

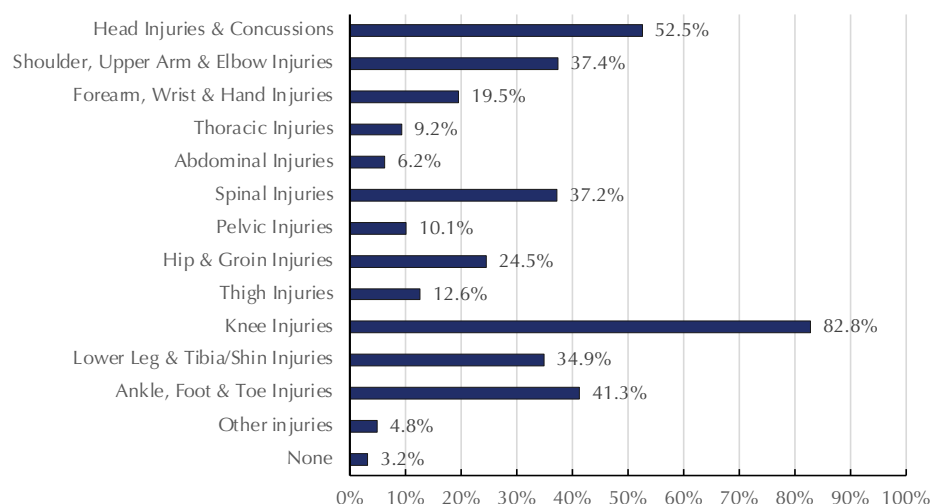
FIS Survey on Injury and Illness Prevention Practices, Needs and Responsibilities

Overall Findings

1. Current Prevention Targets and Practices

Injury Prevention Practices

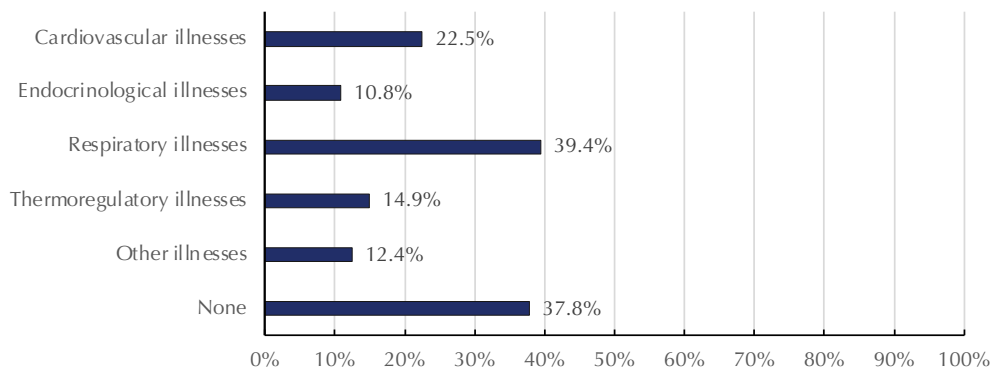
Stakeholders across snow sports disciplines share a clear focus when it comes to injury prevention. The most frequently reported targets were **knee injuries (82.8%)**, **head injuries and concussions (52.5%)**, and **ankle, foot, and toe injuries (41.3%)**. Knee and head injuries remained consistently high priorities across all subgroups surveyed.



Notably, **spinal injuries** emerged as a specific focus in freestyle skiing (43.1%) and snowboarding (39.8%), reflecting the unique demands of these acrobatic disciplines. Lacerations were also mentioned as an additional prevention target.

