit to Transkei (Mthatha): 20 – 22 May 2010: Obstetrics and Neonatal emergencies
- Prof C Stefan with paediatric oncology team (Prof M Kruger, Drs A Dippenaar & R Uys) – 2nd Paediatric Oncology Workshop 16 – 18 Sept 2010
- Prof Schaaf, Drs LCooke, E Malek and H Finlayson – Diploma in Child Health (DCH) examiners for CMSA.

- Prof Priscilla Springer – examiner and moderator for Dev Cert Subspecialty Developmental Paediatrics for the Council of College of Paediatricians of SA, CMSA.
- Dr Ekkehard Zollner – Diabetes training in St Josephs Home.
- Prof Cristina Stefan - Teaching 2nd year students in Physiology

Vennootskappe/Partnerships

- Novo Nordisk donated the salary for the newly appointed diabetic educator.

Deel 4/Part 4

Navorsing/_Research

Prestasies t.o.v. navorsingsaktiwiteite en navorsingsuitsette/ Achievements with regards to research activities and research outputs

- Prof Mariana Kruger & Dr L Horn – EDCTP Grant Euro 49 236 Project CB.10.41302.010: Network of Southern African Research Ethics Committee (REC) Chairpersons and the development of a review textbook for African REC members (SAREN-Southern African Research Ethics Network). Project Coordinator and partnership with Dr L Horn.
- Prof Peter Hesselning – Swiss cancer league grant for study of nutrition in patients with Burkitts lymphoma in Cameroon.
- Prof Cristina Stefan – CANSA award: HIV and paediatric cancer.
- Prof Cristina Stefan – co-researcher in the EMBLEM study (epidemiology of lymphomas).
- Prof Stefan – FINLO Grant R20,000 – The use of mobile phone as a teaching tool in the diagnosis of childhood cancer.
- Prof Stefan - - Research Grant SU – R10, 000 – HIV and other infections in South African children with cancer.
- Prof Donald received the Union Medal for his contribution to Tuberculosis research! This is a great honour for a lifetime commitment to research and a wonderful role model to all of us.
- Prof Cotton and Kid-Cru team – received a NIH award for the IMPAACT TB Infant vaccine BCG.
- Prof Cotton – received a NRF B3 rating
- Drs Bekker & Slogrove and Prof A Hesselning: USAID/ TREAT TB grant awarded – ORAP study, titled: “A health systems assessment of Isoniazid Preventative Therapy (IPT) delivery to TB-exposed newborns in the Western Cape Province, South Africa.”
- Proff A Hesselning, M Cotton en Drs A Mandalakas, S van Wyk, H Rabie, E Sinanovic as recipients of another research award: IPT Guidelines in HIV-infected children – CRDF-NIH joint collaborative grant.
- Dr Etienne Nel – Collaboration with ESPGHAN for future projects: Paediatrics gastro-enterology training course; ESPGHAN sponsorship for paediatric gastro-enterology trainee; invited to Nestle Nutrition Institute Meeting
- Dr Marelle Claassens – Obtained Faculty Bursary and the SACORE MSC Scholarship
- Dr Adrie Bekker was awarded the Early Career Award Program grant by the Thrasher Research Fund for her project “Pharmacokinetics of INH in HIV-exposed and unexposed low-birth weight South African infants”
- Dr Adrie Bekker also secured financial support from the Harry Crossley Foundation for 2011
- Dr Ronald van Toorn – Harry Crossley Foundation grant
- Dr Shahra Sattar: JHU Summer School (SATBAT Fogarty program)
- Dr Catherine Wiseman: MPH UCT (SATBAT Fogarty program)
- Dr Karen du Preez: Masters in Public Health management: LSHTM (SATBAT Fogarty program)
- Dr Christelle du Buisson was involved in renal development of the new addition of the Oxford Handbook of Pediatrics.
- The Paediatric Neurodevelopmental Unit is supported by Prof Marceline Van Furth from Vrije University in Amsterdam in the TBM Home treatment programme and have sent an epidemiologist Ms Sabine van Elsland to test a compliance tool and extend the TBM home treatment programme to Worcester.

Publikasies/Publications

Journal Articles (subsidised)

1. Arnold M, Moore S, Sidler D, **Kirsten GF**. Long-term outcome of surgically managed necrotizing enterocolitis in a developing country. *Pediatric Surgery International* 2010; 26(4) : 355-360.
2. Atun R, Raviglione MC, **Marais BJ**, Zumla A. Tuberculosis control is crucial to achieve the MDGs. *Lancet* 2010; 376(9745) : 940-941.
3. Chiang C-Y, **Schaaf HS**. Management of drug-resistant tuberculosis. *International Journal of Tuberculosis and Lung Disease* 2010; 14(6) : 672-682.
4. Cilliers K, Labadarios D, **Schaaf HS**, Willemse M, Maritz JS, Werely CJ, Hussey G, **Donald PR**. Pyridoxal-5 phosphate plasma concentrations in children receiving tuberculosis chemotherapy including isoniazid. *Acta Paediatrica* 2010; 99 : 705-710.
5. Cobat A, Gallant CJ, Simkin L, Black GF, Stanley K, Hughes J, Doherty TM, Hanekom WA, Eley B, **Beyers N**, Jaïs J-P, Van Helden PD, Abel L, Hoal EG, Alcaïs A, Schurr E. High Heritability of Antimycobacterial Immunity in an Area of Hyperendemicity for Tuberculosis Disease. *Journal of Infectious Diseases* 2010; 201(1) : 15-19.
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9. Diacon AH, Dawson R, Hanekom M, Narunsky K, Maritz SJ, Venter A, **Donald PR**, Van Niekerk C, Whitney K, Rouse DJ, Laurenzi MW, Ginsberg AM, Spigelman MK. Early bactericidal activity and pharmacokinetics of PA-824 in smear-positive tuberculosis patients. *Antimicrobial Agents and Chemotherapy* 2010; 54(8) : 3402-3407.
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12. **Donald PR**. Cerebrospinal fluid concentrations of antituberculosis agents in adults and children. *Tuberculosis* 90: 279-292. *Tuberculosis* 2010; 90 : 279-292.
13. **Donald PR**. The chemotherapy of tuberculous meningitis in children and adults. *Tuberculosis* 2010; 90 : 375-392.
14. Gallant CJ, Cobat A, Simkin L, Black GF, Stanley K, Hughes J, Doherty TM, Hanekom WA, Eley B, **Beyers N**, Jaïs J-P, Van Helden PD, Abel L, Alcaïs A, Hoal EG, Schurr E. Impact of age and sex on mycobacterial immunity in an area of high tuberculosis incidence. *International Journal of Tuberculosis and Lung Disease* 2010; 14(8) : 952-959.
15. Gallant CJ, Cobat A, Simkin L, Black GF, Stanley K, Hughes J, Doherty TM, Hanekom WA, Eley B, **Beyers N**, Jaïs J-P, Van Helden PD, Abel L, Hoal EG, Alcaïs A, Schurr E. Tuberculin skin test and In Vitro assays provide complementary measures of antimycobacterial immunity in children and adolescents. *Chest* 2010; 137 : 1071-1077.
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26. **Kruger M**. The ethical approach to evidence-based medicine. *South African Journal of Clinical Nutrition* 2010; 23(1) : S69-S70.
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Journal Articles (NON-subsidised)

