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Evaluation of HIV programmes.

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Mental health consequences of long term conflict

Survivors of chronic trauma need good mental health services and much more



JOHN GILES/PA

RESEARCH, p 1147

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Between 1969 and 2001, 3524 people were killed in civil disturbances in Northern Ireland. The annual death rate peaked at 479 in a population of 1.6 million. Deaths and injuries were unequally distributed, with people in working class urban communities and those living close to the Irish border being most at risk. Lessons can be learnt from such conflict, not only about the management of single episodes of psychological trauma but also about the effects of long term, violent divisions in society on mental health.

One of the aims of terrorism is to change attitudes and behaviours. This can lead to mental health problems in people who are targeted and in others. Problems include post-traumatic stress disorder, anxiety, depression, substance misuse, and (rarely) precipitation of psychosis. Post-traumatic stress disorder can be treated by psychological treatments such as trauma focused cognitive behaviour therapy¹ or antidepressants.² In this week's *BMJ*, a randomised controlled trial by Duffy and colleagues assesses the effectiveness of cognitive behaviour therapy in 58 people with chronic post-traumatic stress disorder associated with the conflict in Northern Ireland.³ It found that 12 weeks of cognitive therapy significantly reduced the severity of post-traumatic stress disorder (mean difference on the post-traumatic stress diagnostic scale 9.6, 95% confidence interval 3.6 to 15.6) and depression (mean difference on the Beck depression inventory 10.1, 4.8 to 15.3), compared with being on a waiting list. The authors note that response to treatment diminishes with time since the trauma and is poorer in people with a high level of depression at intake.³ The trial is the first to study cognitive behaviour therapy in the context of terrorism and other civil conflict and shows its efficacy.

Evidence from single traumatic events such as the 2001 terrorist attack on the Twin Towers in New York,⁴ the 2004 Madrid train bombings,⁵ and the 2005 London transport bombings⁶ shows that most people directly affected do not develop serious psychiatric ill health. Where psychiatric ill health does follow it subsides relatively quickly, with or without specific treatment. Characteristics that affect reactions to trauma include previous exposure to trauma, availability of family support, and religious faith, but severe reactions are difficult to predict.⁶

At a time when the setting aside of armed conflict in Northern Ireland has been associated with considerable political and economic developments, it might be expected that mental wellbeing would improve.

However, mental health consequences of continued social divisions, residual violence, long term effects of conflict, and people's difficulty in adapting to change persist.

The Northern Ireland health and social wellbeing survey (2001),⁷ completed three years after the ceasefire, found that 21% of people over 16 who had been affected by the conflict reported scores consistent with the presence of mental ill health. People who said they had been affected greatly were almost twice as likely to show signs of a possible mental health problem (34%) than those who said they had been affected only a little (18%).

In contrast to patterns elsewhere in Europe, suicide rates have risen in Northern Ireland, particularly among young socially marginalised men in areas closely identified with civil conflict.⁸ Experience in Israel indicates that conflict leads to high use of primary care and other services,⁹ and indeed Northern Ireland has higher rates of consultation and prescription for a wide range of physical and mental ill health than elsewhere in the United Kingdom.

My experience is that people who have been active in violent conflict may cope well with the emotional consequences of what has been done to them and what they have done to others, as long as "the struggle" seems reasonable and justified.¹⁰ As the purpose of violent conflict becomes less clear, high rates of substance misuse, breakdown in relationships, and mood disorder follow, and the risk of suicide increases. The onset of frank psychiatric illness after chronic trauma may be delayed by many years. The mental health consequences for participants in civil conflict mirror those seen in military personnel after war.¹¹

It is important to be sensitive about language when developing services for people affected by violence. The victim in one section of the community may be viewed as a perpetrator in another. The divisions between combatant and non-combatant may be unclear. Treatment services must be non-judgmental, person centred, and needs led.

Clearly, health services alone cannot meet the needs of people affected by violence. The Bamford review (www.rmhldni.gov.uk/) of services in Northern Ireland considered policy and service provision for the province. It strongly advocated a whole systems approach to mental wellbeing, including teaching skills to increase resilience to trauma in schools while promoting mental health through workplaces, faith communities, arts facilities, and leisure services. Treatment services for mental ill health will be insufficient to meet

people's needs unless the context in which these needs arises is also considered. As yet government has been unable to secure the funding or workforce resources necessary to tackle the problem.

Policy makers and service planners throughout the world face challenges in prioritising services after conflict. It is tempting to believe that mental health needs diminish with the end of conflict. As international attention is diverted from the scene of conflict, society's response to those affected must not be restricted to mental health services.