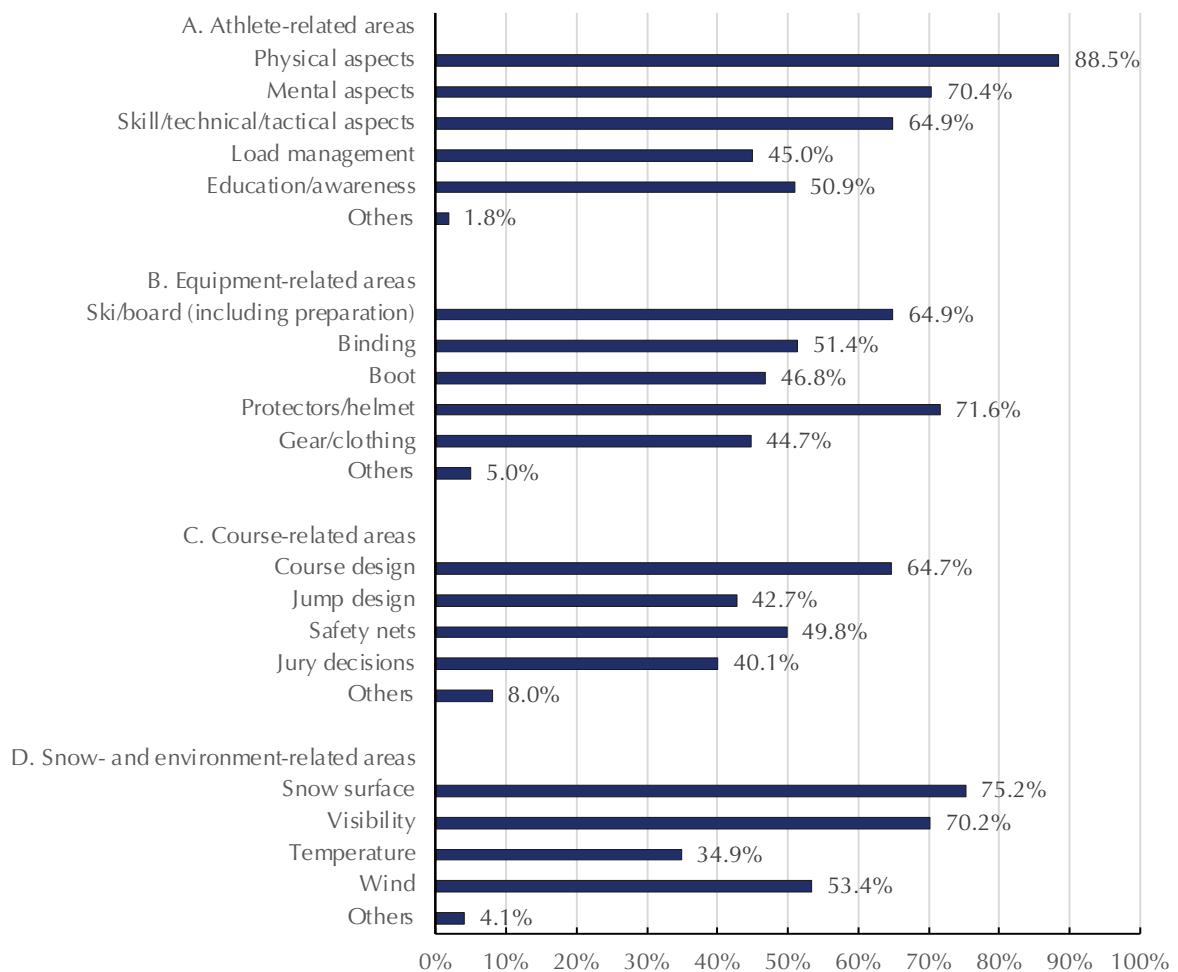
Illness Prevention Practices

Illness prevention efforts primarily target **respiratory illnesses (39.4%)** and **cardiovascular illnesses (22.5%)**. However, a notable finding is that **37.8% of respondents reported targeting no specific illness**, suggesting an opportunity to strengthen illness prevention awareness and practices. Gastrointestinal illnesses and mental health were mentioned as additional targets.