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3. Eshun-Wilson I, Havers F, Nachega JB, Prozesky HW, Taljaard JJ, Zeier MD, **Cotton M**, Simon G, Soentjens P. Evaluation of paradoxical TB-associated IRIS with the use of standardized case definitions for resource-limited settings. *Journal of the International Association of Physicians in AIDS Care* 2010; 9(2) : 104-108.
4. **Goussard P**, **Gie RP**. The anti-inflammatory effects of macrolides in children with lower respiratory tract diseases. *Pediatric Focus* 2010; 1(1) : 6-7.
5. **Kruger M** – Guest editor. Childhood Cancer. *CME* 2010; 28(7) : 307.
6. **Kruger M**. Leukaemia in childhood. *CME* 2010; 28(7) : 320-323.
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8. Schoeman J, Dannhauser A, **Kruger M**. Malnutrition in Paediatric Oncology Patients. *CME* 2010; 28(8) : 385-388.
9. **Solomons R**, **Van Toorn R**, **Schoeman JF**. Tuberculous meningitis presenting as hemiplegia alternans in two children. *Journal of Pediatric Infectious Diseases* 2010; 5 : 87-90.
10. **Stefan C**. Epidemiology of childhood cancer and the SACCSG tumour registry. *CME* 2010; 28(7) : 317-319.
11. Tooke LJ, **Smith J**, Griffith-Richards S, Maritz JS. Thymic size at birth in preterm infants with severe respiratory distress syndrome can be used to predict the likelihood of survival: A retrospective cohort study. *SA Journal of Child Health* 2010; 4(2) : 50-53.
12. **Uys R**. Communication in the diagnosis of childhood cancer. *CME* 2010; 28(7) : 347-348.
13. **Van der Schyff A**, **Stefan DC**. Clinical characteristics and outcome of rhabdomyosarcoma in South African children. *African Journal of Haematology Oncology* 2010; 1(2) : 40-47.

Proceedings International

1. Ackermann C, Andronikou S, **Laughton B, Van Toorn R, Dobbels E, Innes S**, Taliep R. *White matter signal abnormalities on MRI in children with HIV encephalopathy*. 47th Annual Meeting and 33rd Postgraduate Society of Paediatric Radiology, Convention Centre, Bordeaux, France, Springer_Verlag 2010: 1108.
2. Dekker G, Andronikou S, **Van Toorn R**, Ackermann C. *MRI findings in children with tuberculous meningitis: a comparison of HIV infected and non-infected patients*. 47th Annual Meeting and 33rd Postgraduate Course of the European Society of Paediatric Radiology, COonvention Centre, Bordeaux, France, Springer_Verlag 2010: 1075-1074.
3. Mapukata A, Andronikou S, **Van Toorn R**. *Cranial nerve enhancement in children with tuberculous meningitis: incidence, distribution and clinical correlation*. 47th Annual Meeting and 33rd Postgraduate Course of the European Society of Paediatric Radiology, Convention Centre, Bordeaux, France, Springer_Verlag 2010: 1113.
4. Von Bezing H, Andronikou S, **Van Toorn R**, Douglas T . *Correlation of linear and volumetric measurements with clinic-radiological diagnosis of hydrocephalus in children with tuberculous meningitis*. 47th Annual Meeting and 33rd Postgraduate Course of the European Society of Paediatric Radiology, Convention Centre, Bordeaux, France, Springer_Verlag 2010: 1108.
5. **Kruger, M.** – *Invited speaker: SIOP 42nd Congress*: (2010) Ethical Issues in clinical trials in the developing world. *Pediatric Blood & Cancer* 2010; 55(5) : 781.
6. **Kruger, M.**, Reynders, D., Omar, F., Schoeman, J., Wedi, O. (2010) Challenges for solid tumour diagnosis in a resource-limited setting. *Pediatric Blood & Cancer* 2010; 55(5): 838.
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Proceedings National

1. Ackermann C, Andronikou S, **Laughton B, Dobbels E, Innes S**, Taliep R, **Cotton M, Van Toorn R**. *White matter lesions in children with HIV encephalopathy: correlating with Griffiths mental scale*. 54th Annual Academic Day, Faculty of Health Sciences, University of Stellenbosch, Tygerberg, South Africa, 2010: 181-182.
2. Scheepers S, Dekker G, Andronikou S, Brandt A, Ackermann C, **Van Toorn R**. *MRI findings in children with tuberculous meningitis: a comparison of HIV infected and non-infected patients*. 54th Annual Academic Day, Faculty of Health Sciences, University of Stellenbosch, Tygerberg, South Africa, 2010: 178-179.
3. Von Bezing H, Andronikou S, **Van Toorn R**. *Correlation of linear and volumetric measurements with clinic-radiological diagnosis of hydrocephalus in children with TBM (tuberculous meningitis)*. 54th Annual Academic Day, Faculty of Health Sciences, University of Stellenbosch, Tygerberg, South Africa, 2010: 185.

Chapters in Books

1. Dagli E, **Gie RP**, Uyan ZS, **Goussard P**. Endobronchial Tuberculosis. In *Paediatric Bronchoscopy*, Karger, Basel, Switzerland, 2010: 173-181.
2. Handbook of Paediatrics (7th Edition), Oxford University Press, 2010. Contributions by: **Cooke ML, Lawrenson J, Nel E**. Reviewed by: **Cotton M, Esser M, Schaaf S, Van Toorn R**

Uitgenooide sprekers/deelnemers / Invited speakers/participants:

International

- Prof Mariana Kruger – 42nd SIOP Congress on October 21-24, 2010 in Boston, Massachusetts. Title: Ethical Issues in Clinical Trials in the developing world.