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Preventing spinal cord injuries in rugby union

Other countries should follow New Zealand's lead



ROSS LAND/GETTY IMAGES

Spinal cord injuries were first identified as an important sporting problem in the early and mid-1970s in rugby union,^{1,2} American (gridiron) football,³ and ice hockey.⁴ Subsequent studies have identified the most common mechanisms that cause these injuries.^{5,6} In some sports, such as American football, single mechanisms that cause spinal injury, such as the spear tackle, have been identified,⁷ which has allowed effective preventive measures to be swiftly implemented (the spear tackle has now been banned in gridiron football).⁸ But in other sports progress in preventing spinal injury has been slow and difficult to measure.

In this week's *BMJ*, a before and after study by Quarrie and colleagues assesses the effect of RugbySmart, a nationwide educational injury prevention programme, on the frequency of spinal cord injuries in New Zealand rugby union.⁹ It found that the introduction of the programme in 2001 coincided with a reduction in the number of spinal injuries (19 injuries were expected between 2001 and 2005 compared with eight reported). Furthermore, only one such injury occurred in the scrum, whereas nine were predicted. The data are robust as they originate from appropriately processed insurance claims. The authors conclude that their educational programme can decrease the rate at which serious spinal cord injuries occur in the scrum. Whether this intervention has the same effect in less controlled phases of the game—the tackle, ruck, and maul—remains unanswered.

To date, not a single complete data set for all spinal cord injuries has been reported in any major rugby union playing country, despite repeated calls for such information for the past 20 years.² Without such data, the impact of spinal cord injuries and the effect of preventive measures in any rugby playing nation remains unknown. Regrettably, the number of these injuries in

South Africa may not have decreased even 22 years after the problem was first identified.¹⁰

The study by Quarrie and colleagues provides a reason for renewed hope. The importance of the study is that it is unprecedented. Firstly, it shows that relevant data can be collected and used. Secondly, it establishes that at least some spinal cord injuries are preventable, as had previously been assumed.^{1,10,11} Thirdly, it sets the new standard. The study does have limitations though. It has a before and after design, which could be confounded by changes in the nature of the game or its players over the past five years that are unrelated to the introduction of the RugbySmart programme. A randomised controlled trial would have confirmed that the findings were not purely the result of a chance association.

Despite these limitations the results of the study are promising. Yet the study also highlights the need to do more; for example, to investigate other ways to prevent these injuries. These include training to improve neck strength and to enhance rugby related skills, increased medical supervision at matches, using protective gear, changes in the law, and continuing advocacy. Although the use of protective gear is actively enforced in certain sports,⁵ no such gear exists to prevent spinal cord injuries in rugby, and it may never do so. Changes in the law remain an option to reduce, for example, the possibility of vertex impact in front-on tackling. However, Quarrie and colleagues⁹ stress that although changes to the law can alter the way the game is played, such changes may not necessarily produce the desired outcomes.

All of the above methods for reducing injury are reasonable for developed countries whose players usually have sufficient access to quality training, coaching, and medical services. However, players in developing countries such as South Africa and Fiji,¹² both of which have high rates of spinal cord injuries, are less likely to

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have access to such services. Rectifying this remains a challenging objective in these countries.

Advocacy is the final important strategy. Quarrie and colleagues' study would not have been possible if the New Zealand government did not provide a national insurance policy that also covers sports injuries. This raises the question of whether these injuries will ever be entirely preventable without the active support of national governments.

The beauty of the RugbySmart programme is that it can do no harm, and according to the results of this study may do great good. Given the relative infrequency of these injuries, a randomised controlled trial may be desirable but financially impractical. Wise rugby administrators should procrastinate no longer, awaiting the outcome of a definitive randomised controlled trial. They should follow the lead of the New Zealand Rugby Union.

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Evaluation of HIV programmes

Independent national evaluations would mitigate global donors' desire to claim sole success

ANALYSIS, p 1143

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Competing interests: RB was a principal investigator in a study of the Global Fund (2003-4), commissioned by four European donor agencies: Irish Aid, Danish International Development Agency (Danida), UK Department for International Development, Directorate-General for International Cooperation (DGIS, Netherlands). He is currently a principal investigator on a network, funded by Irish Aid and Danida (2006-9), which is supporting 15 country studies of HIV global initiatives (www.ghin.lshtm.ac.uk). RB has intermittently been contracted by Irish Aid to undertake reviews, including participation in the 2005 high level forum on global health partnerships; he has also been contracted as a consultant by the EuroHealth consultancy group, through funding from the Global Fund, on a study of Global Fund proposal preparation processes (2005-6) and one on local fund agent processes (2007); and was contracted by the Global Fund to support a review, in 2006, of how the fund allocates its resources.