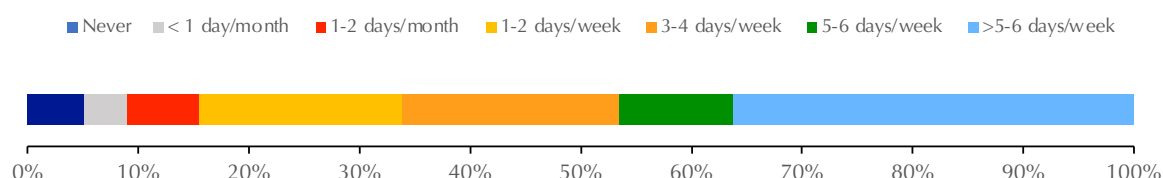
Main Prevention Areas Targeted

The most common prevention areas targeted were **physical aspects (88.5%)**, **snow surface (75.2%)**, **protectors and helmets (71.6%)**, **mental aspects (70.4%)**, and **visibility (70.2%)**. Physical aspects ranked highest across most subgroups, underscoring the central role of conditioning and physical preparation in prevention strategies.



Beliefs and Frequency for Prevention

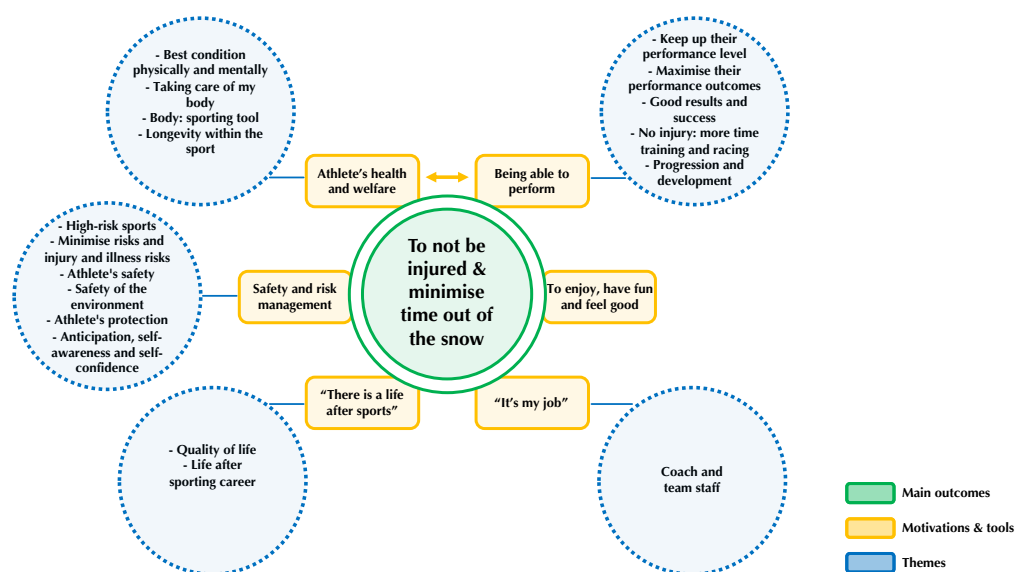
The vast majority of stakeholders (87.5%) agreed on the importance of injury and illness prevention. Furthermore, **46.4% of respondents reported using prevention strategies at least 5–6 days per week**, demonstrating that prevention is firmly embedded in the daily routines of many snow sports practitioners.