- Dr Louise Cooke – the only South African delegate invited to attend Advanced Clinical Nutrition course in Switzerland July 2010.
- Prof Cristina Stefan:
 - Invited as medical mentor in Mozambique, part of the twinning with Recife - Brazil and for an analysis of pediatric oncology and cancer registration by IARC and IOP Dana Farber
 - Invited speaker: 6th Pediatric Oncology Congress, Casablanca, Morocco. – Brain tumours in South Africa. 5 – 7 March 2010.
 - Invited to the International Society of Paediatric Oncology African Meeting 10 – 12 March 2010, Accra, Ghana.
- Prof Mariana Kruger:
 - 2nd International Pediatric Oncology Workshop, Stellenbosch University Faculty of Health Sciences, Cape Town, 12-17 September 2010. State of the art lecture: Children, cancer, clinical trials and ethics; Invited speaker: Ethical issues in paediatric oncology-end of life support.
 - The 26th International Pediatrics Association Congress of Pediatrics, Johannesburg, 4-9 August 2010. Invited speaker: Cord blood banking - a priority. The child in research.
 - NIAID Forum to Promote TRIUMPH: TB Research In Underserved Maternal and Pediatric Populations with HIV:, Bethesda, Maryland, USA, 29-30 July 2010. Invited speaker: Ethics review issues – an African perspective
 - The Ninth Continental Meeting of the International Society of Paediatric Oncology in Africa: Accra, Ghana, 10-12 March 2010. Keynote address: The rights of sick children; Oral presentation: Rare diseases – our ethical responsibility.
- Dr Sharon Kling - Psychosocial aspects of allergic disease. The 26th International Pediatric Association Congress of Pediatrics, Johannesburg, South Africa, August 2010.
- Dr Sharon Kling - The Anti-vaccination Lobby. The 26th International Pediatric Association Congress of Pediatrics, Johannesburg, South Africa, August 2010.
- Prof Johan Smith - Invited speaker: New York: June 10 – 14, 2010: International Symposium of Advanced Respiratory Care: A practical approach
- Prof Simon Schaaf:
 - Multidrug-resistant tuberculosis in children: South African perspective. 2nd Mozambican Paediatric Conference, Maputo, Mozambique, 23-26 February 2010.
 - Kampmann B. Meet the Expert (Invited). Multidrug-resistant Tuberculosis in Children. 50 Years ICAAC – 50th Interscience Conference on Antimicrobial Agents and Chemotherapy. Boston, Massachusetts, USA, 12-15 September 2010.
 - Seddon JA, Willemsse M, Hesselring AC, Donald PR. Results from the field: MDR-TB in children: clinical features and outcome of culture-confirmed cases. 41st World Conference on Lung Health of the International Union Against Tuberculosis and Lung Disease (The Union). Berlin, Germany, 11-15 November 2010.
 - MDR-TB in children: diagnosis and management. 41st World Conference on Lung Health of the International Union Against Tuberculosis and Lung Disease (The Union). Berlin, Germany, 11-15 November 2010.
- Prof Ben Marais:
 - 42st IUATLD world conference, Berlin, Germany – Invited speaker; Child TB working group – Convenor
 - MSF Epicentre research project Mbarara, Uganda – Invited speaker; Child TB advisor
 - WHO – Bangladesh Child TB training initiative – Consultant/organizer
 - IUATLD International Child TB training workshop, SA - Course organizer Asian Society of Pediatric Infectious Diseases (ASPID), Taipei, Taiwan – Invited speaker
 - Infection and Immunity, Oxford, UK - Invited speaker
 - WHO/TDR Child TB “Diagnostic reference standard” working group meeting, Geneva, Switzerland – Invited speaker / participant

- Lancet TB series launch at World Health Assembly (WHA) Geneva, Switzerland
Invited speaker / co-editor
- Philippines Child TB Training Guidance – Expert advisor
- Rede-TB International TB Symposium, Rio de Janeiro, Brazil. Child TB workshop –
Invited speaker / workshop facilitator
- US-SA joint research forum on TB, Johannesburg, SA. Organized by the NIH and
MRC - Invited speaker / participant
- Summer Institute in Clinical Trials Research Methods, University of Cape Town in
collaboration with George Washington University, Cape Town, SA – Invited speaker
- Dr Christelle du Buisson – Presentation at the International Children’s Continence Society
meetings.
- Prof Gert Kirsten:
 - Survival and outcome at 1 year of extremely low birth weight infants after the
introduction of Kangaroo Mother Care, nasal CPAP and in-out surfactant to the
neonatal ward in a state hospital. 11th International Child Neurology Congress,
Cairo, Egypt, May 2010
 - 29th Conference on Priorities in Perinatal Care in Southern Africa, Goudini, Western
Cape, March 2010: In-out surfactant administered to extremely low birth weight
infants with RDS in a hospital with limited neonatal intensive care facilities; Survival
and outcome at 1 year of extremely low birth weight infants after the introduction
of Kangaroo Mother Care, nasal CPAP and in-out surfactant to the neonatal ward in
a state hospital; Continuous Kangaroo Mother Care of 800-1200g infants: Tygerberg
Hospital experience ;The calcium, phosphate and energy content of expressed
human milk from Xhosa mothers of very low birth weight infants.
 - Middle Eastern Neonatal Intensive Care Workshop, Stellenbosch, July 2010: Delivery
room management of the neonate; Pathophysiology of neonatal RDS and non-
invasive respiratory support; Complications of prematurity; Complications associated
with percutaneous and deep venous lines; Feeding protocols in the NICU
- Dr JI (Netta) van Zyl - Symposium: The Perinatal Brain and Motor development, the
benefit of Follow Up Studies, Vrije University, Amsterdam, 6 October 2010:
Management, survival and outcome of very low birth weight infants In a South African
State Hospital.

National

- Prof Mariana Kruger - SASPEN (South African Parenteral and Enteral Nutrition), Spier
Estate, Stellenbosch, 3-5 March 2010. Keynote address: The ethical approach to
evidence-based medicine.
- Dr Louise Cooke – SASPEN Congress “ Causes and management of diarrhoea in children in
a clinical setting”.
- Dr Sharon Kling:
 - When is it asthma? ALLSA Annual Congress, Euphoria Golf Estate, Limpopo April
2010.
 - Are ventilator graphics useful in the PICU? Goal directed care, Critical Care Society
of Southern Africa Annual Congress, Drakensberg, October 2010.
- Dr Etienne Nel:
 - Diarrhoea and Malnutrition. Clinical Nutrition Challenges: Evidence vs Practice. 2010
SASPEN Congress. Spier Estate, Stellenbosch. 3-5 March 2010.
 - Indications for Paediatric Gastrointestinal Endoscopy. Gastroenterology workshop.
Tygerberg Hospital, Tygerberg. 13 March 2010.
 - HIV and Hepatitis B Co-infection in Children. Emerging Problems in Paediatric HIV
Conference, Johannesburg. 5 November 2010.
 - Gastroesophageal Reflux in Children. Nexium Advisory Board Meeting, Sandton,
Johannesburg. 27 November 2010.