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The HIV implementers' meeting in Kigali, Rwanda, 16-19 June 2007, will bring together programme implementers, researchers, representatives of donors who are funding HIV programmes, and international agencies tasked with controlling the global HIV epidemic. The meeting will focus on three initiatives that account for about 64% of international financing towards fighting HIV¹—the Global Fund to Fight AIDS, TB, and Malaria; the President's Emergency Plan for AIDS Relief; and the World Bank's Multi-country AIDS Programme. The meeting aims to facilitate an open dialogue about the future direction of HIV programmes, and it will focus on identifying crucial barriers to and best practices in expanding efforts to control the epidemic.²

In this week's *BMJ*, Reithinger and colleagues³ discuss the difficulties in evaluating the effectiveness of programmes to prevent transmission of HIV from mother to child. Difficulties include the inadequacy of current indicators used to monitor and evaluate operational programmes; weak health information systems, especially in the poorest countries of Africa which, for example, make it difficult to tell whether pregnant women who tested positive subsequently received treatment; and poor quality of interventions in terms of care offered and adherence to treatment. All of these challenges prevent reliable judgments being made about the impact of programmes.

The challenges are political as much as programmatic. Global initiatives such as the President's Emergency Plan and the Global Fund have features, inherent in stand alone project approaches (rather than pooling of aid from different donors), which make them attractive to donors.^{4,5} They offer opportunities to channel funds into politically high profile areas, with short time

frames that meet politicians' needs. By focusing on disease specific interventions rather than on the health services needed to deliver them, donors can claim that improvements are the result of their contributions. Donors can demand reports in formats that meet their specific needs, which can mean that recipient countries have to prepare several reports in different formats for donors who are jointly funding programme activities. Also, constraints such as shortages of health workers and managers can often be overcome through financial incentives that attract scarce staff to well funded donor projects.

These features are generally associated with the President's Emergency Plan. However, the Global Fund has shifted its approach in the past year and is attempting, with some success, to escape the shackles of the project approach. This is evident in its February 2007 results report,¹ in which it judges its own performance according to five globally agreed commitments⁶ and indicators of progress⁷ on making aid more effective—the need for country ownership; alignment, which means that donors will target countries' priorities and use countries' management systems; harmonisation of donor procedures and sharing of analyses; focusing on results at the country level; and mutual accountability.

The committee for the evaluation of the President's Emergency Plan has also recently signed up to the need for improved harmonisation and coordination.⁸ In some respects Global Fund, the President's Emergency Plan, and World Bank's AIDS programme have outperformed both stand alone project approaches and the pooling of aid from different donors, which several European donor agencies have championed.

They have disbursed money quickly, with high proportions—30% of Global Fund support¹—reaching non-governmental organisations that are central to the fight against HIV. The need to show accountability and performance is a requirement that these initiatives have grasped with enthusiasm, as in the Global Fund's early mantra, "raise it, spend it, prove it."

Plans for Global Fund's five year evaluation (2007-8) are well advanced⁹; the World Bank will publish an evaluation of its AIDS programme at the Kigali meeting; and the President's Emergency Plan is planning a large scale evaluation. Global Fund and the President's Emergency Plan both intend to provide evidence that the expansion in HIV control has reduced the incidence of HIV, as well as morbidity and mortality from the disease. There has been an important shift in the language used by these initiatives, one that avoids ludicrous claims of being solely responsible for providing antiretroviral treatment to hundreds of thousands of patients. Both now use terms such as Global Fund (or the President's Emergency Plan) supported programmes,¹⁸ reflecting the reality that multiple sources of funds, notably from recipient country governments and their populations, collectively support the expansion of treatment.

The meeting in Rwanda next month will show whether or not the tensions that are inherent in donors' need to claim successes, so as to generate sustainable long term funding, continue to undermine global efforts at coordination. The desire to avoid mutually destructive competition has led the Global Fund to declare that its five year evaluation (2007-8) will measure "contribution" rather than "attribution."⁹ However, this should not detract from another pressing ques-

tion—not just whether the expansion is working—but how the collective efforts of all the global and national players, whether focused on diseases or on strengthening country systems, are working to support expansion and impact.¹⁰ Answering this question in the context of different countries means entering sensitive terrain. One solution would be for managers of national programmes and national AIDS councils to work with independently funded researchers, who will be less vulnerable to the pressures of attribution.