Motivations for Prevention

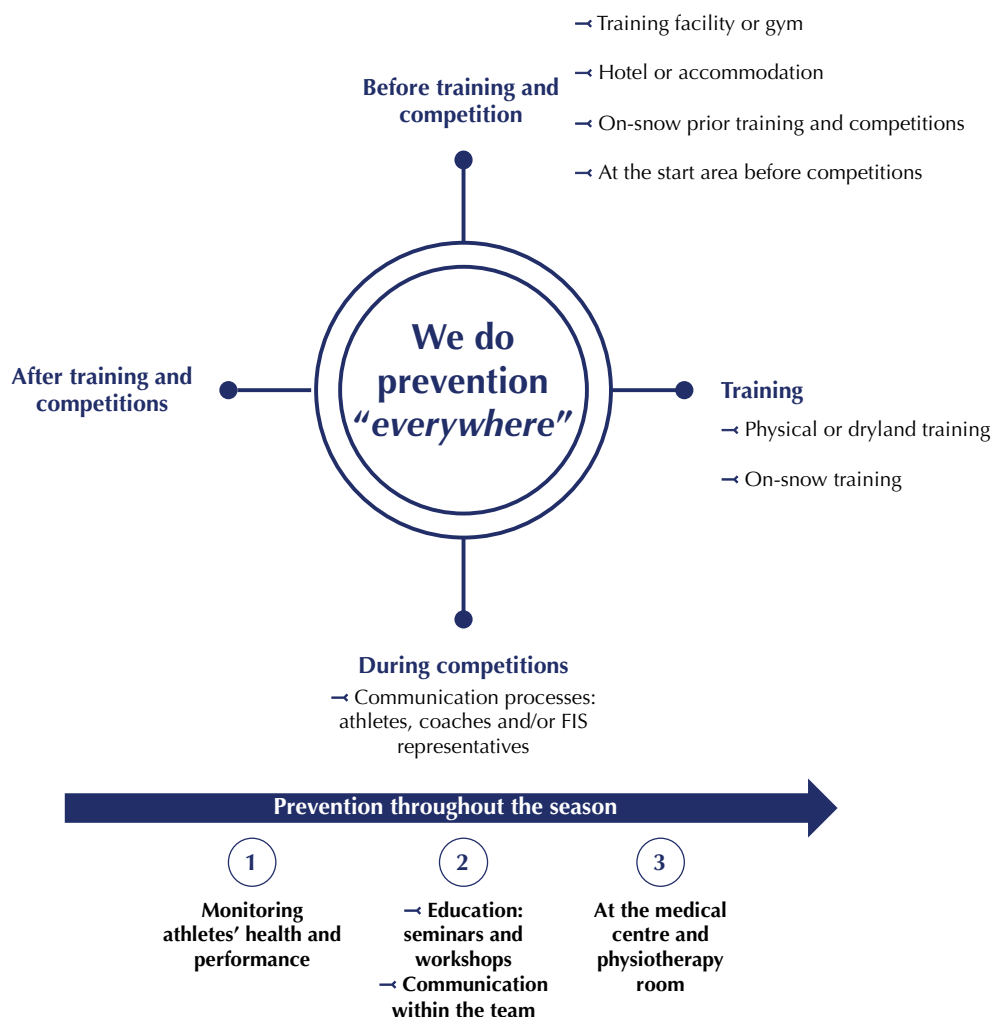
The major motivations driving prevention efforts were:

1. **Athletes' health and welfare** – the foundational priority across all stakeholder groups.
2. **Performance optimisation** – emphasising the direct link between staying healthy and competing at the highest level.
3. **Enjoyment and wellbeing** – avoiding injuries to sustain the joy of participating in the sport.
4. **Safety and risk management** – a proactive approach to minimising hazards.
5. **Professional duty** – coaches and team staff recognising their responsibility to protect athletes.



Location and Timing

Prevention measures are performed "everywhere at any time" in athletes' daily lives: before, during, and after training and competition. Additional prevention activities include health and performance monitoring, as well as education and communication processes throughout the season.

