Media 'knight' breathes life into paediatric ICUs

Carte Blanche presenter Derek Watts with one of the beneficiaries of their R20 million paediatric surgery equipment provision campaign.

Picture: Carte Blanche, MNet

Senior surgeons say the lack of paediatric ICU beds at Johannesburg Hospital and Chris Hani-Baragwanath Hospital costs the lives of at least 60 babies a year – leading a media knight in shining armour to launch a rescue crusade to provide essential equipment to them and 3 other hospitals.

Carte Blanche, the hard-hitting M-Net television investigative programme, also targeted the paediatric surgical departments at King Edward Hospital (KwaZulu-Natal), Bloemfontein Academic and Pretoria Academic hospitals for a 7-week, R20 million fund-raising blitz to mark their own 20th anniversary.

At Chris Hani-Baragwanath Hospital, not a single item of equipment ordered through official channels by the paediatric surgical department over the past 2.5 years has been delivered. Doctors have privately despaired of their support administration and reverted to the private sector for life-saving equipment.

Each Sunday evening the results of the carefully targeted funds and the clinicians who guided the life-enhancing and life-saving purchases, as well as the work of Johannesburg Child Welfare and its sister Parent and Child Counselling Centre, were profiled for viewers nationwide.

Izindaba established that at Chris Hani-Baragwanath Hospital not a single item of equipment ordered through official channels by the paediatric surgical department over the past 2½ years has been delivered. Doctors have privately despaired of their support administration and reverted to the private sector for life-saving equipment.

One item, a cystoscope, used to help cut open malfunctioning valves in infants' bladders, was recently obtained via the Wits Medical School private trust (SurgiKids), resulting in surgeons being able to conduct a single operation leading to an unscarred patient being discharged within a day.

Previously, babies with this condition needed three operations over 20 days, with increased anaesthetic risk and significant scarring. This is but one example of how administrative incompetence and underfunding are contributing to mortality and morbidity.

The *Carte Blanche* intervention, while a 'legitimate and sincere attempt to help', was described by one senior surgeon as 'a short-term band-aid solution for a much more fundamental problem'.

From April to July this year, a review of Bara's paediatric surgical department showed that the 'luckier' malnourished babies referred there from outside hospitals had an average waiting time of 11.5 days from diagnosis to securing an operation (mainly for an obstructed gastrointestinal tract). Many others who presented with acute problems like gastroschisis simply died because of insufficient ICU beds. Lack of diagnostic expertise in more rural hospitals and clinics contributed to the death toll.

Dr Bob Banieghbal, a senior paediatric surgeon for the past 3 years at Johannesburg General Hospital and a veteran of 10 years at Bara, said he lost about 'a child a month' headed for his ICU, while at Bara 'they lose 3 - 4 kids per month'.

When it was put to Bara's paediatric surgery chief, Professor Graeme Pitcher, that up to 48 babies a year were dying in his unit, he responded, 'that's conservative, it's probably closer to 60'.

The mortality pattern was echoed at Pretoria Academic Hospital, where the head of paediatric surgery, Dr Ernst Mueller, said a constant headache was the 'very slow provision of much needed equipment'.

Sadly, senior officials at some of the hospitals most in the news over avoidable baby deaths, Frere Hospital in East London and Dora Nginza in Port Elizabeth, subject to* Carte Blanche*'s exposés in the past, baulked when approached with the free equipment offer and lost out.

While unable to provide exact figures he said, 'we have a similar mortality situation to the others. Basically ICU beds with all the bells and whistles is what enables us to save lives, plus obviously staff.'

The surgeons said ventilators, IV machines, new-generation endoscopic (video) equipment and 'the physical ability to send patients to ICU beds', were top of their needs lists.

Banieghbal said that at Johannesburg General, for every 10 ICU bed requests, 8 were granted, while 1 of the 2 remaining luckless patients normally died.

'The staff problem can be a bit of a catch 22, but if you first create another 4 - 6 ICU beds and then advertise aggressively for staff, it's do-able,' he added.

A feature of the *Carte Blanche* coverage was how careful the doctors were not to tread on any official toes, or as one put it, 'we wanted viewers to respond to the need, not to antagonise the hospital'.