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Drug resistant HIV

Promising research on three new drugs gives hope for chronically infected patients

HIV has an impressive ability to replicate, mutate, and diversify, so developing drugs or vaccines that can fully contain the virus is a challenge. The only consistently successful way to prevent replication of HIV is to administer a potent combination regimen that contains at least two and preferably three antiretroviral drugs. Fortunately, with more than 20 antiretroviral drugs currently available, it is easy to construct such regimens for patients who are treatment naive.

However, a considerable number of patients have not had the chance to achieve full viral suppression despite access to antiretroviral drugs. These people are not well defined, but they generally began monotherapy with zidovudine in the early 1990s, and were sequentially exposed to each new drug as it became available. This sequential use of suboptimal regimens led to the emergence of multidrug resistant HIV. These patients are often referred to as being in "deep salvage" and are at risk for disease progression.

This year, we may witness a dramatic shift in how these patients are managed. For the first time in the HIV epidemic, three new agents have been developed for the management of drug resistant virus. They are the HIV integrase inhibitors, R5 inhibitors, and etravirine (TMC125)—a second generation non-nucleoside reverse transcriptase inhibitor. Hence, for patients in deep salvage, 2007 may be comparable to the landmark events of 1996, when the near miraculous effects of combination therapy were first observed. Although caution is needed given the hype that often surrounds any new treatment for HIV, it is nevertheless a time of renewed hope for such patients.

Most of the recent excitement has focused on HIV integrase inhibitors, a novel drug class that prevents integration of HIV DNA into the host genome.¹ Two such drugs are actively being developed—raltegravir (MK-0518) and elvitegravir (GS-9137)—with the former now available in expanded access programmes. Interim

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analyses from two ongoing phase III randomised double blind placebo controlled studies of raltegravir were recently presented at the 14th conference on retroviruses and opportunistic infections.^{2,3} A planned interim analysis at 16 weeks found that raltegravir was superior to placebo for reducing plasma HIV RNA to fewer than 50 copies/ml (61% v 33%, $P < 0.001$ in BENCHMRK-1²; 62% v 36%, $P < 0.001$ in BENCHMRK-2³). In a combined analysis of both studies, patients who were not able to include another fully effective agent in their background regimen still benefited from raltegravir based treatment (at 16 weeks, 61% had a plasma HIV RNA below 400 copies/ml compared with 5% in the placebo group). Raltegravir was well tolerated in both studies.

Data on the second novel therapeutic drug class, the R5 inhibitors, were also presented at this conference. All strains of HIV enter CD4 positive T cells via the CCR5 or CXCR4 coreceptor.⁴ Most patients with early stage disease harbour viruses that enter via the CCR5 coreceptor, whereas up to half of those with advanced disease harbour at least some viruses that enter via the CXCR4 coreceptor.^{5,6} R5 inhibitors bind to the CCR5 molecule and prevent CCR5 utilising variants from entering cells.

Enthusiasm for this drug class had waned for several reasons. Firstly, many patients in deep salvage harbour viruses that use the CXCR4 and not the CCR5 coreceptor. Secondly, the use of an R5 inhibitor may force a virus to switch from a CCR5 utilising state to a potentially more pathogenic CXCR4 utilising state. Thirdly, unlike other antiretroviral drugs, R5 inhibitors target the host rather than the virus and might therefore be more toxic. Finally, one leading drug candidate was discontinued because of severe liver toxicity.⁷

All of these concerns were at least partially addressed in two large phase IIb/III studies examining the role of the R5 inhibitor maraviroc in patients in deep salvage. A planned interim analysis at week 24 of MOTIVATE 1 showed that maraviroc was superior to placebo for suppressing plasma HIV RNA to fewer than 50 copies/ml (42.2% maraviroc once daily v 48.5% maraviroc twice daily v 24.6% placebo, $P < 0.001$)⁸; similar findings were reported for MOTIVATE 2.⁹ The drug was well tolerated and no hepatic toxicity was seen. Moreover, although maraviroc did select for CXCR4 utilising virus, this was not associated with a quicker short term decline in CD4 positive T cell numbers. Maraviroc received unanimous support from a Food and Drug Advisory (FDA) panel of outside experts on 24 April 2007.

The third agent that is also now available through expanded access programmes is etravirine (TMC125), a second generation non-nucleoside reverse transcriptase inhibitor (NNRTI) that appears to be active against virus that is resistant to the currently available NNRTIs (such as nevirapine and efavirenz). Results of a study of etravirine were reported last year.¹⁰ A randomised controlled trial in subjects with documented NNRTI resistance compared etravirine (400 mg or 800 mg twice daily) with an investigator selected background versus a standard of care control regimen.