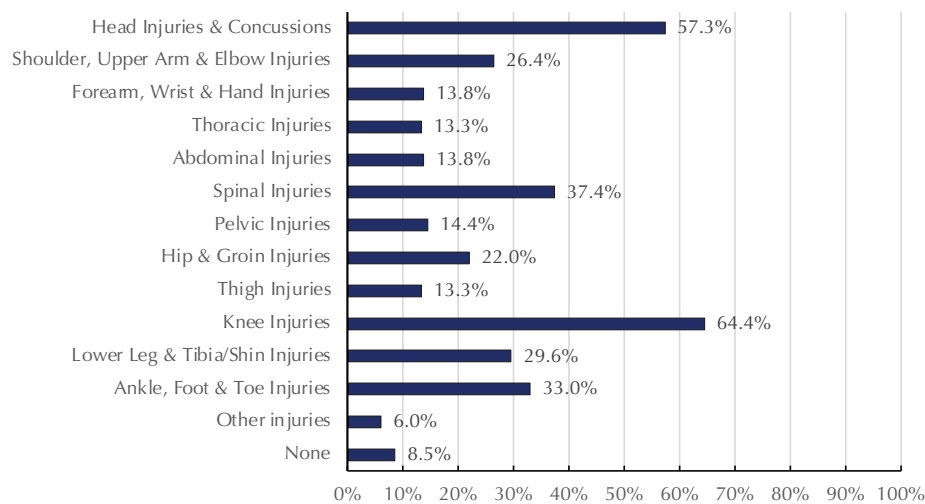


2. Needs for Additional Information and Knowledge

Three-quarters of respondents (76.5%) reported needing more information or knowledge to strengthen their prevention strategies. Only 25.4% felt they had very complete or sufficient information. This represents a clear call to action for governing bodies and researchers alike.

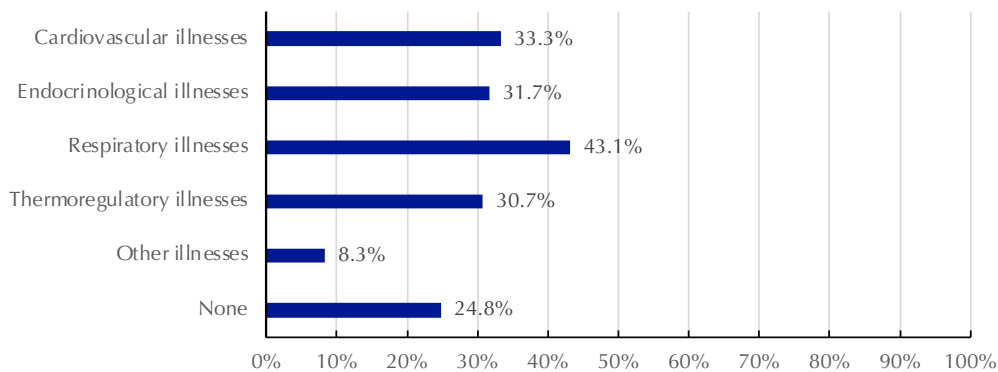
Injury Prevention Knowledge Priorities

The top three priorities for needing more knowledge were: **knee injuries (64.4%)**, **head injuries and concussions (57.3%)**, and **spinal injuries (37.4%)**.



Illness Prevention Knowledge Priorities

The top four priorities were: **respiratory (43.1%)**, **cardiovascular (33.3%)**, **endocrinological (31.7%)**, and **thermoregulatory illnesses (30.7%)**.

