Subject : Reflexion about the WHO Discussion Paper « Developing voluntary global targets for road safety risk factors and service delivery mechanisms ».

I write this document as a non-state actor: Master in Nursing with fifteen years of Experience in Emergency, Trauma and Critical ill patients in Pre-hospital, Mass Gathering, Emergency Room and Intensive Care Units. I work actually in the Swiss Trauma Center - Valais Hospital.

My main interests are the emergency and trauma prevention and management, and the quality of care. In 2008-2009 i was World Health Organization mentee in the Mentor VIP Programme. I did the « Master in Emergency Planning and Management » planification, with scientific partnership with the Injury Research Centre – Medical College of Wisconsin, Chicago, USA. The academic program was presented at the « Universidade Catolica Portuguesa ».

It’s with a great pleasure and sense of responsability that i make some reflexions about the WHO Discussion Paper « Developing voluntary global targets for road safety risk factors and service delivery mechanisms ». These reflexions are based on several years of experience o take care of polytrauma patients in major trauma centers, and a master's thesis on "Trauma, Transitions and Nursing".

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1 http://www.who.int/violence_injury_prevention/capacitybuilding/mentor_vip/en/
2 http://www.ucp.pt/site/custom/template/ucptplportalhome.asp?spageID=1&lang=2
Background

Millions of non-fatal injuries result in life-long disabilities and physical, psychological, economic and social consequences for the direct victims and families.

Injuries and violence are predictable and largely preventable. The traditional view of trauma events as “accidents” conveys connotations of unpredictability and inevitability. Each trauma event must be understood as the result of a "chain of events", susceptible to rational analysis and prevention.3

However, we can still find in this WHO Discussion Paper the translation of « Road traffic injuries » on french as «Les traumatismes liés aux accidents» and in spanish as «Los traumatismos por accidentes», as well as the translation of "Road traffic crashes” as «Les accidents de la circulation» ou «Los accidentes de transito». We must delete the word « Accident » from all the documents related do Trauma Prevention and Control, in all the langues officials of United Nations, to enhance the safety culture.

DEFINING AND MONITORING TARGETS

I will suggest and analyze some targets to the road collision management in tree core aerea: Institutional capacity, emergency care, and road user behaviour.

Institutional capacity

1) Trauma as a Public Health Problem: The complexity of institutional arrangements in high-income countries can be viewed as a surrogate indicator of success and the commitment to sustained road safety investment 4. The Trauma must be managed as a Health Public Problem, and as such, leading by the main Health institution of each country. This institution must also actively engage and collaborate with all groups in society that can contribute to improved safety outcomes5, as global and regional partners, community local associations and NGOs,

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private sector, local research centers, and with the Trauma, emergency care and Intensive Care scientific associations.

Each trauma situation is experienced as a disaster for the victims and family. The strategy for trauma management must be systematic and cover the 4 phases of the «Disaster Management Cycle»: mitigation, preparedness, response and recovery, developing specific prevention and control activities adapted to each community, and in each phase in particular.

**Figure 1. Disaster Management Cycle**

2) **Nursing as Health Workforce in Trauma Management**: Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled and dying people. Advocacy, promotion of a safe environment, research, participation in shaping health policy and in patient and health systems management, and education are also key nursing roles. (International Council of Nurses, 2002)

Nursing can have a leadership role in the trauma prevention and management, because it’s present in all communities worldwide. This gives Nursing a strategic position to develop local and personalized measures to prevent trauma, and to optimize the quality of care. Each Trauma event becomes a health / disease transition with multiple and situational patterns that

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7 [http://www.amtrauma.org/](http://www.amtrauma.org/)
8 [http://www.israeltraumacoalition.org/?CategoryID=211](http://www.israeltraumacoalition.org/?CategoryID=211)
10 [http://trauma.org](http://trauma.org)
13 [http://www.sccm.org/Pages/default.aspx](http://www.sccm.org/Pages/default.aspx)
15 [http://enziq.com/dev-server/Admire](http://enziq.com/dev-server/Admire)
17 [http://www.icn.ch/members/members-list/](http://www.icn.ch/members/members-list/)
can be study in different time dimensions, as well as their personal, familiar, community and social impact.

With the development and implementation of Evidence Based Healthcare, nursing can develop specific knowledge, strategies and therapeutics to optimise the quality of care and to improve the mitigation, preparedness, response and recovery of all types of trauma.\(^{18}\)

We must educate and train this workforce during the Nursing courses, in their workplaces, in communities and Hospitals, to develop specific knowledge on Evidence Based Practice and Trauma Prevention and Management as close to the population as possible. The WHO projects like TEACH – VIP and MENTOR – VIP are determinants.\(^{19}\)

![Figure 3. Nursing workforce in road collisions management](image)

**Emergency care**

3) **Development of Evidence Based Healthcare**: We need to develop research that combines Individual clinical expertise, the best external evidence, and the patients values and expectations. With this specific knowledge we can develop specific strategies and therapeutics adapted for each community, and optimise the quality of care.\(^{20}\)

4) **Implementation of a WHO International Research networking system**: The creation of an International research networking system based in the major Trauma Centers of all WHO regions can contribute decisively to the development of most directed and effective prevention

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campaigns. This system can be constituted based on the systems approach «Haddon Matrix» \( ^{21} \), allowing to know not only “what did happen” but also “why did it happened”.

