

Medical Needs at Ultra-Endurance Footraces: Setting the Stage

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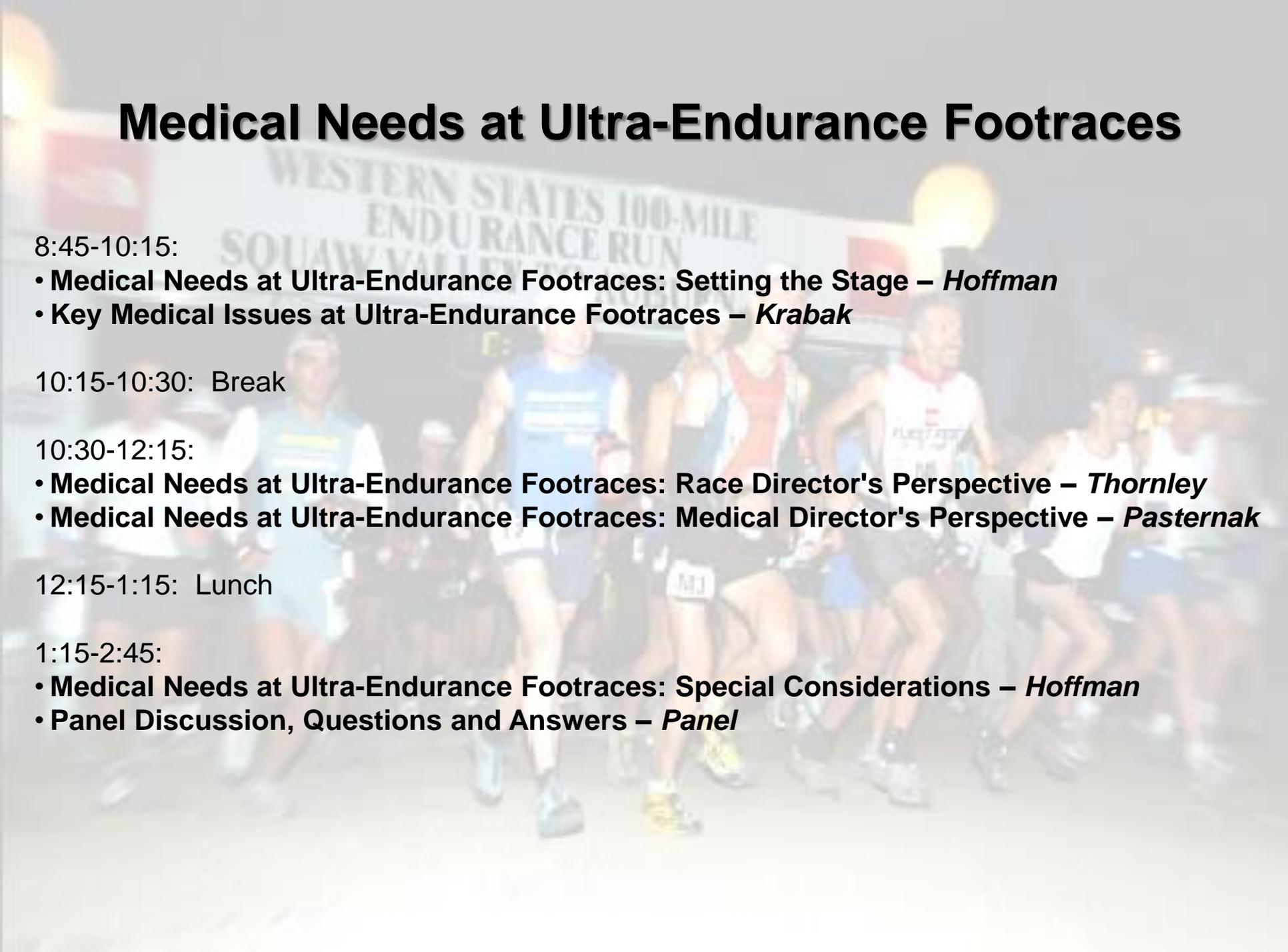
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Chief Medical Officer, Ultra Medical Team

The contents presented herewith do not represent the views of the Department of Veterans Affairs or the United States Government.



Medical Needs at Ultra-Endurance Footraces

The background of the slide is a faded photograph of several runners participating in a race. A banner in the background reads "WESTERN STATES 100-MILE ENDURANCE RUN" and "SQUAW VALLEY". The runners are in various stages of their stride, wearing athletic gear like tank tops and shorts. The overall scene is bright and captures the energy of a long-distance race.

8:45-10:15:

- **Medical Needs at Ultra-Endurance Footraces: Setting the Stage – Hoffman**
- **Key Medical Issues at Ultra-Endurance Footraces – Krabak**

10:15-10:30: Break

10:30-12:15:

- **Medical Needs at Ultra-Endurance Footraces: Race Director's Perspective – Thornley**
- **Medical Needs at Ultra-Endurance Footraces: Medical Director's Perspective – Pasternak**

12:15-1:15: Lunch

1:15-2:45:

- **Medical Needs at Ultra-Endurance Footraces: Special Considerations – Hoffman**
- **Panel Discussion, Questions and Answers – Panel**

Medical Services at Ultra-Endurance Foot Races in Remote Environments: Medical Issues and Consensus Guidelines

Martin D. Hoffman · Andy Pasternak · Ian R. Rogers · Morteza Khodae · John C. Hill · David A. Townes · Bernd Volker Scheer · Brian J. Krabak · Patrick Basset · Grant S. Lipman