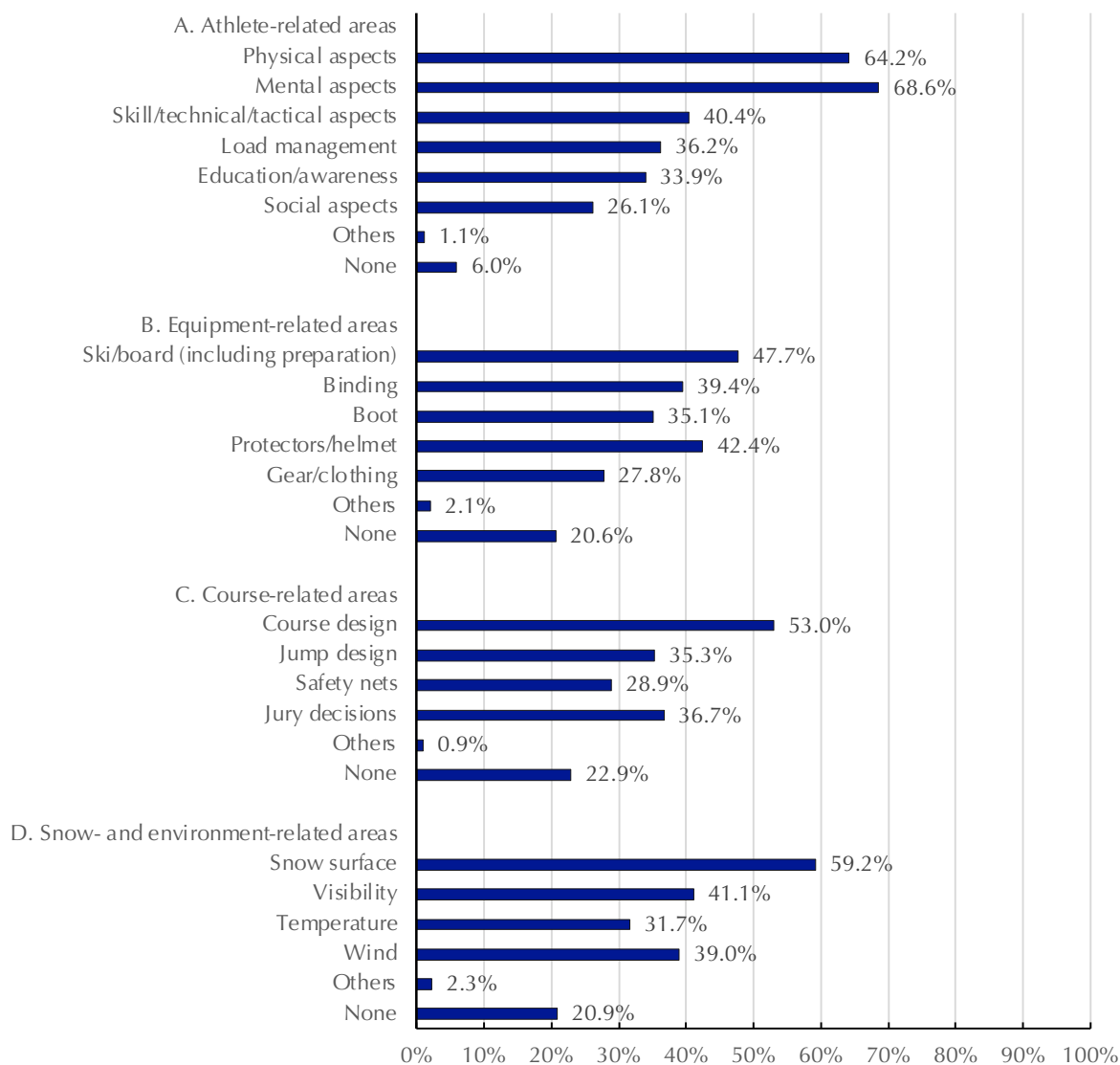


Moreover, respondents identified a need for additional knowledge in the following areas:

1. **Mental health and performance** – considered the highest priority for further knowledge across all prevention areas.
2. **Health and performance of female athletes** – an underserved area requiring targeted attention.
3. **Gradual onset-related low back pain** – a common issue often overlooked in favour of acute injuries.
4. **Busy race schedules and recovery** – managing the balance between competition demands and adequate rest.
5. **Safety equipment and venue setup** – including airbag technology, mouthguards, and course design.

Main Prioritised Prevention Areas

The most prioritised knowledge areas were **mental aspects (68.6%)**, **physical aspects (64.2%)**, **snow surface (59.2%)**, **course design (53.0%)**, and **ski/board aspects (47.7%)**.