<table>
<thead>
<tr>
<th>PHASE</th>
<th>HUMAN</th>
<th>VEHICLES AND EQUIPMENT</th>
<th>ENVIRONMENT</th>
</tr>
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<tbody>
<tr>
<td>Pre-crash</td>
<td>Crash prevention</td>
<td>Information</td>
<td>Road design and road layout</td>
</tr>
<tr>
<td>Crash</td>
<td>Injury prevention during the crash</td>
<td>Use of restraint</td>
<td>Crash-protective roadside objects</td>
</tr>
</tbody>
</table>
| Post-crash | Lifesaving | First-aid and transfer to hospitals | \( \text{Haddon Matrix} \)  

Figure 3. Haddon Matrix

5) **Creation of “Trauma Manager” Positions at Major Trauma Centers**: the creation of a «Trauma Manager» positions at the Major Trauma Centers ensure leadership and optimal care of the injured patient in all Trauma System. This key-elements have specific Education and Training about essential components of a trauma system, and best practice recommendations for trauma outreach and education, and dynamic trauma registry\(^{22} \). As such, they are strategic to develop strategic collaborative partnerships with the NGO’s and health worforces of each community with responsability in Trauma prevention and control, from prehospital through rehabilitation.

6) **Creation and development of “Trauma Management Associations”**: The “Trauma Management Associations” can have a key role to the development of Evidence Based Healthcare, Trauma Prevention, and Trauma’s Teams performance improvement, through leadership, education, advocacy and interdisciplinary collaboration.\(^{23} \) The «Israel Trauma Coalition\(^{24} \)», and «Trauma Managers Association of California\(^{25} \)» are very good exemples.

Road user behaviour

7) **Development of university research about risk perception and human behaviour**: Once human error is a factor in some 90% of road crashes, the leading response should be to understand road users behaviour\(^{26} \). There are already some Masters and post degrees that

\(^{22}\) http://www.amtrauma.org/?page=TPMCourse
\(^{24}\) http://www.israeltraumacoalition.org/?CategoryID=213&ArticleID=146
\(^{25}\) https://www.traumamanagersca.org
studies the Trauma phenomenon\textsuperscript{27,28,29}, but they are mainly focused in the «\textit{Response}» phase of the «disaster cycle». We must continue to develop the Trauma Prevention and management studies, at all University levels (Post degree, Master and Doctoral Degrees), aimed at the complexity of risk perception and human behavior, and containing all the phases «\textit{Disaster Cycle}». This knowledge is crucial for the development of precise guidelines adapted to each community.

8) \textbf{Social enforcement campaigns}: In order to raise awareness for prevention and increase the safety culture «\textit{There are no accidents}», the WHO must continue to be actively present in the media, NGO’s and Social Media (Facebook, youtube, Twitter and Instagram):

\begin{itemize}
  \item a. Weekly short videos;
  \item b. Weekly Factsheets;
  \item c. Regular campaigns in communities, in liaison with NGOs and health workforces.
\end{itemize}

\section*{CONCLUSION}

In my personal reflection about the WHO Discussion Paper «\textit{Developing voluntary global targets for road safety risk factors and service delivery mechanisms}», \textit{i presented targets} in three core areas.

To optimize the institutional capacity of each country, Trauma must be managed as a \textit{Health Public Problem} leading by the main Health institution of each country, that must actively engage and collaborate with all groups in society. The systematic approach “Disaster cycle” can be implemented to prevent and manage each trauma situation. Nursing is an strategic health workforce that can develop personalized and evidence based measures to prevent trauma, and to optimize the quality of care.

To develop and improve emergency care we need to disseminate “Evidence Based Healthcare”. It was suggested to create a «\textit{WHO International Research networking system}», based in the systems approach «\textit{Haddon Matrix}», to implement in the major Trauma Centers. To ensure leadership and optimal care of the injured patient in all Trauma System, we must encourage the creation of “\textit{Trauma Manager}” Positions in Trauma centers. The creation and development of “\textit{Trauma Management Associations}” should also be encouraged, to develop Evidence Based Healthcare, Trauma Prevention, and Trauma’s Teams performance improvement.

\textsuperscript{27} http://www.kcl.ac.uk/ioppn/depts/pm/research/traumastudies/index.aspx
\textsuperscript{28} https://gradschool.edu.au/programs/overview/master-traumatology-12392
\textsuperscript{29} http://www.trauma.org/index.php/main/article/1402/
To understand and manage the road user behaviour, we must continue to develop the Trauma Prevention and management studies, at all University levels aimed at the complexity of risk perception and human behavior. Social enforcement campaigns continue to be a major strategy to raise awareness for prevention and increase the safety culture.

I am extremely pleased to have been able to contribute to the reflection on road collisions and trauma management.

I will remain at disposal of WHO for all that is necessary. Because «there are no accidents».

26 November 2016

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