Classification Research Partner

Using the Scientific Method to improve the validity of current Paralympic Classification systems (Part 1 of 2)

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Background

- The vision of the IPC:

  "To enable para-athletes to achieve sporting excellence and inspire and excite the world".

- Classification is the means by which the movement can achieve this vision. Valid classification systems ensure truly excellent athletes succeed, regardless of impairment severity. Invalid or unreliable systems hinder the recognition of excellence athletes may succeed due to systematic bias in the system, or random error resulting from poor reliability.
- Scientific research is a critical means of improving the validity of classification systems, and the IPC has a policy commitment to development of classification systems based on the best scientific research.

Background

- In support of this policy commitment, the IPC are developing an audio-visual resource.
- Working title: "Using the scientific method to enhance Paralympic Classification"
- Aim: to facilitate improvement of Paralympic classification through science by fostering meaningful functional collaborations among key stakeholders – International Sports Federations, Classifiers (including Heads of Classification), coaches, athletes and researchers
- Features:
    - Delivered by suitable qualified person
    - Modular - easily adjusted so that the presenter can make it relevant for a wide range of sports at different stages of development;
    - Accessible (i.e. easily understood by a wide range of audiences)

Aim of this presentation

- This presentation is Part 1 of 2. The aim is to:
  - Provide an overview of the framework on which the audiovisual presentation will be based;
  - Preview some of the envisaged content on how the scientific method can be applied to improve classification systems that are currently in place.
- Part 2 of this presentation (next session in this room) will describe ways that the scientific method can be used to develop entirely new methods of classification (different structure or based on new methods)

Aim of this presentation

- Your role:
  - Focus on form: is it modular? Is it accessible? What could make it more useful as a tool

IPC Presentation to facilitate improvement of Paralympic Classification through science

THE FRAMEWORK

4-Part Framework

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1. Purpose and conceptual basis
2. Improving current methods
   i. Eligibility criteria
   ii. Class allocation
3. Developing new methods and structures
4. Translating new methods and structures into practice