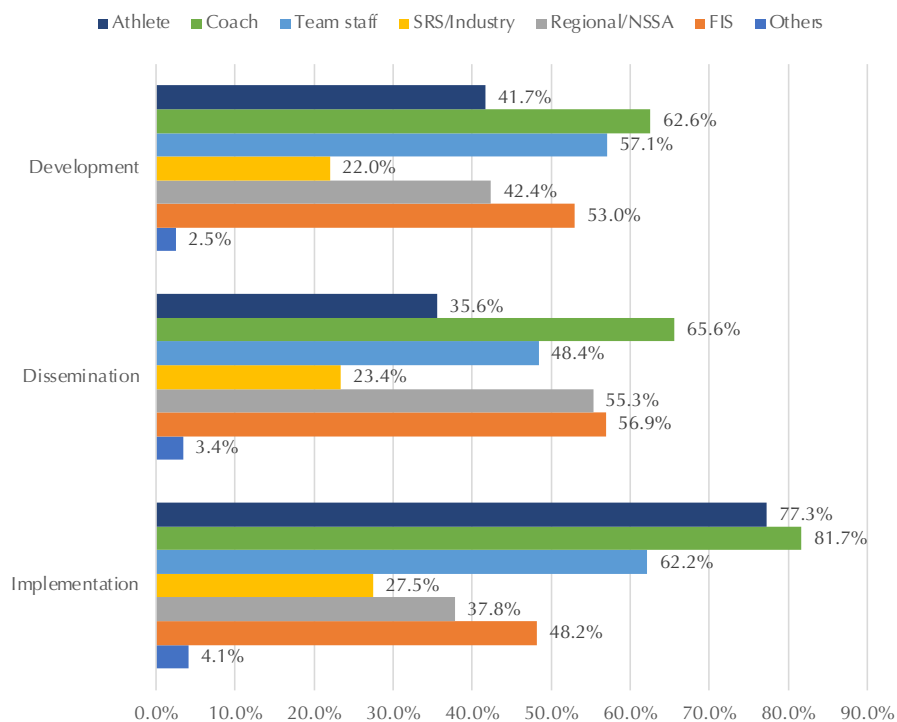
Regarding specific intervention needs, stakeholders ranked their priorities for optimisation as follows:

1. **Return-to-Sport (RTS) process (31.7%)** – ensuring athletes return safely and at the right time.
2. **Training methods (26.0%)** – refining how athletes prepare physically and technically.
3. **Injury and illness registration methods (21.8%)** – improving data collection and tracking.
4. **Testing practices (19.8%)** – enhancing screening and assessment protocols.
5. **Warm-up, activation, and cool-down practices (18.7%)** – optimising routines around training and competition.

3. Stakeholder Responsibilities

The findings underscore the importance of shared responsibilities across multiple levels: individual athletes and coaches, the broader performance environment, and organisational and policy frameworks.

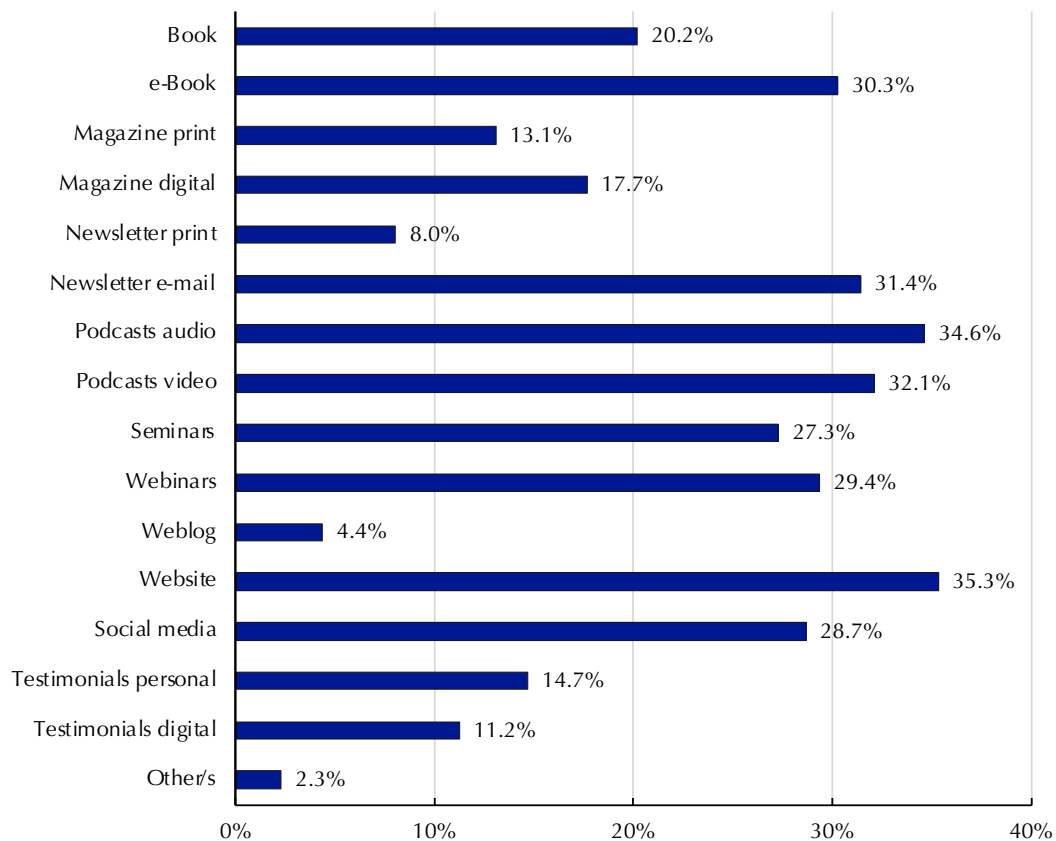
- (1) **Development:** Coaches (62.6%), team staff (57.1%), and FIS (53.0%) were identified as the main roles accountable for *developing* prevention strategies.
- (2) **Dissemination:** Coaches (65.6%), FIS (56.9%), and regional or National Ski and Snowboard Associations (NSSAs; 55.3%) were seen as the main accountable roles for *disseminating* preventive measures.
- (3) **Implementation:** Coaches (81.7%), athletes (77.3%), and team staff (62.2%) were identified as central to *implementing* prevention measures on the ground.