Bisho says 'no thanks'

Sadly, senior officials at some of the hospitals most in the news over avoidable baby deaths, Frere Hospital in East London and Dora Nginza in Port Elizabeth, subject to *Carte Blanche*'s exposés in the past, baulked when approached with the free equipment offer and lost out.

CEO of the East London Hospital Complex (ELHC) (Frere and Cecilia Makiwane Hospitals), Mr Vuyo Mosana, told *Izindaba* that George Mazarakis, the executive producer of *Carte Blanche*, called him on 5 August.

A 'misunderstanding' during a sharp exchange between him and Mazarakis and 'head office reluctance in Bisho' (earlier) led to a communication breakdown.

'I asked him to send me an e-mail with details of sponsors and promised I would talk to whoever needs to give the nod at head office. No man! We're not reluctant. He (Mazarakis) was a bit rude and spoke of paranoia – I don't know what this paranoia is about, because if it was so, I wouldn't be talking to him!'

Mosana speculated that Mazarakis' patience ran thin because of the initial 'not that positive' response from Bisho, in an approach facilitated by Dr Jerry Boone, the ELHC's head of paediatrics, through his acting clinical senior.

He asked *Izindaba* to 'please give me his (Mazarakis') number so I can call him,' adding, 'I'm still awaiting his e-mail. Once I get a look at my needs list, we can talk as a matter of urgency.'

Boone could not be reached for comment but Dr Alan Atherstone, ELHC's chief of surgery, said it would not be the first time equipment had been donated to their hospitals.

'Yes, there are procedures. It's a matter of filling in a form and getting it authorised. I'd be very happy to get some donated equipment. Actually paediatric surgery at Frere runs very well and has some very up-to-date stuff – they even have a good complement of senior staff but are short of juniors. However, not all departments are running that well and we could do with equipment. This is a bit ridiculous,' he added, promising to raise the matter with Mosana.

Upon being told of the Frere Hospital donation debacle, Banieghbal responded, 'The government is very conscious of these (mortality) figures. It's hard to hear "you've let us down". They've spent money on inappropriate equipment (submarines and jet fighters) – it doesn't take a very intelligent person to see the wastage of our resources.'

Warm hands needed for cold equipment

Professor Peter Cooper, head of paediatrics at Johannesburg Hospital and academic head at Wits University, expressed doubt over whether suddenly expanding his paediatric ICU by 4 beds would result in the necessary recruitment of appropriately qualified nurses, although recently hiked salaries 'might help'.

He echoed Banieghbal's assessment, saying 'I guess we're providing up to 80% of (ICU) beds for those who need them'.

'It's a bit of a chicken and egg situation. When you improve facilities you make it more attractive for staff to work there as well – but the hospitals are grossly under-funded.'

Cooper said that while Johannesburg General worked closely with other units around Gauteng, 'as you go further out into surrounding provinces there's very little in the way of ICU facilities'.

Mazarakis told *Izindaba* that *Carte Blanche* was viewed with 'some degree of suspicion in the bureaucratic hierarchy of some of the hospitals – with a degree of justification, given who we are.

We usually enter those hospitals looking for something that's wrong. And here we are saying, we know there are things that are wrong, we can help to make them right. Some have been so suspicious that they've said, thank you very much but no thank you, we don't need your assistance.'

He said this was 'a grave pity, because they're really the hospitals that need it the most,' adding that Frere and Dora Nginza hospitals were targeted 'because we felt they were the most needy'.

He said there were 'degrees of alacrity' in the responses of hospitals approached.

'Everybody was suspicious and some presented very thin wish lists; we were surprised. But once they cottoned on, the wish lists grew.'

The lists varied in content from ICU beds, cribs and monitors, infusion pumps, cranial ultrasound machines, cardiac perfusion systems, dialysis machines, resuscitation trolleys, neonatal ventilators, fibre endoscopes and operating headlights, 'to name a few'.

Asked why *Carte Blanche* had singled out paediatric surgery instead of, say, prevention of mother-to-child HIV transmission or antiretroviral and/or antenatal clinics, Mazarakis said choosing 'something like that becomes too complicated – it's not visual. You have to be practical. We'd done stories on all those issues and have dealt with HIV-positive patients in this series. The practical reality is we have 2 days in which to shoot each insert.'