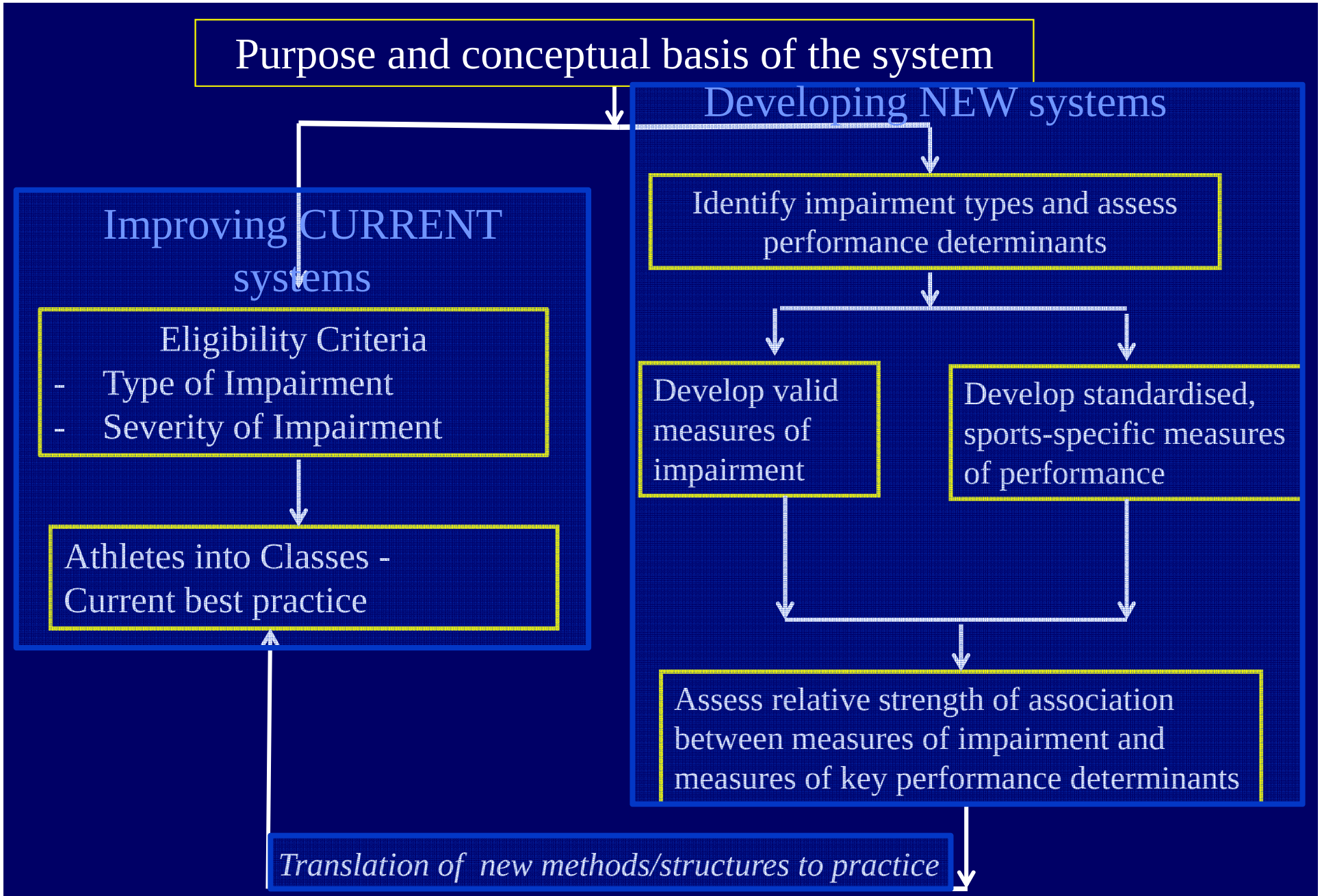

Fig 1: Improving Paralympic classification through science

Part 1 – Purpose and conceptual basis

Key Documents for this presentation

- International Paralympic Committee. (2007). *IPC Classification Code and International Standards*. Bonn: Author
- Tweedy, S. M., & Vanlandewijck, Y. C. (2011). International Paralympic Committee Positi Stand - Background and scientific principle Classification in Paralympic Sport. *Br J Sports* 259-270.
- Evidence Based Classification - Current Best Pra (Available: http://www.paralympic.org/clas code)
- YOUR Classification system

What is an "evidence-based" system of classification?

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ose;

e that the methods used
e the stated purpose (Tweedy &

Example of a problematic statement of purpose

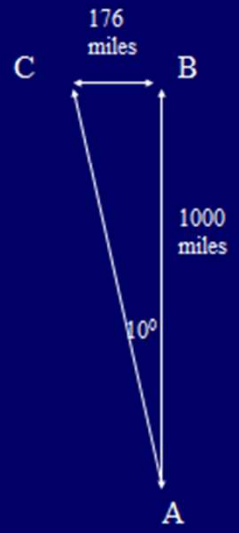
- … to ensure fair and equitable competition.
- Without further clarification, this is ambiguous – 'fairness' is a value judgment.
- E.G. Specia system of cl

Immediate steps

- The classification manual for each sport should paste following statements:
- Purpose: To promote participation among peop impairments by ***minimising the impact of eligi impairment types on the outcome of competiti*** that the athletes who succeed in competition are with best, anthropometry, physiology and psycl and who have enhanced them to best effect (effe training, quality coaching).
- Conceptual basis: Classify athletes according to of activity limitation resulting from impairment. words, place athletes into classes according to h their impairment affects core determinants of performance in <insert sport>

Importance of accurate purpose and conceptual clarity

- Journey of 1000 miles begins with the first step;
- But if the first step is in the wrong direction – even slightly – huge consequences for where you end up
- Statement of purpose and conceptual basis of classification are the first steps – must make sure they are in the right direction



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Part 2 – Improving current methods

