

Editorial

A call for revolution in first aid education

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Despite widespread global intent to train the public in evidence-based lifesaving competencies, remarkably few of the world's human population have received contextual education or skills training and even fewer are willing to help when sudden illness or injury occurs (Ashour et al, 2007; Van de Velde et al, 2009). Training organizations commonly express 'first aid' as scientifically supported, clinically grounded reaction to an emergency. In reality, first aid exists as a natural human behavior based on knowledge, skills, and psychosocial norms, all of which education directly influences. In recognition of this pivotal role of education to foster first aid behaviors, we as educators, medical professionals, researchers, and instructors, call colleagues and agencies to revolutionize first aid education. By including the social sciences, behavioural sciences, and in that, the educational sciences, we can democratize an educational system to meet not only the ill and injured needs but also those of the learner.

The quality of the current evidence based systems, used by the International Liaison

Committee on Resuscitation (Bhanji et al., 2015; Singletary et al., 2015; Singletary, Zideman et al., 2015) and the International Federation of Red Cross and Red Crescent Societies (IFRC, 2016), improved clinical based practices. However, within this evidence base, only low levels of research exist for generalizing recommendations to guide practitioners in the 'Educational Efficiency' and 'Local Implementation' facets of the Utstein formula (Søreide et al., 2013). In contradistinction to the clinical theory and practice of first aid, no collective agreement on educational outcomes or measurement tools exists, and hence no clear strategy for raising the quality or quantity of first aid education to moderate personal, community, or population emergencies.

As such, and faced with severe global inequities in health care services, health human resources, and emergency care systems, we need to promote the most efficient and effective ways to equip our local communities to address emergencies of acute illness or injury. On the emergency healthcare continuum, from first aid to ambulance services and emergency

department care to rehabilitation, first aid is by far the ubiquitous feature worldwide to improve outcomes. We submit that first aid is also the most under investigated, misunderstood, and underdeveloped feature of that system. With some notable exceptions and improving first aid guidelines, global efforts to enhance the quality, effectiveness, and evidence base for first aid education at the learner and population levels are absent (Pellegrino et al., 2016). Filling this void calls for revolutionary thinking and action of networked and focused collaborators.

In most jurisdictions and guidelines, first aid education remains centered on standardized training courses and curricula and the provision of certificates. This approach results in a hierarchy of untrained lay responders, basic first aid providers, advanced first aid providers, and first responders. First aid interventions then become a codified set of practices for a limited range of acute diseases and emergency care conditions as defensible by a level of certification. As a result, remarkable and effective interventions designed to involve populations in the lay public in the management of emergency care issues are excluded from the ‘first aid envelope’ — such as efforts to improve care among lay birth attendants (Andreatta, et al, 2011) or enhancements to the early identification and treatment of malaria in severely under-resourced settings or community mental health first aid programs for lay people (Gomes, et al, 1994).

We reject a monolithic and bureaucratic approach to first aid, and propose to radically reconfigure it with a phenomenological approach

to first aid education, proposing to place the learner and their experience at the center, and thereby empowering lay people to perform a role in every out of hospital healthcare emergency. We recognize roles vary dramatically based on the context, resources, the healthcare condition, and the training of the lay responder, which should challenge first aid educators to meet the learners’ needs. First aid education, compared to first aid alone, then may be described as a population practice of universal principles and skills, set within the context of an individual. The education responds to the wants and needs of the individual to enhance their resilience and ability to respond effectively to self or others suffering from acute illness or injury. Moreover, the repositioning of first aid education within public health serves as a preventive tool for building community and individual resilience.

We strongly affirm helping behaviors as being innate to human society and individuals, and that populations need empowerment to fully provide aid to those who are ill or injured. An explicit, dynamic and progressive link between medical science, local implementation and educational efficiencies requires new attention and activity.

This call for a revolutionary approach puts first aid education at the intersection of public health and medical response, interprofessionally.

As authors, consisting of an international group of professionals from fields of public health, emergency response, academia, and first aid education, we collaborated here to align:

- Definitions- to provide universal terms for

the benefit of educators, curriculum designers, and ultimately learners.

- Principles- from which first aid educations can relate clinical first aid with individuals and populations.
- Gaps- in the evidence base now, so future academic and fieldwork can fill them.

Together, the scope of first aid education once defined will lead to measurement tools for describing and implementing effective education.

Language and definitions

One of the most generative constraints to organizing first aid education is the use of language. Both the critical lexis and the applied terminology of first aid need to strike a balance, between international comprehension and cultural relevance, ensuring consistency of evidence collection and evaluation. This language needs to capture the multifaceted nature of first aid education, spanning the porous boundary between clinical medicine and public health. In context to lay responder first aid education, we propose a set of terms and definitions, below, to encourage discussion between clinical medicine and public/ population health through first aid education, based on common definitions:

Bystander - a witness to an acutely injured or ill person, needing care.

Lay responder - a person with no primary clinical/healthcare relationship with the ill or injured person but who provides care through first aid competencies.

First aid - First aid refers to the immediate helping behaviours and health care interventions

offered by lay responders when faced with a health emergency. European Resuscitation Council (Zideman et al., 2015) defined the goal of first aid as action to “preserve life, alleviate suffering, prevent further illness or injury and promote recovery”. Competencies include: scene safety; ability to identify life threatening signs and symptoms early; accessing resources; and providing care for physical and psychological concerns.