The genesis of the idea came at a dinner party in July where he met a woman friend who had lost a baby in Australia and who spoke enthusiastically about a fund-raising community-based programme there.

She put him in touch with UCT graduate and assistant director of clinical operations at Sydney Children's Hospital, Dr Johnny Taitz, who said the foundation attached to his hospital had played an 'immense' role in providing all the extras that made it 'so fantastic'.

He said that while State hospitals were 'bureaucratic organisations', they were 'populated by extraordinary people'.

'I think similar foundations (each of the 5 *Carte Blanche*-chosen hospitals have one) in South Africa could learn from the way we operate in Sydney, the way the foundation galvanises community support to drive urgently needed equipment and resources for the hospital.'

Mazarakis said *Carte Blanche* viewers had proved enormously generous in responding to the plights of various people highlighted in the past, 'so why not borrow a successful model from another country'?

The two child welfare organisations they profiled were 'dealing with an onslaught of abandoned and orphaned children – we'll see the conditions they work under, what they most need and ask our viewers and corporates to help'.

He said that while State hospitals were 'bureaucratic organisations', they were 'populated by extraordinary people'.

'We've met some of the most remarkable human beings – angels of mercy really. These are people dedicated to saving lives and putting themselves in second place in order to achieve that.'

The Sydney Children's Hospital Foundation had affected the lives of hundreds of thousands of children throughout Australia.

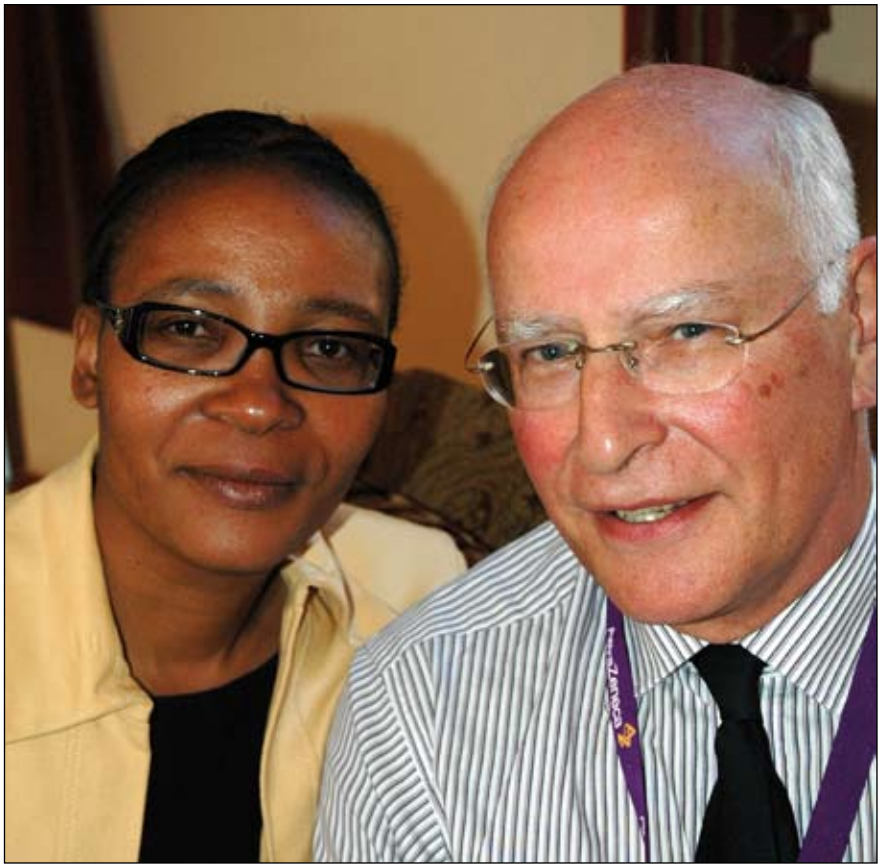
'If we in South Africa over 7 weeks can do a fraction of that, it would be *Carte Blanche*'s ultimate birthday present.'

