

# Development of a nationwide trauma registry. A lesson learned the hard way.

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## Introduction

To optimally utilize the medical resources of the Swiss health system all 26 regional health ministers decided in the year 2009 to evolve a concept of concentrating highly specialized medicine, HSM, in Switzerland. This comprises especially rare medical conditions, medical fields with high innovation potential and considerably higher expenditure on technology and human resources. These were concentrated to only a few specialized centers, covering Switzerland supra-regional [1, 2].

## Material and methods

The final government decision was presented by the IVHSM in 2011 [Figure1]. It implied 12 trauma-centers within Switzerland [Figure2] being allowed to treat adult ( $\geq 16$  years) polytraumatized patients and patients with severe traumatic brain injuries. Including patients with an ISS  $\geq 20$  or AIS-Head  $\geq 3$  [1, 2], [Figure3]. A descriptive, retrospective analysis of 24.576 patients of the TraumaRegister DGU® (TR-DGU) 2009-2012 was performed before the first results of the own Swiss registry were available in order to estimate potential demands for the national registry.

## Results

Despite a lot of equalities (mean age, distribution of gender, mean ISS 24.8 respective 24.0) we saw differences in the trauma mechanism with more falls from great height in Switzerland (32.3% vs. 16.9%), whereas more traffic accidents happened in Germany (37.4% vs. 54.2%). Preclinical interventions were less performed in Switzerland (1.97 vs. 2.25). This might be due to different rescue systems. Status at admission showed equal physiological parameters, while the rate of severe traumatic brain injuries was higher in the Swiss cohort (62.7% vs. 49.5%). The standardized mortality ratio was comparable (CH 0.88 vs. D 0.82).

## Conclusion and outlook

These results have to be seen as a trend, as at the time of evaluation only 3 Swiss trauma-centers took part in the TR-DGU.

The first results 6 years after the first meeting of the Swiss Trauma Board confirm more or less these findings. In 2016 2.159 patients of the Swiss Trauma Registry fulfill the HSM-criteria, whereas still 24.6% were transferred from a non HSM-trauma-center. A blunt trauma mechanism was present in 96.3% and 42.5% of the patients suffered from a fall < 3 m, 13.2% from a fall > 3 m and 9% from a traffic accident with a bicycle. The mean ISS was 22.5 [3].

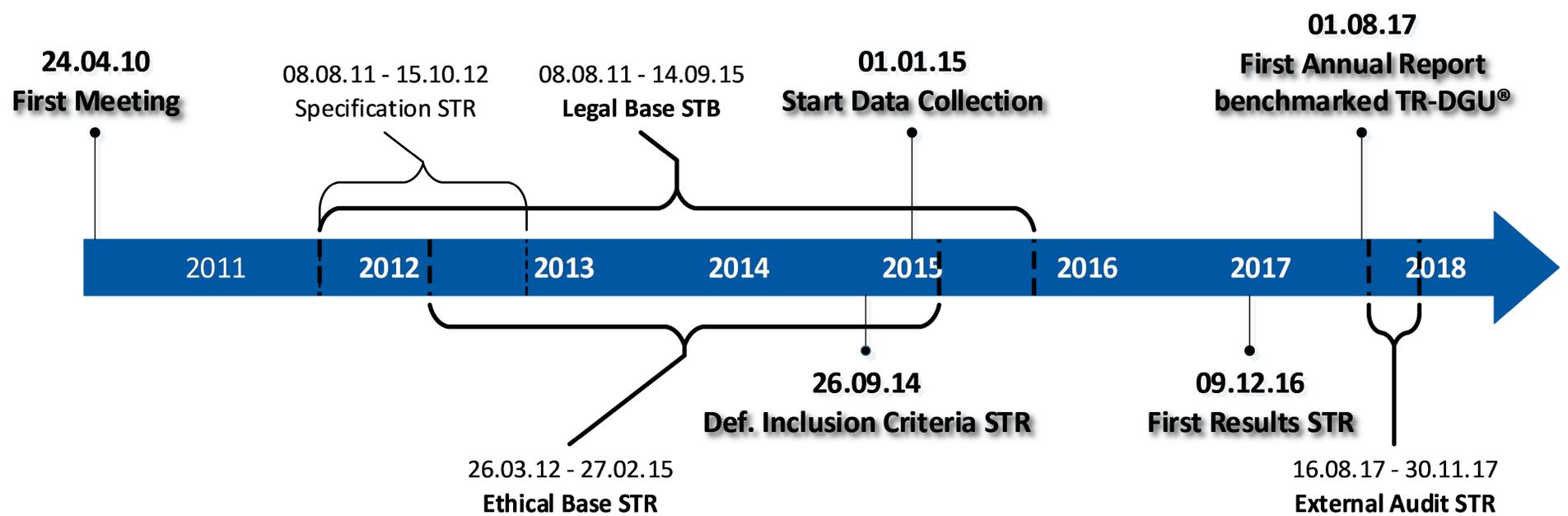


Figure 1: Timeline of development of the Swiss Trauma Registry (STR) by the Swiss Trauma Board (STB)

Aarau  
Basel  
Berne  
Chur  
Geneva  
Lausanne  
Lugano  
Lucerne  
Sion  
St. Gall  
Winterthur  
Zurich

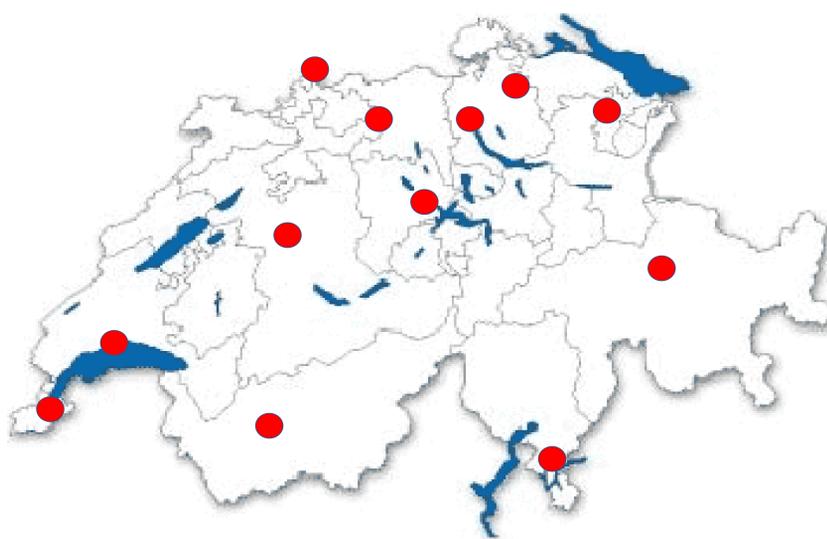


Figure 2: The 12 adult HSM-trauma-centers of Switzerland



Figure 3: Logo of the Swiss Trauma Board and the Swiss Trauma Registry

## References

1. Bless N., Jacob M. Traumazentren in der Schweiz. Swiss Knife 2012; 4:10-11.
2. Swiss Trauma Board. Präklinische Triagekriterien zur Zuweisung von schwerverletzten Erwachsenen an ein HSM-Traumazentrum. Swiss Knife 2017; 1:6-8.
3. Swiss Trauma Board. Schweizer Trauma Register. Onlinebericht 2016.