- Prof Simon Schaaf:
 - Epidemiology and management of multidrug-resistant tuberculosis in children. Keynote speaker: The emerging threat of multidrug-resistant tuberculosis: global and local challenges and solutions. Academy of Science, South Africa and Institute of Medicine of the National Academies (US). Pretoria, South Africa, 3-4 March 2010.
 - Drug-resistant tuberculosis: disease in the family. 2nd TB Conference, International Conference Centre, Durban, 1-4 June 2010.
 - Drug-resistant tuberculosis in kids. 2nd TB Conference, International Conference Centre, Durban, 1-4 June 2010.
 - Old and new anti-TB drugs in children – where do we stand? The 26th International Pediatric Association Congress of Pediatrics. Johannesburg, South Africa, 4-9 August 2010.
- Prof Cristina Stefan:
 - Paediatric leukaemia/lymphoma – single centre experience, XIVTH Biennial congress S.A. Lymphoma Study Group. 2 – 5 October, 2010, Constantiaberg, Cape Town.
 - Do we teach what we want or do we teach what the students need? – Scholarship for teaching and Learning Conference (SOTL), Stellenbosch 11-12 May 2010.
- Prof Ben Marais - 2nd SA National TB conference, Durban, South Africa
- Dr Christelle du Buisson - Presentation at the South African Transplant association

Regional

- Dr Heather Finlayson – IPCAN Conference Spier, Stellenbosch September 2010: Invited Speaker “2010 Measles Epidemic Scoring an own Goal”
- TBH IPC Day November 2010: Invited Speaker “The Return of an Old Foe: 2010 Measles Epidemic”
- Dr Sharon Kling - When is an intervention not in the child’s best interests? UCT Paediatric Refresher Course, Cape Town February 2010.
- Prof Simon Schaaf:
 - Clinical epidemiology of drug-resistant tuberculosis in Southern Africa, Africa and globally. Workshop on Drug-Resistant TB. Current Practice, Controversies and Clinical Challenges. Cape Town, 3-5 September 2010.
 - Managing children with drug-resistant tuberculosis. Workshop on Drug-Resistant TB. Current Practice, Controversies and Clinical Challenges. Cape Town, 3-5 September 2010.
 - Screening and treatment of children and adult contacts of drug-resistant tuberculosis index cases. Workshop on Drug-Resistant TB. Current Practice, Controversies and Clinical Challenges. Cape Town, 3-5 September 2010.
- Prof Ben Marais:
 - Trainer - South to South and PEPFAR TB/HIV Integration Projects
 - URC & CDC Child TB workshops – Invited speaker
- Prof Gert Kirsten:
 - Correct feeding of neonates. Paediatric Management Group Scientific Meeting, Drakensberg, April 2010
 - The impact of intubation-surfactant-extubation (InSurE) on the outcome of infants <1500g treated in a private hospital NICU. 54th Academic Year Day, University of Stellenbosch, August 2010
 - Seminar in Neonatology, George, Oct 2010: New thoughts on the management of Meconium Aspiration Syndrome; Ways to limit BPD in the VLBW infant
 - Panorama Medi-Clinic Neonatal Seminar, Cape Town, November 2010: Iatrogenic complications in the NICU; Group B streptococcal infection in the neonate

Besondere prestaties en hoogtepunte/ Special achievements and highlights

- Prof M Kruger appointed International Society of Paediatric Oncology (SIOP) Africa Continental President: 2010-2013
- Prof M Kruger appointed as member of the Health Professions Council Professional Board, since 1 July 2010
- Prof Johan Smith: Vice-President of USANA (United South African Neonatal Association)
- Prof Johan Smith: Executive Board of IPOKRATES
- Prof Johan Smith: Patent registration: Novel synthetic lung surfactant (Synsurf), currently with ISIS Innovation (<http://www.isis.innovation.com>) Project Number 74001: Improved Synthetic Pulmonary Surfactant An inexpensive and more effective synthetic pulmonary surfactant, named Synsurf, for patients who suffer respiratory distress syndrome (RDS)
- Dr John Lawrenson is part of an international committee working on the standardization of echo screening for the detection of rheumatic heart disease in communities.
- Dr John Lawrenson is the scientific organizer of the World Congress of Paediatric Cardiology and Cardiac Surgery due to be held in Cape Town in 2013
- Dr Etienne Nel was appointed member of Nexium advisory board and NNI advisory board.
- The African Paediatric Gastroenterology Network was established in August 2010
- Paediatric GI website was launched
- Collaboration with ESPGHAN initiated for training of fellows in paediatric gastroenterology and establishing a course in paediatric gastroenterology.
- Prof Cristina Stefan – NCI FELLOWSHIPS: 2010 (July-August) Principles and Practices of Cancer Prevention and Control Course Molecular Prevention Course NCI Washington, USA.
- Prof Cristina Stefan – Chair Educ. – SIOP African Continent.
- Prof Cristina Stefan – Clinical coordinator – BL – East Africa, NCI nomination.
- Prof Cristina Stefan – Ebrahim award – hematology prize.

Deel 5/Part 5

SENTRUMS/CENTRES

KIDCRU – Prof MF Cotton (Director)

Summary of Activity

Children’s Infectious Disease Clinical Research Unit - (KID-CRU) is an internationally recognized research unit for children with HIV and TB. It augments the clinical service provided in the Family Clinic for HIV and the Paediatric HIV service for children by providing comprehensive care to children screened for studies through diagnosis and through counseling, testing, recognition of health problems of the mothers and other care-givers. Children on studies have access to ARV resistance testing, not available for those who need this test outside of research

Personnel

Admin	3
Auxiliary Workers	2
Counsellors	11
Data Clerk	2
Data Manager	1
Director	1
Drivers	3
Lab Assistants	2
Medical Officers	7
Specialist	0.58
Pharmacist	3
Project Managers	3
Registered Nurses	7
Social Worker	1
Staff Nurse	8
Study Coordinators	1
Unit Manager	1
	57

Outputs

Patient visits

Detailed statistics were kept for the last 6 months of 2010 and will continue in the future.