Chris Bateman

A highly successful example of pro-active fund raising is the Red Cross Children's Hospital Trust in Cape Town, which has rallied public support for their re-development projects, raising R300 million since 1995 for upgrades and refurbishments. This independent fund-raising arms' achievements have included the building of a new specialist outpatient and emergency services wing, a new integrated paediatric intensive care unit and the purchase of specialised medical and teaching equipment.[1] The initiative has served as an inspiration to other public sector trusts.

1. www.childrenshospitaltrust.org.za

METANALYSIS CRITICAL OF BLOOD ALTERNATIVE PRODUCT CHALLENGED



Hemopure researcher, the University of Maryland's Professor Colin Mackenzie, and the manager of Hemopure in South Africa, Dr Mandisa Maholwana.

Picture: Chris Bateman

A 'deeply flawed' metanalysis of the life-saving interim blood alternative, Hemopure, published in an American scientific journal this April[1] has led to at least one province and hospitals elsewhere avoiding its use – to their detriment.

Hemopure is purified haemoglobin in a sterile solution that acts as an oxygen bridge when compatible red blood cells are not readily available. It has been shown to save the lives of 42% of haemorrhaging and severely anaemic patients who would otherwise have died, and has no lasting side-effects.[2] The product is stable at room temperature, has a shelf life of 3 years and requires no blood cross-matching.

It is approved for 'compassionate use' in the USA, and licensed for acute anaemia and delaying the need for predictable blood transfusion (in adult surgical patients) in South Africa. South Africa is the world's leader in all-cause trauma mortality, making the product highly relevant locally.

Izindaba spoke to the man who conducted the seminal research, University of Maryland Professor Colin Mackenzie, when he was in Cape Town this August to attend the Combined Congress of the Critical Care Society of South Africa.

Mackenzie and the manager of Hemopure in South Africa, Dr Mandisa Maholwana, revealed that since the controversial metanalysis appeared in the *Journal of the American Medical Association (JAMA)*,[1] in April, usage reticence had crept in. Maholwana said the KwaZulu-Natal health authorities had ordered doctors to stop using Hemopure while in Gauteng: 'We recently had a case where the clinicians weren't allowed to use it, so they sourced it from a private hospital'.

Thumbs up from Jehovah's Witnesses

Both Hemopure (created using haemoglobin polymer synthesised from bovine haemoglobin) and another similar product, Polyheme (derived from human haemoglobin), are unconditionally accepted by Jehovah's Witnesses. Members of this church have long prompted ethical controversy by refusing potentially life-saving blood transfusions.

Dr Anthony Reed, the provincial co-ordinating clinician for anaesthetic services in the Western Cape, said he encountered about 'one Jehovah's Witness patient every six months' in clinical practice. Reed spoke favourably of Hemopure's applications.

Maholwana said they were beginning to see the pharmaceutical and therapeutic committees (PTCs) of individual hospitals rejecting Hemopure, although luckily this unfounded reticence had yet to filter through to the national health department.

'We're really worried about the rural areas, where urgently obtaining the correct type of blood is often so difficult or sometimes even impossible,' she observed.

'We're really worried about the rural areas, where urgently obtaining the correct type of blood is often so difficult or sometimes even impossible,' she observed. The longest recorded period a patient has been kept alive (and survived) in South Africa on Hemopure is 19 hours. In the USA a patient with autoimmune haemolytic anaemia and a red cell haemoglobin 0.8 g/dl was kept alive for 19 days, further attesting to the safety of the drug. Published research shows that 96.3% of patients can avoid blood transfusion for 24 hours by using Hemopure.[2] Mackenzie emphasised that correct use and repeat dosages were critical for optimal outcomes.

He said the metanalysis[1] of haemoglobin-based oxygen carriers combined 5 different products and pooled 22 Hemopure studies using different methodologies and different settings on heterogeneous patient populations with differing controls. It incorrectly concluded that there was an increase in mortality and myocardial infarction for all these products, which is not the case with Hemopure.

'You can't do a metanalysis like that. They pooled high mortality and low mortality trials. If, as the metanalysis suggested, all these products were the same, then they should have examined dose response effects, but this was not done because of major heterogeneities among the trials,' he added.