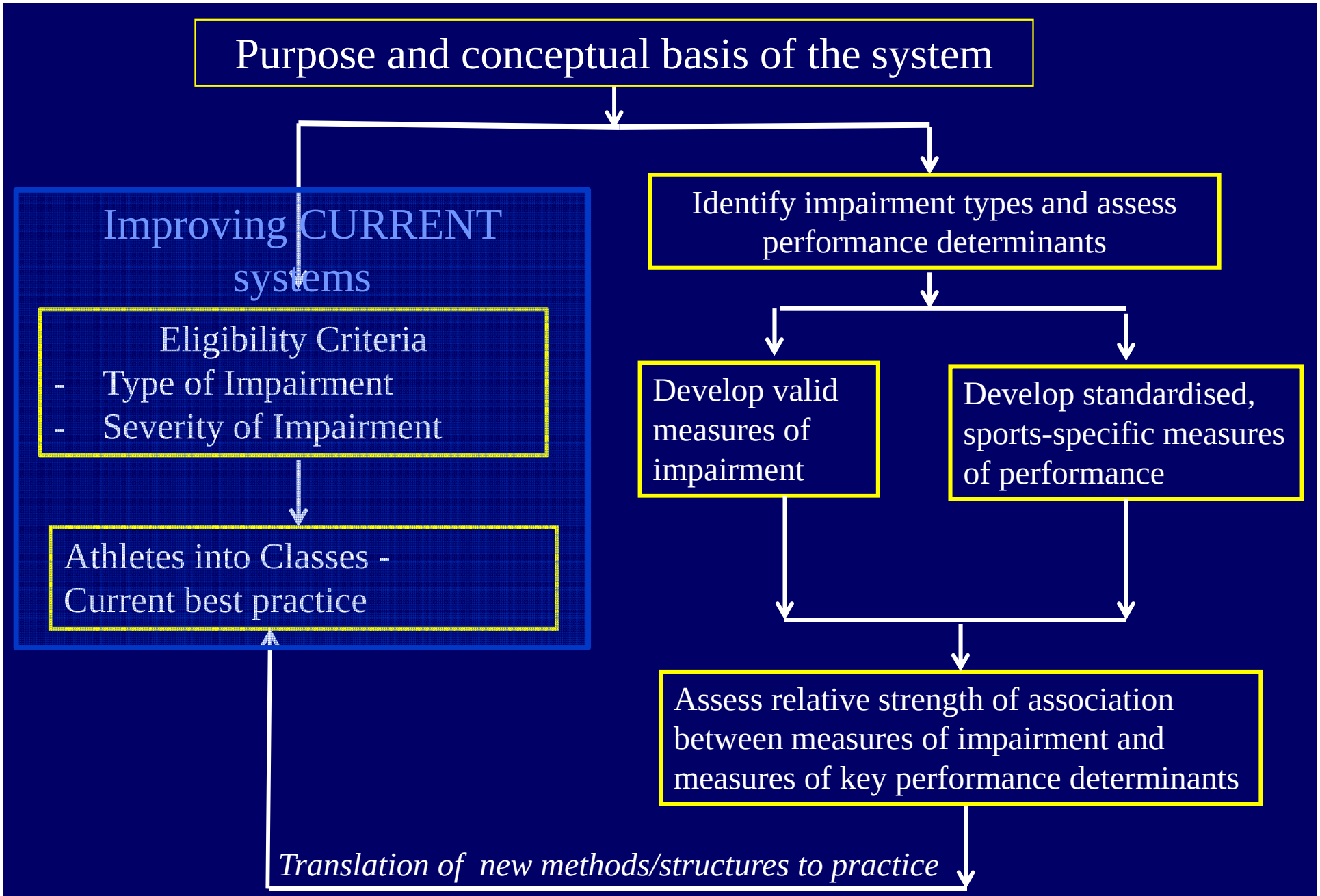

Fig 1: Improving Paralympic classification through science

Part 2: Improving current methods – Eligibility Criteria

Eligibility Criteria

Eligible types of impairments:

- Set by IFs
- Determines what types of measures will be required

Eligible impairment severity

- General principal – impairment will cause an activity limitation in a non-disabled sport
- Potential methods:
  - Qualitative (e.g., Delphi process)
  - Scientific – quantitative methods analysed using inferential statistical methods

Part 2: Improving current methods – Sport class allocation

Identify areas in which science could contribute and give sample projects.

Sample projects

- Enhancing intra- and inter-classifier reliability through:
  - Documentation of measurement guidelines to complement classification manuals (including equipment, athlete positioning, protocols);
  - Providing references / citations for measurement procedures;
  - On-line, audio-visual instructions / teaching material
- Supplement subjective descriptions with objective measures (e.g, instead of only "poor single-leg balance", provide an approximate score on the Stork test).

NOTE: see Prof Reina presentation 10:45am tomorrow

Sample projects cont'd

- Eliminating practicies that are not defensible, such as performing mathematical operations on ordinal data such as manual muscle grade scores.

Conclusion

- This concludes Part 1 of this 2 Part presentation describing the an IPC initiative to develop an audio-visual resource that can facilitate improvement of Paralympic classification through science