Screenings - 11
 Enrolments - 5
 Scheduled visits (Dr) 1066
 Pharmacy - 260
 Adherence - 67

KIDCRU On-study (Active) patients

	Total enrolled	Total currently active on study
P1060	89	73
P1070	4	0
P1073	4	4

P1066	2	2
Cipra P4	193	147
CHER	136	105
GSK APV 29005	6	4
GSK APV 20002	24	14
BMS	3	2
Lipo-atrophy	156	156
ART and INH prophylaxis	19	15
Total	636	522

Infrastructure

A library has been established by Dr Magdel Rossouw, with books and journals available for research purposes. See: G:\PERSONEEL\PEDIAT\KIDCRU\Training\Library.

Partnerships

1. National –
 - a. HAART – INH study with Prof Zar of RCCH
 - b. Pefpar funding through ANOVA for district ARV support (Dr H Rabie)
 - c. CIPRA-SA – CHER study at KID-CRU and Perinatal HIV Research Unit, Soweto
2. International –
 - a. International Maternal Pediatric Adolescent AIDS Clinical Trial Group – Clinical trial site with 4 active studies
 - b. Tuberculosis Trial Consortium – funded by CDC

Community

1. Adolescent and Adult Community Advisory Boards – each comprising 20 members meet on a monthly basis to discuss matters of interest and to give input on what type of research is wanted by the community
2. World AIDS day
 - a. Dr Elke spoke on Paediatric HIV at Municipality Hermanus, organized through “Right to Care”
 - b. Adolescent CAB staged a play at Tygerberg Hospital

Teaching & Training

Weekly teachings and presentations are being held on different work related aspects and guest speakers have been invited. See G:\PERSONEEL\PEDIAT\KIDCRU\Training\Weekly training\Weekly training\Teaching 2010 presentations

Community Advisory Board Training:

CAB-responsibilities; Standard operating procedures

How to deal with illiterate participants in clinical research

Protocol training for all members of staff is ongoing.

Recruitment and retention for clinical trials for GCP

Developing of Standard operating Procedure workshops for GCP

Community Advisory Board Training:

CAB-responsibilities; Standard operating procedures

How to deal with illiterate participants in clinical research

Protocol training for all members of staff is ongoing.

Recruitment and retention for clinical trials for GCP

Developing of Standard operating Procedure workshops for GCP

Other

1. Prof M Cotton member of Paediatric Essential Drug List for Hospitals Group
2. Publication in New England Journal of Medicine will influence public policy – Lopinavir performs better than Nevirapine in infants failing nevirapine for prevention of vertical transmission.. Palumbo P, Lindsey J, Hughes MD, Cotton MF et al. Antiretroviral Treatment for Children with Peripartum Nevirapine Exposure. N Engl J Med 2010;363:1510-20-
3. Dr. Elke Maritz - New Investigator Award May 2010 within IMPAACT network to develop the following protocol: A substudy of PROMISE, IMPAACT 1077FF, to assess the safety and efficacy of cotrimoxazole prophylaxis in HIV-exposed, uninfected infants receiving replacement feeding for prevention of infant morbidity and mortality

SOUTH TO SOUTH – Dr L Smith

A. INTRODUCTION

I. Program Overview

The South to South Program for Comprehensive Family HIV Care and Treatment (S2S), a USAID specialist partner in the Prevention of Mother-to-Child HIV transmission (PMTCT), Paediatric HIV and Psychosocial programming, respond to specific clinical and health systems strengthening needs within South Africa. S2S support the Department of Health and other USAID Implementing Partners through:

- District specific, Technical and Program Capacity Building Activities
- Human Resource Development through Training and Mentoring
- Technical Assistance to Implementing Partners and the National Department of Health
- Development and Distribution of Performance and Training Support Tools and Resources

II. Mission and Vision

Vision

To achieve quality HIV services which promote healthy families, healthy communities and healthy living.

Mission

As a driver of change, S2S, in partnership, aims to ensure that mothers & children living with HIV/AIDS in Africa have access to quality comprehensive prevention, care and treatment services through the implementation of health policies and the generation and dissemination of sustainable innovative health system strengthening solutions.

B. PROGRAM IMPLEMENTATION

I. District specific, Technical and Program Capacity Building Activities

S2S multidisciplinary technical teams supported the Foundation for Professional Development (FPD) in two districts; Moretele in the North West and Tshwane in Gauteng with their PMTCT and Child Health programmes. S2S assisted with the translation of policies & guidelines into quality service delivery by addressing existing knowledge and skills gaps and providing system support through onsite cluster implementation workshops, on-going clinical mentoring and modelling, skills building, knowledge transfer, and supportive supervision.

II. Human Resource Development through Training and Mentoring

S2S offered 11 one-week *Comprehensive Paediatric HIV Care and Treatment Training Courses* held at Tygerberg. This course utilises a variety of training platforms, including a targeted didactic program which emphasizes case management and service implementation, facilitated by selected specialists from the Faculty of Health Sciences, University of Stellenbosch. Practical hands on experience wherein participants and clinical mentors participate in ward rounds at the Tygerberg HIV Family clinic and Brooklyn Chest Tuberculosis Hospital are emphasised.

S2S also hosted 5 one-week *Performance and Capacity Enhancement (PACE)*. PACE content included: health worker well-being, job satisfaction, communication skills, team building, and managing conflict, motivation, coping with change, and managing stress. As of 1 October 2010 the PACE modular content no longer functioned as a stand-alone workshop, but was incorporated into a comprehensive support program, Care of the Caregiver, as part of health care worker capacity building on site level.

