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Infographics:

**Infographics: Useful steps in the prevention of illnesses during international athletics championships**

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**Ethics approval:** The injury and illness surveillance project (e.g. data collection) was

reviewed and approved by the Oslo University School of Medicine Ethical Committee (for athletics championships from 2009 to 2011) and by the Saint-Etienne University Hospital Ethical Committee (for athletics championships from 2012 to 2017), and the analysis of illnesses using all data by the Saint-Etienne University Hospital Ethical Committee.

**Additional data:** No supplementary file

**Author note:** The infographics are based on the following article: Edouard P, Junge A, Sorg M, Timpka T, Branco P. Illnesses during 11 international athletics championships between 2009 and 2017: incidence, characteristics and sex- and discipline-specific differences. *Br J Sports Med*. Br J Sports Med. 2019 Mar 12. pii: bjsports-2018-100131. doi: 10.1136/bjsports-2018-100131. [Epub ahead of print]

ACCEPTED

## **MORE DATA ON ILLNESSES DURING ATHLETICS CHAMPIONSHIPS ARE NEEDED**

Illnesses can impair sports participation and performance in athletics training or competition (including major championships).<sup>[1]</sup> Travel, jet lag, changes in climatic / environmental conditions, and changes in food habits, in addition to the competition per se, could predispose athletes to illness in major championships context.<sup>[2-4]</sup>

During international athletics championships, an incidence of illnesses between 20 and 68 per 1000 registered athletes have been reported.<sup>[2,3,5,6]</sup> However, extended and deeper epidemiological analyses are needed to develop effective illness prevention strategies. Therefore, this study aimed to describe the occurrence and characteristics of illnesses at international athletics championships with regards sex (male and female athletes), disciplines (explosive and endurance) and championships type (indoor and outdoor).

## **MAIN FINDINGS**

In major athletics championships between 2009 and 2017, the illness incidences did not differ between sex, and moderately differed with championships type (higher during outdoor than indoor championships) and discipline (higher in endurance than explosive disciplines) (Figure/Infographic 1).

Infection was the most common cause of illness, with upper respiratory tract and gastrointestinal infections being most frequent; illness characteristics differed between endurance and explosive disciplines (Figure/Infographic 1).

## **PROPOSED MEASURES TOWARDS ILLNESS PREVENTION**

Based on these findings, we suggest that illness prevention strategies during athletics championships should focus on infectious disease control, and take into account

championship type (indoor or outdoor) and discipline category (endurance or explosive). Prevention measures for explosive disciplines should focus on upper respiratory tract infections and pre-existing pathologies, and for endurance disciplines on exercise-induced dehydration/fatigue/hypotension/collapse by taking into account among others environmental factors such as weather conditions.

We have built on previously published recommendations in our efforts in preventing illnesses during championships suggesting (Figure/Infographic 2):<sup>[1,2,7,8]</sup>

- educating athletes and their entourage on illness prevention measures,
- maintaining hydration and paying attention to water quality,
- eating only 'safe' food,
- regular hand washing/ use of alcohol gel,
- paying attention to the sleep quality and quantity,
- decreasing contact with people outside the team,
- being aware of changes in temperature and climatic conditions (including differences between outside and inside),
- screening tests for airway problems.

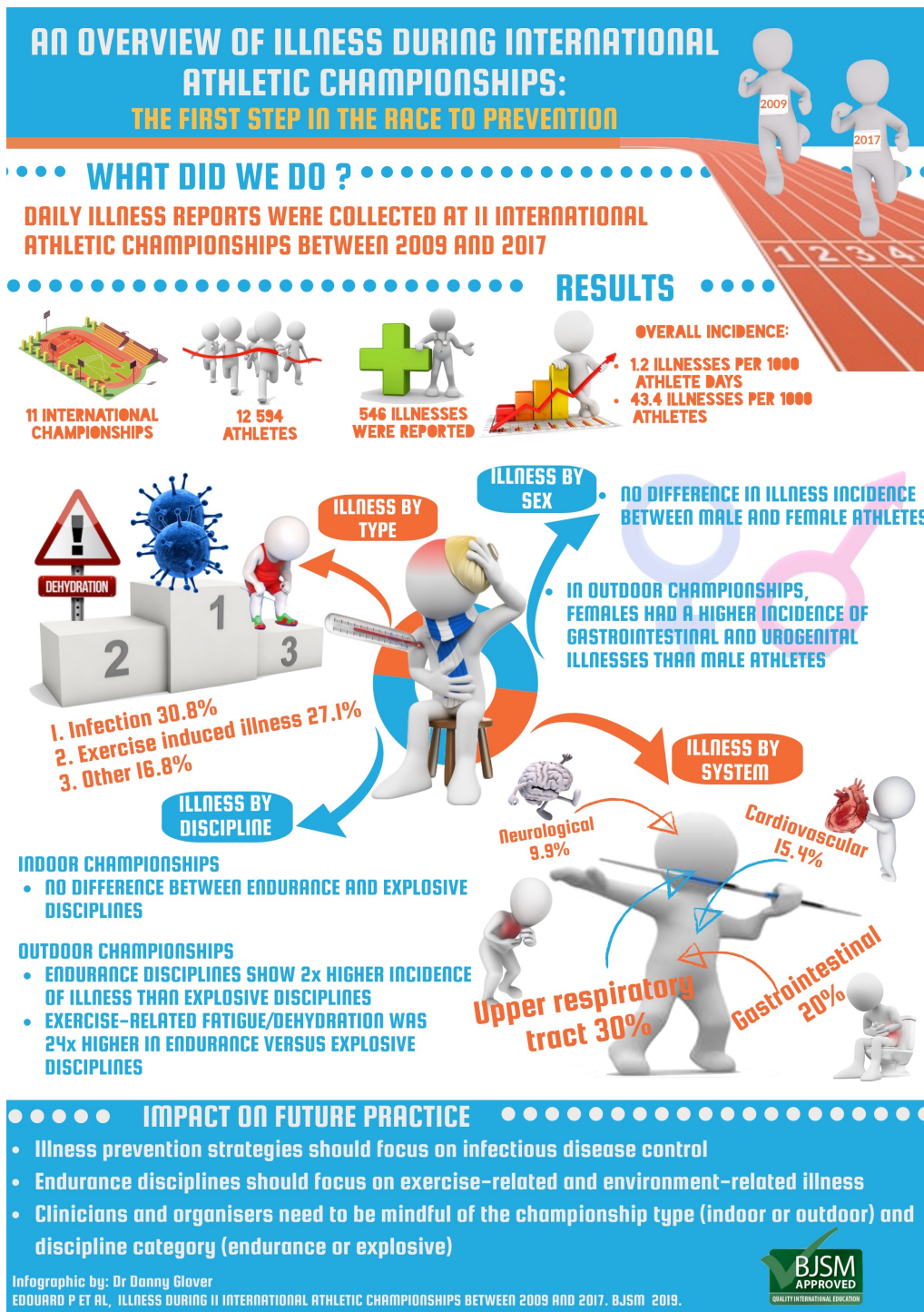
Prevention of illnesses is a win-win performance-health protection strategy for which all stakeholders around the athletes should participate and play a role!

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**Figure 1** Infographic: Illnesses during international athletics championships between 2009 and 2017.





**Figure 2** Infographic: Proposals of measures to prevent illness during international athletics championships.