An important additional finding: **parents should play a role in all stages of prevention for young athletes**, highlighting the need to engage families as part of the prevention ecosystem.

4. Knowledge Dissemination Preferences

The most reported preferences for receiving prevention knowledge were: the **FIS website (35.3%)**, **audio podcasts (34.6%)**, **video podcasts (32.1%)**, and **newsletter e-mail (31.4%)**.



Social media (28.7%) was also identified as a preferred channel, with Instagram being the most frequently mentioned platform (65%).

Preferences varied by stakeholder group. For example, **coaches highly favoured webinars (44.8%) and seminars (40.5%)**, while **athletes preferred the website (38.7%) and social media (39.8%)**. These differences reinforce the need for a multi-channel dissemination strategy.

Key Practical Implications

◇ *Tailored Prevention*

Governing bodies (FIS and National Ski and Snowboard Associations) should develop **context-specific prevention approaches** tailored to the unique demands and injury patterns of each snow sport discipline and competition level. For instance, the prominence of spinal injuries in freestyle skiing and snowboarding calls for discipline-specific interventions that address the risks inherent to acrobatic movements and aerial manoeuvres.

◇ *Prioritising Needs*

Mental health and illness prevention must be prioritised, with strategies addressing the psychological burden of injury, performance-related stress, and the challenges posed by cold environments and altitude. The survey findings point to a significant gap in targeted knowledge for **female athlete health** and **gradual onset injuries** such as low back pain, areas that warrant dedicated research and practical guidance.

◇ *Data Standardisation*

Practitioners expressed a need for **more data and benchmark values** for testing and screening practices. Standardising data collection across disciplines and countries will enable meaningful comparisons, support evidence-based decision-making, and ultimately strengthen prevention efforts throughout the snow sports community.

◇ *Knowledge Dissemination*

Knowledge dissemination should occur via **accessible, preferred platforms**, including the FIS website, social media (especially Instagram), video podcasts, and e-mail newsletters. Given the distinct preferences of different stakeholder groups, a **multi-channel approach** is essential. Collaborative workshops are recommended to align scientific findings with the practical needs of end-users, ensuring that research translates into real-world impact.

◇ *Shared Responsibility*

Prevention must remain a **collective effort**. Coaches and athletes are central to day-to-day implementation, while FIS and NSSAs should focus on structural and policy-level interventions that create a supportive environment for health and safety. Engaging parents in the prevention process for young athletes is equally important. By working together across all levels, from the individual to the organisational, we can build a safer, healthier future for snow sports.