Below, a summary of Human Resource Development and Training achievements:

Performance measures January – December 2010	
Site support and follow-up	Achieved
Number of sites supported	24
Training and health worker support	
Number of health workers trained in the provision of family centered HIV services (PMTCT, Pediatric Care and Support, Pediatric Treatment, performance and capacity building)	2 496
• Number of District specific skills building (cluster implementation workshop) events held	30
• Number of healthcare workers trained in the supported Districts	1 388
• Number of individual mentoring sessions provided in the supported Districts	939
• Number of non-District training events held (Paediatric HIV and PACE)	16
• Number of healthcare workers who attended the above trainings	169

I. Technical Assistance to Implementing Partners and the National Department of Health

S2S-supported meeting and events:

- Dr. Liezl Smit was one of only two representatives from South Africa invited to attend and present in the United States Government PEPFAR PMTCT/Paediatric Technical Working Group meeting on Early Infant Diagnosis in Arusha, Tanzania on 13 – 15 May 2010.
- S2S hosted four, one-day PMTCT partner meetings – these meeting allowed PEPFAR PMTCT partners to discuss and evaluate various approaches to the National PMTCT Program's Accelerated Plan and align their activities to National DOH Provincial and District work plans.
 - 27 May 2010 – Northern Cape and Free State (Bloemfontein)
 - 28 May 2010 – Gauteng and North West Province (Johannesburg)
 - 8 June 2010 – Eastern Cape and Kwa-Zulu Natal (Durban)
 - 9 June 2010 – Limpopo and Mpumalanga (Polokwane)
- S2S assisted with the facilitation of a 2-day workshop on paediatric HIV case detection, assessment and initial management for nurses from 4 provinces held by Keth 'Impilo in Cape Town, October 7-8, 2010.
- S2S Hosted two, one- day workshops to launch the IMCI NIMART and the Paediatric HIV Toolkit for South African Healthcare Workers in partnership with the Department of Maternal and Child Health to orient USAID funded organizations to the initiatives. Cape Town, October 12-13, 2010 and Johannesburg, October 14-15, 2010.

Other S2S-supported projects and activities:

- Printing and dissemination of *National PMTCT Registers National PMTCT guidelines*
- Printing of North West Province *Pre-ART register*
- Printing and dissemination of *National DOH PMTCT Best practices Document "Tried and Tested"*
- Procurement of 8 vehicles for PEPFAR partners to help support 1,800 additional sites acquired after the PEPFAR and National DOH rationalization exercise.

- Procurement of *22,000 male circumcision packs and 61 diathermy machines*, which were transferred to MaTCH and ANOVA Health. S2S also procured various minor medical supplies such as scales, stadiometers, thermometers and stethoscopes for its District supported sites.
- Tasked with developing an *Online repository* – a mechanism to support information exchange among the treatment partners and working groups for TB/HIV, PMTCT, Cervical Cancer, HCT, and Management systems that need a resource to post information related to their specific task, such as partner better practices, curricula, tools, etc.

II. Development and Distribution of Performance and Training Support Tools and Resources

S2S developed and adapted useful and focused tools and materials to enhance the family-centred HIV services provided at supported health facilities. A brief summary of tools are listed below:

- PMTCT training materials and tools:
 - PMTCT toolkit for South African Healthcare Workers
 - ANC PMTCT register
 - ANC PMTCT poster
 - PMTCT pregnancy Wheel
 - PMTCT Package of Care
- Paediatric Care and Treatment training materials and tools:
 - Paediatric HIV Care & Treatment – A Toolkit for South African Healthcare Workers (in collaboration with ECHO, endorsed by the National Department of Health).
 - Normal developmental milestones of the young child poster
 - Paediatric pre-ART master card
 - HIV-exposed infant master card
- Psychosocial & Adherence Support training materials and tools:
 - Psychosocial & Adherence Counseling Support toolkit
 - Psychosocial & Adherence Counseling Support Training facilitator and participant manuals
- Monitoring and Evaluation tools:
 - PMTCT standards of care
 - Paediatric standards of care
 - Referral to CCMT treatment initiation
 - PCR results tracing card for facilities
- A HIV care and treatment series, in partnership with Francois Xavier Bagnoud Centre (FXBC), School of Nursing and University of Medicine and Dentistry of New Jersey.

DESMOND TUTU TB CENTRE - Prof N Beyers

Posts (full time)

Professor/ Principal specialist	2
Extra ordinary Professors	3
Data manager, data specialists, data clerks	15
Project managers, study coordinators, counsellors, research assistants	198
Medical Officer	8
Specialist Consultant	1
Total	227

INFRASTRUCTURE DEVELOPMENT

1. The 8 field offices of the ZAMSTAR study (in Site C Khayelitsha, Kuyasa, Delft-South, Wallacedene, Mzamomhle, Nyanga, Kayamandi and Mbekweni) have been maintained and expanded. ZAMSTAR activities in communities have stopped, but the offices are now used for new studies. When studies have finished, the offices will be donated to the Department of Health
2. Site C office has been donated to childhood TB studies
3. The 2 field offices in Ravensmead and Uitsig are being maintained
4. The paediatric rooms in the field offices of Ravensmead, Uitsig and Site C are maintained as "Child-friendly" for the childhood TB studies
5. The e-nose study ongoing and maintaining offices in Adriaanse and Elsie's River.
6. There are 9 community VCT Centres which operate in collaboration with various NGOs and these NGOs have been equipped with tents and/or caravans and other necessary equipment to do VCT outreach in communities
7. Work on the PMTCT programme continues in 2 Maternity Obstetric Units (MOUs) and 5 well-baby clinics in Khayelitsha
8. The fleet of vehicles (15 vehicles and 3 trailers) have been maintained and new parking area established.
9. Old vehicles have been replaced with 4 new vehicles
10. 2 additional caravans were taken into use – first for the ZAMSTAR prevalence survey (which was completed in December 2010) and the caravans were then donated to the *Exit Study* in Ravensmead and Uitsig.
11. The offices in the Faculty (lower ground floor, clinical building) have been upgraded
12. New offices (where the old security was at the Western entrance of Lower Ground floor) have been transferred to DTTC and will be ready in 2011 – some will be ready in January and the rest in March/April 2011
13. The P3 level laboratory built for the ZAMSTAR prevalence survey is being maintained and used for final laboratory work on ZAMSTAR and also for other studies e.g. Exit Study, e-nose study etc.
14. 55 new computers were purchased
15. The Personal Digital Assistants (PDAs) used in ZAMSTAR have been donated to other studies
16. Website (www.sun.ac.za/tb) maintained

RESEARCH ACTIVITIES

The paediatric research team focuses on translation and interdisciplinary research on the diagnosis, prevention and treatment of childhood TB across the age and disease spectrum, in the context of a setting with high burden of TB and HIV. The team comprises of approximately 40 personnel including clinical, lab and supportive personnel. The team works in 4 community sites

and 3 hospitals. Our research focuses on the following aspects of TB in children through a sustainable program of research. Projects implemented over the past calendar year include the following:

1. Community-based household contact tracing diagnostic, prevention and biomarker studies

- Parent study: The Utility of Interferon-Gamma Release Assays in TB-HIV co-infected Children: PIs: Anneke Hesselning, Anna Mandalakas. Funders: NIH (DMID), Norwegian Scientific Council and NUFU
- Effect of passive tobacco smoking: Karen du Preez; Funder: Union OR fellowship, NUFU, NIH
- Effect of private health care access to treatment delay in adults: Susan van Wyk, Anneke Hesselning; Funder: Union OR Fellowship, NUFU
- TB Infection and Exposure among HIV-unexposed, HIV-exposed, uninfected and HIV-infected children in a high-burden setting: using routine service data to verify HIV-exposure status: Wiseman, Hesselning, Mandalakas; Funder: South African Fogarty grant (SATBAT)
- Helminth co-infection and the effect on TB infection risk in children; Funder: Norwegian Cooperation for Higher Education (NUFU) and South African National Research Foundation
- Health systems research to strengthen IPT implementation in at-risk children in the community: Susan van Wyk, Nelda van Soelen, Karen du Preez, Anna Mandalakas, Anneke Hesselning and Cape Town City Health; Funder: I-CATCH (International Community Access to Child Health Program), American Academy of Pediatrics and Union OR fellowship

2. TB/Helminth co-infection study

Immune polarization in childhood tuberculosis: The role of helminth co-infection. Investigators: Anneke Hesselning, Nelda van Soelen, Gerhard Walzl; Funder: German Research Foundation (DFG)

3. Hospital-based diagnostic and other clinical hospital studies

- Utility of IGRAs in detection of TB infection in HIV-infected hospitalized children: Mandalakas, Hesselning; Funder: Thrasher Research Fund
- E-nose study: Beyers, Gie, Claassens, Walters; Funder: UBS Optimus Foundation
- Mortality and disease spectrum amongst HIV-infected infants with bacteriologically confirmed tuberculosis: Catherine Wiseman, Anneke Hesselning, H.S Schaaf, R.P. Gie, M.F. Cotton; Funder: DTTC internal
- Disease severity study: Catherine Wiseman, Hesselning, Schaaf, Donald and Gie; Funder: DTTC

4. Hospital-based continuity of care studies

- Karen Du Preez: Anneke Hesselning, Rory Dunbar, Simon Schaaf; Funder: Union OR fellowship (Du Preez), DTTC collateral funding
- Missed opportunities for chemoprophylaxis in children with culture confirmed tuberculosis
- Referral and Treatment outcomes of children with culture-confirmed TB diagnosed in hospital

5. Neonatal TB program

- Adrie Bekker, Anneke Hesselning and Simon Schaaf; Funder: Thrasher Foundation, USAID ORAP grant (PI: Adrie Bekker on both)
- Maternal infant TB audit
- Continuity of care study
- PK study

6. MDR research program

Simon Schaaf, James Seddon and Anneke Hesselning; Funders: USAID TREAT TB, Sir Halley Stewart Trust, SA MRC and NIH (NICHHD)

7. Community development and interaction studies

Exploring the challenges faced by field workers in conducting clinical research: Grace Bruintjies and team; Funding: DTTC, NUFU

8. Vaccine studies

Hesselning, Jones, Jaspán; Funders: Elizabeth Glazer Pediatric AIDS Foundation, Thrasher Research Fund

COMMUNITY OUTREACH PROGRAMMES / COMMUNITY SERVICE

1. The **TB-free Kids Project** has been maintained as a "Flagship project" of the University. Many activities have been done in the community. Ms Erica Jacobs is now doing an *Exit Study* in Ravensmead and Uitsig.
2. The **ZAMSTAR** (Zambia South Africa TB and AIDS Reduction) study has been completed and now the databases are being finalized and combined with the Zambian data.
 - a. In the prevalence survey conducted and completed in 2010, more than 33,000 people were enrolled and sputum samples processed.
 - b. A cohort of 4693 adults with and without TB has been established and these people will be followed up until end of 2010.
 - c. A big dissemination meeting was held in December 2011 for all stakeholders.
 - d. A close-out meeting, dissemination and farewell function was held at end of 2010 to thank the community workers for all the work done on ZAMSTAR
3. The **paediatric studies** at DTTC focuses on the following areas of research:
 - a. Community-based household contact tracing diagnostic, prevention and biomarker studies;
 - i. This prospective community -based study utilizes a household-contact study design to assess the diagnostic utility of new blood-based tests for TB infection; interferon-gamma release assays (IGRAs). To date, we have enrolled 550 children in 3 study communities; enrolment and longitudinal follow-up are ongoing. This large cohort study has also served as a platform for several sub studies (see below), student projects, capacity building and training.
 - ii. There is also a study investigating environmental smoke and its effect on children a total of 196 children were included from three study communities (Uitsig, Ravensmead and Site C, Khayelitsha), of which 65.3% were exposed to ETS in the household
 - iii. A study investigating private health care enrolled 210 patients from Site C
 - iv. Studies on TB Infection and Exposure among HIV-unexposed, HIV-exposed, uninfected and HIV-infected children as well as studies investigating Helminth co-infection and the effect on TB infection risk in children are taking place in Khayelitsha.
 - v. Health systems research to strengthen IPT implementation in at-risk children in the community took place in Ravensmead and Nolungile clinic (Khayelitsha)
 - vi. A decentralized clinics for the management of children in contact with MDR-TB and with MDR-TB has been established in Site B Khaelitsha and more than 150 children have been managed in this clinic.
 - vii. Exploring the challenges faced by field workers in conducting clinical research – this is a study initiated by the field workers
4. The **TB-HIV Integration project**, currently in year 4 of its 5-year lifespan has the dual

goals of reducing the TB burden by increasing TB case finding and ensuring appropriate TB care and of reducing HIV transmission in communities and minimizing the impact of HIV on individuals. There are 3 objectives:

- a. The project's first objective, to increase access to HIV counseling and testing services, has been achieved through the establishment of 9 Community VCT Centres in partnership with NGOs.
 - i. These centers have tested 32,782 clients and now contribute 27% (up from 12.*% the previous year) of all cases in Cape Town tested in non-clinic setting.
 - b. The project's second objective is to strengthen health systems and improve access, quality and collaboration between HIV and TB services.
 - i. Many health system strengthening activities and training and mentoring have been implemented in all 101 TB clinics in Cape Town
 - ii. A wide range of interventions to improve TB case finding, TB cure rates and infection control and to reduce susceptibility to TB and HIV have been implemented at the 22 high burden clinics in the City.
 - iii. Capacity development has continued: 30 clinic staff trained, 39 GP trained.
 - iv. 4 sputum collection points established in partnership with GPs
 - v. DTTC has partnered with Dept of Health to establish a data management system for managing the results from the centralised laboratories of the NHLS in an attempt to increase the number of TB cases diagnosed.
 - vi. Sputum booths have been distributed to all 101 TB clinics in the City during 2010.
 - c. The final objective to improve access to PMTCT services and address comprehensive antenatal and postnatal care
 - i. This intervention is implemented at Site B and Michael Mapongwane in Khayelitsha and the well-baby clinics associated with these facilities.
 - ii. Following on a review of the programme, plans have been developed to improve early booking; increase uptake of HIV testing and repeat testing at 36 weeks; improve provision of antiretroviral dual therapy; improve counselling on feeding practices to reduce mixed feeding and improve record keeping.
 - iii. Generic programme support has been provided for the revision of Provincial PMTCT Protocol, development of PMTCT IEC material and standardization of antenatal records.
 - iv. Support has also been extended to other Sub-districts who report success in several of their interventions.
5. The study on **TB in Health Care Workers and Infection control** has expanded and together with Dept of Health, Dr Mareli Claassens is expanding her studies in the 5 other provinces (Northwest, KZN, Eastern Cape, Limpopo, Mpumalanga) to evaluate reasons for primary default and to do home visits to trace these primary defaulters.
6. **House for Mama Maphosela**
- a. DTTC has for a number of years been involved with Mrs Maphosela who takes care of more than 30 orphans and vulnerable children. During 2010 plans for a new house has been completed and with funding received from Archbishop Tutu, the building on a house will finally start in 2011.

PARTNERSHIPS

National

1. DTTC is closely aligned with the National, Provincial and Local health departments and assist on all levels in the development of guidelines, manuals and training material

2. All activities are planned in close collaboration with the various levels of the department of health. A monthly meeting is held with Government Partners
3. All activities are planned and implemented with the support of the local Community Advisory Boards (CABs)

International

1. DTTC remains a Collaborating Centre of the International Union Against TB and Lung Disease
2. DTTC continues to be the Regional Collaborating Partner (for the Africa region) for TREAT TB.
 - a. Regular meetings are held with national Dept of Health and USAID to maintain support from the Dept of Health for this initiative
 - b. DTTC hosted a meeting with all the Province to establish new priorities for TB Research in SA.
3. DTTC has numerous ongoing collaborations with the following:
 - a. Johns Hopkins University
 - b. London School of Hygiene and Tropical Medicine
 - c. University of Zambia
 - d. KNCV
 - e. University of Amsterdam
 - f. Oslo University
 - g. Case Western University
 - h. KIT
 - i. CDC Tuberculosis Clinical Trials Consortium (TBTC): with >20 international sites
 - j. Bergen University, Norway
 - k. Case Western Reserve University, USA
 - l. Columbia University, USA
 - m. Imperial College, London
 - n. All Indian Institute of Medicine
 - o. St John Medical College, India
 - p. Bernard Nocht Institute of Tropical Medicine, Hamburg, Germany
 - q. Max Plank Institute for TB Research, Berlin, Germany
 - r. Charite Hospital, Berlin, Germany
 - s. McGill University, Canada
 - t. South African TB Vaccine Initiative (SATVI)
 - u. Division of Clinical Pharmacology, University of Cape Town:
 - v. Health Economics Unit: University of Cape Town
 - w. University of Western Cape: Human Nutrition Division
 - x. South African MRC: Centre for Biostatistics

GRANT FUNDING OBTAINED OVER REPORTING PERIOD (EXCLUDING DEGREE SCHOLARSHIPS)

1. NIH RO1 PK 2nd line TB drugs: NIH Ro1 (Hesseling and Schaaf)
2. Thrasher Research Fund (Bekker)
3. Treat TB ORAP grant (Bekker)
4. SA MRC (Hesseling)
5. NIH CRFD (Hesseling)
6. Harry Crossly (du Preez)
7. SATBAT (Wiseman)
8. Union Operational Research (OR) training grants: Du Preez and van Wyk

ACHIEVEMENTS WITH REGARDS TO RESEARCH ACTIVITIES AND RESEARCH OUTPUTS:

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DEGREES OBTAINED

1. Laurianne Loebenberg: PhD Immunology (graduated 2010)
2. Susan van Wyk: MSc Clin Epid (SU; cum laude; graduated 2010)

TEACHING AND TRAINING (UNDER-, POSTGRADUATE AND ELECTIVE STUDENTS).

1. On request of and in partnership with the health Directorate of City of Cape Town, DTTC presents a TB Clinical Forum once a month which is attended by clinicians working in the City clinics
2. A 5 day Operational Research Protocol development Workshop for colleagues from the Department of Health in each of the 9 provinces and their associated academic institutions was held in May 2010.
3. Prof Donald Enarson visited DTTC twice for a 2 week period each time to teach and mentor the staff of DTTC
4. Supervision was provided to at least 13 post-graduate students (4 PhD)
5. Prof Beyers is involved in teaching of undergraduate students (MBChB11-V1)
6. Prof Hesselning and Prof Beyers teach in the M Clin Epidemiology course
7. Prof Beyers teaches in various Faculty courses including the NIH Ethics course and the Masters Classes for researchers
8. The Annual Childhood TB Course was again held at Goudini in September 2010 and participants from more than 20 countries attended. The course will be repeated in 2011.

SPECIAL ACHIEVEMENTS

1. Ms Wena Moelich is still seconded to National Department of Health to roll out the "Kick TB 2010" national campaign.
2. A number of DTTC staff gave talks on Radio Tygerberg – especially in the run up to for World Aids Day (1 December) and World TB Day (24 March)
3. Chair: CDC Tuberculosis Trial Consortium (TBTC) Paediatric TB Interest Group TB-PIG; 2010 –present (Hesselning)
4. Chair: World Health Organization New Diagnostics Working Group, Childhood TB Subgroup 2009-present (Hesselning)
5. Secretary: International Union against Tuberculosis and Lung Diseases Lung Health Section 2009-present (Hesselning)
6. Chair: IUTALD International working on BCG 2006-2010 (Hesselning)
7. Member: and chair World Health Organization Dots Expansion Working Group on Childhood Tuberculosis 2005-2011: Gie (Hesselning: member)
8. Associate editor: International Journal against Tuberculosis and Lung Diseases (Hesselning)
9. Member: Paediatric TB/HIV Provincial Steering Committee, Western Cape Province 2007-present (Schaaf, Hesselning)
10. WHO Consultant : Stop TB Global Plan: Research update; tools (2009-2011; Hesselning)