

Securing Health Care Rights for Survivors: Developing an Evidence Base to Inform Policy

Analysis of current literature on landmine/explosive remnants of war casualties in Cambodia, Laos and Vietnam reveals flaws in recording systems. An integrated course of action should aid mine action and public health communities in preventing incidents and providing care to survivors.

by Jo Durham [University of Queensland]



The United Nation's *Convention on the Rights of Persons with Disabilities* (CRPD), adopted by the General Assembly in December 2006, aims to promote and protect the rights of people with disabilities (PWD). It recognizes that PWDs have the right to the highest attainable standard of health without discrimination, and should be able to access the same range, quality and standard of free or affordable health services as people without disabilities, as well as any specialized health resources they may require.¹ The protections of the CRPD, however, only apply in countries that have become states parties to this convention. The rights of landmine and cluster munition survivors are further protected by the *Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-personnel Mines and on Their Destruction* (Anti-personnel Mine Ban Convention or APMB) and the *Convention on Cluster Munitions* (CMC), again, only in states that sign and ratify these conventions.^{2,3}

In order to fulfill these international obligations, a consistent and comparative description of injuries, risk factors and comorbidities is required to inform the health decision-making and planning processes. This is especially important as a substantial number of nonfatal injuries result in permanent disabilities, which can put significant strains on existing health care systems.^{4,5} Valid estimates are also needed to calculate the cost-effectiveness of interventions.⁶

Using Cambodia, Laos and Vietnam as examples, the World Health Organization (WHO) significantly underestimates landmine and explosive remnants of war (ERW) injuries. It is important to note that only Laos is a state party to the CRPD and CMC. Cambodia is a state party to the

A survivor from Laos, 1998.
Photo courtesy of Sean Sutton/MAG.

Study	Country	Study Type	Sample method/size	Year of study	Outcomes
Andersson, Dasousa & Paredes, 1995	Cambodia	Population based	N=6,090	1994, 1995	<ul style="list-style-type: none"> • 432 civilian injuries • 51.3 per 1,000 males aged 15-44 • 61% in debt to cover health costs
Morikawa, Taylor & Persons, 1998	Laos	Population based	Each village head interviewed, N=276 villages	Not stated	<ul style="list-style-type: none"> • 870 civilian injuries • 70% male • 46% < 15 years of age
Bendinelli, 2009	Cambodia	Review of trauma database	All patients admitted within timeframe, N=356	2003-2006	<ul style="list-style-type: none"> • 6.4% < 16 years of age, mean age = 11.6 (+/-2.8), mostly due to UXO • 73.6% adults mean age = 32.5 (+/- 11.1), mostly due to landmines
Jackson, 1996	Cambodia	Clinic based	All blind patients admitted within time-frame, N=453	1994	<ul style="list-style-type: none"> • Bilateral blindness due to trauma, n=14
Husum et al., 2002	Cambodia	Clinic based	Consecutively injured survivors with severe injury, N=25	Not stated	<ul style="list-style-type: none"> • Male n=19, female n=6 • Mean age = 36 • Chronic pain in survivors n=12
Stover, Keller, Cobey, & Sopheap, 1994	Cambodia	Clinic based	All landmine patients hospitalized between Jan. 1990 and June 1993, N=842	1993	<ul style="list-style-type: none"> • 85% male • 7% female • 8% < 15 years • Mean age = 29

Table 1. Summary of findings in peer-reviewed literature.
Table courtesy of the author.

APMBC, but not the others. Vietnam is not a state party to any of these conventions; Cambodia and Vietnam have signed but not ratified the CRPD. Nevertheless, this underestimation of landmine/ERW injuries means that survivors are more likely to be excluded from health systems planning, and this has important ethical and social justice implications.

Estimates of Mine/ERW Injury-related Fatalities

The author systematically studied the peer-reviewed health literature examining landmines and ERW deaths and disabilities in Cambodia, Laos and Vietnam, finding only six relevant studies. One of the articles focused on Laos while the remaining five examined Cambodia's situation. Of the six studies, five were undertaken before 1996. Furthermore, four of the studies relied on hospital data and did not capture a large proportion of deaths.^{7,8,9,10} Table 1 summarizes the papers and main findings of each.

No studies were found that focused on Vietnam in peer-reviewed literature. However, WHO Global Burden of Disease (GBD) studies for Vietnam reported 30 deaths in 2004 and no deaths in 2008.^{11,12} Conversely, the *Landmine and Cluster Munition Monitor* reported 238 injuries in 2004, 89 of which were fatal—three times as many as WHO estimated. In 2008, the *Landmine and Cluster Munition Monitor* reported 90 incidents, including 36 deaths.¹³ A recent WHO/UNICEF national child injury (from infancy to 17 years of age) survey in Vietnam did not report any landmine/ERW injuries for

children or their parents.¹⁴ Yet in Quang Tri, a household survey undertaken by Project RENEW with the provincial Department of Health estimated that 1.2 percent of the population was injured by landmines or ERW between 1975 and 2010. The majority were male children, adolescents and working-age adults, between the ages of 15 and 45.¹⁵

In Laos, a recent retrospective national level survey reported 20,008 casualties between 1974 and the end of 2007.¹⁶ Shown in Table 1, this is a much higher estimate than reported in the Laos study.¹⁷ In its 2004 WHO GBD study for Laos, WHO reported 60 deaths.¹¹ In the same year the Lao National Regulatory Authority (NRA) recorded 294 incidents, which resulted in 117 deaths—almost twice the WHO estimate. In 2008, the Lao NRA reported 99 ERW deaths, while WHO reported no fatalities.¹¹ The WHO GBD 2004 study for Cambodia reported 127 deaths, whereas the Cambodia Mine Victims Information System (CMVIS) reported 171 deaths. More agreement was seen in the WHO and CMVIS findings in 2008. The data for each country was rated as Level 4, which means country-specific information on cause of death is unavailable. Therefore, the casualty estimates are based on mathematical models.¹¹ In other words, WHO does not use injury data from the mine action community in estimating landmine/ERW injuries and thus significantly underestimates the burden.