Mackenzie said he had just returned from a major hospital in Bloemfontein where clinicians spoke of losing three patients postpartum due to haemorrhage, with no available blood in just the past 2 months. 'So you can imagine the cost in live births of not using Hemopure,' he added.

Mackenzie is also the co-author of the largest single published study on the use of haemoglobin-based oxygen carriers in comparison to packed red cells for elective surgery (680 patients), published in June of this year in the *Journal of Trauma, Injury, Infection and Critical Care*. Mortality for moderate use (3 units of packed red blood cells or 10 units of Hemopure) was found to be 1% in both cohorts, and serious adverse events were 0.14 per patient.

Highly effective interim measure

This study found that Hemopure eliminated transfusion in the majority of subjects and that patients under 80 years old with moderate clinical needs could safely avoid transfusion when treated with up to 10 units of Hemopure.[3]

Mackenzie said their best counter to what he terms 'political issues that have been raised that have nothing to do with science' was the inexorable publication of peer-reviewed gold standard research. He revealed that the US military was very keen to support his team's application to use Hemopure in a resuscitation study of combat casualties in Iraq (alternative oxygen carriers have their research origins in the US military in the 1950s).

'The money was all there, but the Food & Drug Administration (FDA) had safety concerns related to what they called hypertension' (what Mackenzie prefers to call 'transient elevation of blood pressure').

In a public FDA hearing, the voting revealed a dramatic split – all the clinicians voted in favour and all the 'blood bankers and non-clinicians' voted against. Mackenzie said the elevation of systolic blood pressure of 23 mm of mercury on the first infusion of Hemopure and 10 mm on subsequent infusions was 'clinically irrelevant'.

'The blood bank people think it's dangerous, yet nobody's ever done a clinical trial of blood! Hemopure simply fills the gap until blood becomes available,' he stressed.

Prompted to share the costs of Hemopure, Maholwana revealed that the single exit price was R3 500 per unit (VAT incl.) in the public sector and R5 800 (VAT incl.) in the private sector.

Pricing comparisons 'impossible'

Maholwana said it was 'virtually impossible' to establish the comparative cost of blood as the hidden costs of transfusion, collection, cross-matching, screening, storage, delivery and restocking every 6 weeks remained hidden, especially in the public sector. 'I've been to two different hospitals and got two entirely different unit prices – they pay the blood bank and the lab… they just don't know,' she said.

Mackenzie said what the publication of the metanalysis in the *JAMA* had done was 'polarise people into believing that all haemoglobin oxygen carriers are the same, which they are not'. Given the critical blood shortage in many countries, especially around festive seasons, 'it's important that we remember that if you don't have blood, there's nothing else. People should open up their minds,' he added.

In the USA the projected shortfall of blood by the year 2014 was 4 million units, a potent illustration of just how important this product application may become.[4]

Chris Bateman

1. Natanson C, Wolfe S. *JAMA* 2008; 299: 2324-2326.
2. Moon-Massat PF, Mackenzie C, Shander A, Greenburg AG. Paper presented at the Critical Care and Thoracic Society Conference, Cape Town, August 2008.
3. *Journal of Trauma, Injury, Infection and Critical Care* 2008; 64 (6): 1484-1497.
4. Vamvakas EC. Epidemiology of red cell utilization. *Transfus Med Rev* 1996; 19: 44-61.

AIDS reality bedevils social security plans

Nathea Nicolay, Manager of AIDS Risk Consulting for Metropolitan's Employee Benefits.

The financial impact of HIV and AIDS on the proposed National Social Security Fund (NSSF) will be dramatic, with actuarial models showing that the average 20-year-old South African will not even reach retirement age, according to demographic models of the Actuarial Society of South Africa.

With just half of the 1 million South Africans needing ARVs currently on treatment, the critical balancing act required to support people through short-term financial needs while encouraging them to save towards retirement has become glaringly apparent.

This is according to Nathea Nicolay, manager of AIDS Risk Consulting for Metropolitan's Employee Benefits in a presentation at the Institute of Retirement Funds Conference held in Durban on 25 August.

The actuary says current life expectancy in South Africa due to AIDS is 56 – and it could drop even further unless the government invests more in HIV prevention and treatment, thus saving the fiscus billions in the long term. An estimated 75% of all deaths in South Africa between the ages of 25 and 40 are currently AIDS related, according to Actuarial Society of South Africa demographic models.