At 48 weeks, the average reduction in HIV RNA was -0.88 , -1.01 , and $-0.14 \log_{10}$ copies/ml for the etravirine 400 mg, etravirine 800 mg, and control groups, respectively ($P < 0.05$).

So will we see the end of deep salvage in 2007? Certainly not, because not all patients can achieve lifelong viral suppression for several reasons. Each of these drugs has the potential for significant drug-drug interactions, and it is not clear if they can be easily combined. Many patients harbour viruses that use the CXCR4 coreceptor and will not respond to maraviroc or other R5 inhibitors. Many patients treated with first generation NNRTIs have developed viruses that are cross resistant to etravirine (this is particularly true if the Y181C mutation is present).

Finally, it has always been challenging to translate data generated from a highly motivated study population into real world situations. This may be especially true for the integrase inhibitors, as recent data suggest that high level resistance to these drugs emerges rapidly. Despite these concerns, however, we will probably witness in the next year a remarkable transformation in the prognosis of a generation of chronically ill, HIV infected adults, just as we saw in 1996 with patients who were less treatment experienced.

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Improving health for the world's poor

New report offers little advice for health professionals wanting to offer their services to developing countries

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On 8 May 2007, a report by the international department of the BMA entitled *Improving health for the world's poor: what can health professionals do?* was launched at the House of Commons.¹ It is the product of a four year collaboration between the BMA and the Department for International Development. The report comes hot on the heels of Lord Crisp's report *Global Health Partnerships: the UK contribution to health in developing countries*,² endorsed by the prime minister and the secretaries of state for health and international development in February. It makes some aspirational statements, but health professionals looking for practical advice on how to offer their services to poor people in developing countries may be disappointed.

The report's eight chapters cover health systems, water and sanitation, climate change, fair and ethical trade within the health system, malnutrition, tobacco control, public-private partnerships, and the World Health Organization. Each chapter concludes with recommendations on what the BMA and other organisations of health professionals can do in terms of advocacy and lobbying, but only chapters one and six have any recommendations for individual health workers. These include volunteering to work abroad, joining organisations that campaign for better health systems in poor countries, stopping smoking, and ensuring that their premises are smoke free.

Perhaps surprisingly, as the BMA has led the debate on healthcare rationing within the National Health Service, there is no discussion of which health interventions are the most cost effective in developing countries. Some of the data given on the burden of disease in the developing world do not stand up to rigorous analysis. What are we to make, for example, of the statement that "until the onset of the millennium, effective treatments for 90% of the world's global disease burden were generally unavailable?" We are told that the Department for International Development sees climate change as the most serious threat to development and the achievement of the millennium development goals. Can this really be true, given that the target date for achievement of these goals is 2015?

But perhaps the most surprising thing about this report is what is left out. Population growth is not mentioned as a threat to development. The chapter on malnutrition in Africa points out that food production has doubled in the past 40 years, but not that the population of sub-Saharan Africa has increased from 225 million to 751 million since 1960.³ The unmet need for family planning services in developing countries is surely something that health professionals can do something about. There is no mention of the vast and unmet need for mental health services in developing

countries,⁴ the increasing toll of road traffic incidents and the lack of surgical services to deal with them,⁵ or the lack of basic diagnostic laboratory services in many parts of the developing world.⁶ And no mention is made of the excellent work already being done in developing countries by thousands of health professionals from the United Kingdom working for non-governmental organisations, mission hospitals, and government hospitals, or of those working in academic institutions doing research to develop better vaccines and treatments for the diseases of poverty.

Many young doctors and nurses in the UK want to work in developing countries. The Crisp report emphasised that exchange of health professionals between the NHS and developing countries is good for the NHS, good for developing countries, and good for the people who participate. Unfortunately, funds have not been made available to encourage cash strapped trusts to release medical staff to work overseas. Moreover, in the past year three barriers have come into force that will prevent this exchange from happening, as pointed out in a recent editorial in the *BMJ*.⁷ Firstly, doctors from developing countries can no longer train in the NHS if there is a European applicant for the post they apply for. Secondly, junior doctors in the UK will find it increasingly difficult to get time out from the rigid training programmes imposed by Modernising Medical Careers. Thirdly, the lack of clarity about revalidation after working overseas is an added deterrent. Lord Walton asked the panel at the launch of the BMA's report what the government was doing to make it easier for junior doctors to work overseas, but no one from the Department of Health was there to answer his question.

Health professionals from the UK have a long and honourable tradition of service to poor people in developing countries. It would be a pity if, as a result of the difficulties created by the Department of Health, the best advice the BMA can give to doctors who want to help the world's poor is to join the BMA and ensure that their surgeries are smoke free and carbon neutral.



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