Most available data is based on dichotomous outcome measures, i.e., being alive or dead. Nonfatal injuries have a



Landmine/ERW survivors in Cambodia.
Photo courtesy of Sean Sutton/MAG.

wide scope of severity. These injuries can range from insignificant scratches to needing ambulatory medical care, hospitalization for major surgery or permanent disability.¹⁴ As a result, only measuring whether people die or are injured masks the true burden.

Ongoing Needs

Most landmine/ERW survivors are between the ages of 15 and 49 and live their remaining years with some level of disability.⁵ With an estimated life expectancy of 59 years in Cambodia, for example, a male injured at 15 may live for an additional 44 years with a disability. Where injury results in traumatic amputation and requires a prosthesis, the prosthesis will need changing several times.⁵ A 15-year-old male landmine survivor in Cambodia, who requires prosthesis, will need approximately 11 prostheses replacements in his lifetime. Furthermore, in malaria-endemic areas, post-injury malaria is a common complication to injury and surgery, resulting in an extended recovery.¹⁷

Survivors often suffer multiple injuries that may include ruptured eardrums, blindness, loss of function, loss of mobility and chronic pain. These are also risk factors for high levels of psychological distress. In turn, psychological distress is a risk factor for harmful health behaviors, such as hazardous drinking and increased smoking, which also may increase the future risk of diseases.¹⁸ This factor underscores the public health issue, revealing that the total breadth of landmine/ERW injury extends beyond fatalities. If the true burden of

landmine/ERW injuries is invisible to health systems, service providers will be poorly equipped to address survivors' needs in the immediate and the long-term, particularly in countries with high levels of infectious disease.

Out-of-pocket health expenditure associated with ERW injury and related comorbidities is high. When combined with loss of productivity, this financial stress can represent a catastrophic economic burden to a household, creating a downward spiral into poverty, malnutrition and disease.^{8,19} Permanent disability or losing a parent also has a significant impact on the future health of children and limits their educational and economic opportunities.⁵ Thus, injuries resulting in permanent disability also incur high social and economic costs, profoundly altering the lives of survivors and their families. Reducing injuries would contribute to policymakers achieving their economic objectives at the micro and macro level, as well as ensuring survivors' rights are met. If healthy individuals will more likely be productive individuals, it also follows that the children of healthy parents will more likely complete at least primary and/or secondary level education and become economically productive adults.^{5,20}

Continuing to underestimate the true burden from landmine/ERW injuries perpetuates the perception that landmines and ERW impairments are not a significant health-policy issue. If the injuries incurred from the explosives were distributed equally across all ages of the population, then this strategy may be appropriate. However, injuries are mainly concentrated in male adolescents and the working

population, many of whom also belong to low socioeconomic groups. Measuring injuries in age groups and communicating epidemiological facts to health policymakers is a necessary step to ensure the legal rights of survivors are met, as articulated in international conventions. This will also ensure that survivors are not discriminated against due to a paucity of accurate data.

What Is Needed?

To understand the true extent of landmine/ERW disabilities, injuries need to be systematically accounted for in the health care system. This requires mine action and public health communities to cooperate to meet the needs of survivors and reduce micro and macroeconomic impacts through the following:

- Surveillance of community-based injury data compatible with the Information Management System for Mine Action and health information systems.
- Clarification and standardization of the coding of multiple injuries and their severity.
- Collection of accurate incidence and prevalence data including mapping.
- Analysis of age-specific demographic details and risk factors as different groups have different exposure patterns.
- Measurement and attribution of noncommunicable diseases or other disabilities linked to landmine/ERW injuries.
- Measurement of the impact of multiple concurrent infections and chronic morbidities.
- Use of the standard disability-adjusted life years (DALY) to measure the impact of disease and disability. One DALY represents losing one year of full

health. Using DALYs, diseases/injuries that cause early death but little disability (e.g., drowning) can be compared to diseases/injuries that do not cause death but do cause disability.

- Research and evaluation of interventions with lessons learned translated into practice and tailored to local contexts and circumstances.
- Study of loss of work productivity and impact upon person/family/community.
- Analysis of the cost-effectiveness of reducing injuries.

Opportunities

More attention is focused on the issue of injuries in low-income and middle-income countries.⁵ Health planners recognize that without investing in injury and prevention programs, the impact of other major investments in low- and lower-middle income countries is likely to be lost. In post-conflict environments, the burden of landmine/ERW injuries should be included in the injury prevention agenda, especially as most nonfatal injuries result in permanent disability and affect particular segments of the population.

To conclude, an effective and coordinated public health response is required to prevent and manage landmine/ERW injuries and meet legal commitments under the CRPD, the APMBC and the CCM. To ensure that the legal rights of the affected populations are met, these injuries should not remain invisible in national burden of disease estimates and should not be excluded in health systems planning. ©

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