

## Emergency Admissions to a Level One Swiss Trauma Center During the 2014 Football World Cup Tournament. Do the Matches Matter?

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### Introduction

Every four years, a world football competition is organised. Very large numbers of viewers and supporters attend these events with a mixture of joy and tension and the hope that their favourite team might be victorious. However, it is unclear whether the timing of international sporting events such as the Football World Cup (WC) Tournament has an effect on the number of people presenting to emergency departments seeking medical attention [1-3].

In light of the mixed findings from French and English research groups that have previously investigated this relationship, we posed the question: does the football WC tournament schedule impact on the number of people presenting to a Swiss level one emergency department?

We compared a year in which a football WC tournament took place (2014 in Brazil) with a year without an international football competition (2013). We exported patients' anonymised health-related records from our database into an anonymised excel table and selected the data from days on which football matches took place. We analysed data from patients that presented to the Emergency department during and within one hour either side of the match taking place. All matches took place between 13:00 and 22:00 local time, corresponding to hours between 18:00 to 3:00 in Switzerland.

### Results

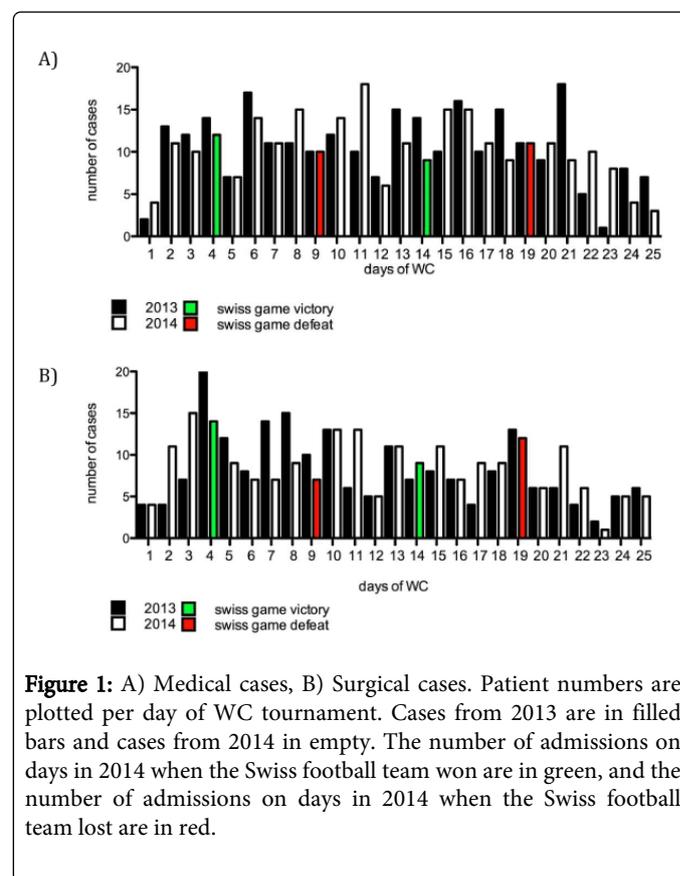
Overall, 990 relevant cases were identified. We divided cases into those seen in normal Emergency department cubicles to those treated in Resus. We further divided the cases in each category into medical and surgical cases (Table 1).

Location within department	ED	Medical or Surgical	2013	2014
Normal cubicles	Medical		265	258
	Surgical		205	216
Resus	Medical		7	4
	Surgical		18	17
		Total	495	495

**Table 1:** Patients admitted to Bern university Hospital Emergency department during the WC series in 2013 and 2014.

In 2014, a total of 495 patients were admitted while the Swiss teams were playing. Exactly the same numbers of patients were admitted during the same period the year before. The mean age of the patients

in 2013 was 43 years old (range 16 to 91 years) and in 2014 45 years old (range 2 to 93 years). We found that in 2013, 277 of the patients were male, and 274 were male in 2014.



**Figure 1:** A) Medical cases, B) Surgical cases. Patient numbers are plotted per day of WC tournament. Cases from 2013 are in filled bars and cases from 2014 in empty. The number of admissions on days in 2014 when the Swiss football team won are in green, and the number of admissions on days in 2014 when the Swiss football team lost are in red.

Figure 1 shows the admissions to the ED for each day during the WC and the corresponding time in 2013. The trend is similar between the two years.

### Medical patients

For medical patients, there were five days on which admissions in 2014 were between 1.5 and eight times higher than 2013. However, there were also four days in 2013 during which the number of admissions were 1.6-2 times higher than the number on that day in 2014.

## Surgical patients

A similar result was found for the surgical patients. On five days, the number of surgical admissions was 1.8-2.7 times higher in 2014 than in 2013. However on 2 days in 2013, 1.6-2 fold more patients were admitted to the ED in comparison to 2014.

## Resus patients

Unfortunately, there were too few Resus patients to compare the 2 years.

## Effect of Swiss football team performance

There was no significant correlation between the outcomes of matches in which the Swiss football team played and the number of ED admissions.

## Discussion

In this study, we found that there is no relationship between patient admissions to a Swiss Emergency department and the timings of important football matches. These findings are consistent with those from other research groups in England and Ireland [3-5].

In contrast to our findings, the English report by Quigg et al. [2] showed a significant increase in Emergency department admissions during home team football matches. This study also demonstrated an increase in Emergency department admissions at weekends in comparison to weekdays. However, in France Savry et al. [1] reported an overall decrease in emergency calls during the football WC tournament, a non significant difference when only home team games were analysed.

With regards to other sports, Moody et al. [4] investigated the impact of the Rugby World Cup Final (2003) on emergency

department attendance at two locations, the West Midlands in the UK and New South Wales in Australia. The authors found that in the hours preceding the final, emergency departments in New South Wales experienced a reduction in the number of attendances. In contrast, following the final, emergency departments in the West Midlands observed an increase in attendances.

## Conclusion

From this study, we can conclude that an international sporting event such as the football World Cup Tournament does not significantly affect attendance to our Swiss emergency department.

## References

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