'The big question is how to design a social security system that balances the provision of death and disability benefits on the one hand and retirement benefits on the other hand in a country where the average life expectancy at birth is 51 years,' she says.

Nicolay, who caused a stir at the conference 2 years ago with her 'four seasons' scenarios of the HIV epidemic by 2025 (depending on how government, the private sector and civil society respond), was addressing HIV and AIDS, longevity and health issues affecting retirement. She was asked to speak on the impact of HIV and AIDS on the proposed NSSF, aimed at broadening the retirement savings net in South Africa. 'The big question is how to design a social security system that balances the provision of death and disability benefits on the one hand and retirement benefits on the other hand in a country where the average life expectancy at birth is 51 years,' she says.

AIDS impact on low-income earners unknown

Government is trying to catch a huge group of low-income earners who cannot afford current medical-aid or retirement-fund benefits in a massive social security net – when many of them 'might not even make 50,' she adds.

The full impact of HIV and AIDS on this group of people, many of whom are self-employed or belong to small companies, has never been assessed. Most needed is a broadening of social security while encouraging job creation and protecting the disposable income of poor households. Nicolay warns that any social security financing arrangement that radically disrupts the financial protection that the poor have through current savings arrangements will cause panic.

She says there has been 'a huge outflow' of money in the industry, partly owing to poor communication on intended social security reform. People are worried that they will be forced to take out annuities in future and be prevented from withdrawing their

retirement savings for life crises when they leave their employer.

'South Africans often withdraw their savings before retirement to educate their kids, provide income in times of illness and death or buy a small business. Fear of not having access to these savings in future is currently worsening the outflow,' she explains.

This is aggravated by HIV and AIDS and the accompanying stigma, fuelling unemployment and draining 34% of household expenditure in affected families. While Metropolitan was 'very sensitive' to the interests of low-income earners who need access to savings for life crises, it had to emphasise the crucial importance of preserving funds, she said.

Retirement funds used for emergencies

Many middle- and higher-income classes in South Africa also withdrew from their retirement savings during their working lives, leading to inadequate financial protection in retirement. It was 'common knowledge' in the insurance industry that if you cashed in the retirement savings of the first 10 years of your career, it would reduce your pension by around 40%.

'We want to reduce people's dependency on government when they retire by forcing them to save throughout their lifetime. Yet if they do that and end up not having enough money to look after the sick and jobless on their way there, it will increase the social burden on the state.'

Nicolay compared the R6 000 cost of a year's ART versus paying out, for example, R45 000 in death benefits for a person earning R15 000 a year.

Fortunately, government recognised this and spoke in its discussion papers of the urgent need to broaden social security while encouraging job creation and protecting disposable income. When it came to HIV and AIDS, it was far cheaper to treat someone with antiretroviral therapy (ART) than to pay out a death benefit (typically 3 times one's annual salary). Nicolay compared the R6 000 cost of a year's ART versus paying out, for example, R45 000 in death benefits for a person earning R15 000 a year. Added to this were the medical costs of treating opportunistic infections, lower productivity and higher unemployment.

Upscaling prevention and treatment vital

'It has to be cost effective to invest heavily in prevention and treatment of employed people instead of giving them a fund that will pay out millions in death and disability benefits. The NSSF will then be able to focus more on saving and preservation for old age, as was the original intention,' she adds.

Nicolay hit headlines 2 years ago when she outlined her 'four seasons' 2025 AIDS scenarios with the 'Winter of discontent', featuring weak self-serving leadership, high crime and an AIDS response involving fake cures and corrupt systems.

She predicted continuous deaths in the workplace leading to companies closing down, with only 1 in 5 South Africans knowing their status by 2010 and the life expectancy remaining at 50 years. In stark contrast, the 2025 'Summer for all people' featured strong collaborative leadership committed to a developmental society, led by government, a focus on prevention with treatment, and care. Proactive business would be sustainable as the epidemic shrank, with up to 60% of people knowing their status by 2010 and only 7% of the employed population being infected by 2025.

An estimated 20% of all South Africans between the ages of 20 and 64 are currently HIV positive.

Chris Bateman