First aid education - all means intended to change individual or population practice of universal principles and contextual skills to enhance the prevention and improve responses to self or others suffering from acute illness or injury. Comprised of five domains: Plan & Prepare, Early Recognition, First Aid/ Access Help; Self-Recovery and Early Medical Care (International Federation of Red Cross Red Crescent Societies, 2016). Examples of education include: mass media campaigns, peer to peer, social media, online, print, instructor/ expert led, and any blend of these.

Outcomes of effective first aid education - observed changed behavior at the individual or population level. Specific outcomes based on content and pedagogy include: confidence; willingness to use first aid competencies (knowledge, skills, and behaviors); preparedness activities; and sharing learning with others. Additionally, the health and safety of individuals and populations may be clinically observed (e.g. reduction in burn severity, lower costs incurred by emergency hospital visits, or increase use of safety equipment).

Principles for a revolutionary approach

- Caring is a natural human response. First aid education should reinforce and deepen all people's abilities to care through knowledge, skills, and attitudes; and be accessible.
- Harm from injuries or acute illness remains a complex set of environmental, social, and physical factors, which requires a multifaceted and collaborative approach to reduce sequelae through first aid education.
- Identifying educational aspirations, needs, and modalities to best serve the health needs of individuals and populations comes from involving stakeholders from across diverse communities and disciplines.
- Educational and health outcomes definitions lead to opportunity for measuring outcomes and developing quality improvement processes.
- Changing circumstances, meaning the same people facing different risks (e.g., as they get older, or members of their family require care).

Most stark is the lack of any consensus or consistency for measuring educational effectiveness. As it stands, there is no metric with which to prove the value of first aid education. This not only removes the potential to improve, it also diminishes the value of the purpose of our work, and makes it difficult to advocate for the adoption of evidence based, albeit varied, first aid educational programmes within public and or population health preventative health care strategies and clinical training.

Today, many variations exist in lay responder first aid education models and standards employed globally, with goals that range from creating safer environments, to affecting patient outcomes, to increasing an individual's willingness to help. Some countries have compulsory first aid education within schools or driving test curricula that provides a route for population engagement and resilience building (IFRC Advocacy Report, 2015). Because of this variance, studies that look at educational outcomes are hard to interpret and to compare. It is on these grounds that we are calling for 'Educational Efficiency' and Local Implementation' factors to be revised into simple, common and consistent definitions to be operationalized, measured, and reported. These definitions could then lead back into accurate records of effective educational outcomes, and their impact on health. This system would

What are the gaps in the evidence?

The dynamism of society, risks, technology, and education means that there is an ever-evolving environment in which to deliver first aid education. Looking at the ILCOR guidelines and those produced by the IFRC guidelines (IFRC, 2016; Singletary, Zideman et al., 2015) a notable lack of science and data to support effective educational approaches exists:

- Different communities, facing different vulnerabilities, situations of conflict, regulatory requirements and with different levels of access to resources;
- Different modalities, which can enhance learning through targeted approaches according to personal preference, access to technology and time available;

constitute a quality improvement process in first aid education.

Questions to ignite

The status quo of first aid education is not an option when we think of our family and friends in need or when we think of those we serve professionally, or at the root of our human experience. Our opportunity to change the dialogue starts with asking each other and our peers, administrators, and perhaps most importantly those we serve provocative questions:

- *Should we define the scope of first aid, or should we leave it to educators to discover what medical emergencies the learner might face and develop a programme based on relevancy?*
- *Should we expand program development processes beyond injury reaction to a public health focus to include needs assessment at the individual, community and national levels and build flexible learner programs that are relevant to them?*
- *Should we encourage a greater focus on preparedness? Is there still a core knowledge and skill set, based on epidemiology and life threat that all learners need, along with individualized pieces (bleeding, choking, burning, blocked airway)?*
- *On what should we base the success of our educational programs? If learners are confident in their skills and knowledge will they inherently have a deeper understanding of the survival behaviours that we believe will lead to safer environments?*
- *Apart from testing for knowledge and skill acquisition, is measuring confidence of the learner pre- and post-learning an acceptable metric?*

- *If we believe that there is a link between effective/successful first aid education and preventing injuries, do our educational model needs to change. How is preparedness related to prevention? If we are more aware of potential hazards, are we more likely to avoid them?*
- *As the first person on the scene of an emergency, how do we ensure that learners feel adequately empowered to intervene, with the possibility not only of saving life, but also of reducing injury and sequelae?*

What next?

The questions we generated, above, stimulated the development of this journal to foster a community response and dialogue between researchers and practitioners. Together we can develop strong guidelines for effective education across different audiences and contexts, using different approaches and technologies, if we can leverage the disciplinary knowledge of education and medicine into first aid. These will need to take account of the dynamism of the education world, requiring strong evidence for which starts new questions. As potential authors and peers, we urge research and practice by academics and educators to engage with each other in this discussion to enrich the debate and to develop effective and efficient approaches to first aid. Creative solutions which grapple with the complexities of varying environments, populations and resources will be welcomed by this journal in an effort to shift our conventional thinking and develop a new evidence base to steer our collective efforts thorough first aid education to build resilience and health of self and population.

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