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Abstract An increasing participation in ultra-endurance foot races is cause for greater need to ensure the presence of appropriate medical care at these events. Unique medical challenges result from the extreme physical demands these events place on participants, the often remote settings spanning broad geographical areas, and the potential for extremes in weather conditions and various environmental hazards. Medical issues in these events can adversely affect race performance, and there is the potential for the presentation of life-threatening issues such as exercise-associated hyponatremia, severe altitude illnesses, and major trauma from falls or animal

attacks. Organization of a medical support system for ultra-endurance foot races starts with a determination of the level of medical support that is appropriate and feasible for the event. Once that is defined, various legal considerations and organizational issues must be addressed, and medical guidelines and protocols should be developed. While there is no specific or universal standard of medical care for ultra-endurance foot races since a variety of factors determine the level and type of medical services that are appropriate and feasible, the minimum level of services that each event should have in place is a plan for emergency transport of injured or

What are the key considerations when organizing medical coverage?

- ✓ Competitors and non-competitors
- ✓ Liability issues/insurance
- ✓ Feasible level of medical support
- ✓ Pre-race medical clearance
- ✓ Common minor medical issues
- ✓ Emergency medical issues
- ✓ Positioning of medical stations
- ✓ Staffing needs
- ✓ Medical kits and equipment
- ✓ Medical protocols
- ✓ Effect of environmental conditions
- ✓ Coordination with local EMS and hospitals
- ✓ Medical documentation
- ✓ Education of participants and medical staff

- 
- **What's unique about these events?**
 - **What are the participation trends?**
 - **What are the characteristics of the participants?**
 - **Why do we need organized medical coverage and standards?**



What's unique about these events?

- ✓ Extreme physical demands
- ✓ Remote environments
- ✓ Potential environmental concerns
- ✓ Characteristics of the participants



What are the participation trends?

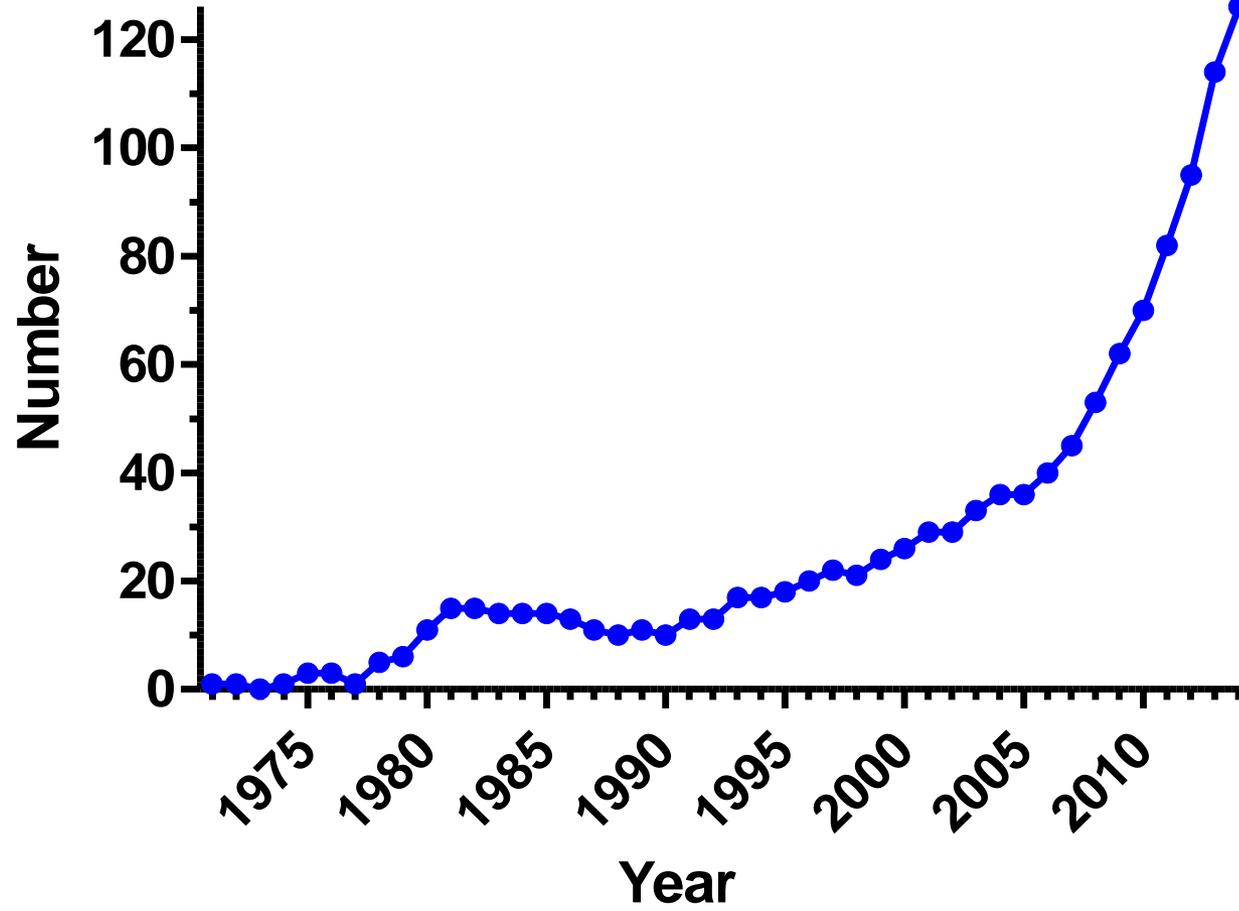
- ✓ Number of events
- ✓ Number of participants
- ✓ Age of participants
- ✓ Sex of participants

100-mile Ultramarathons in North America

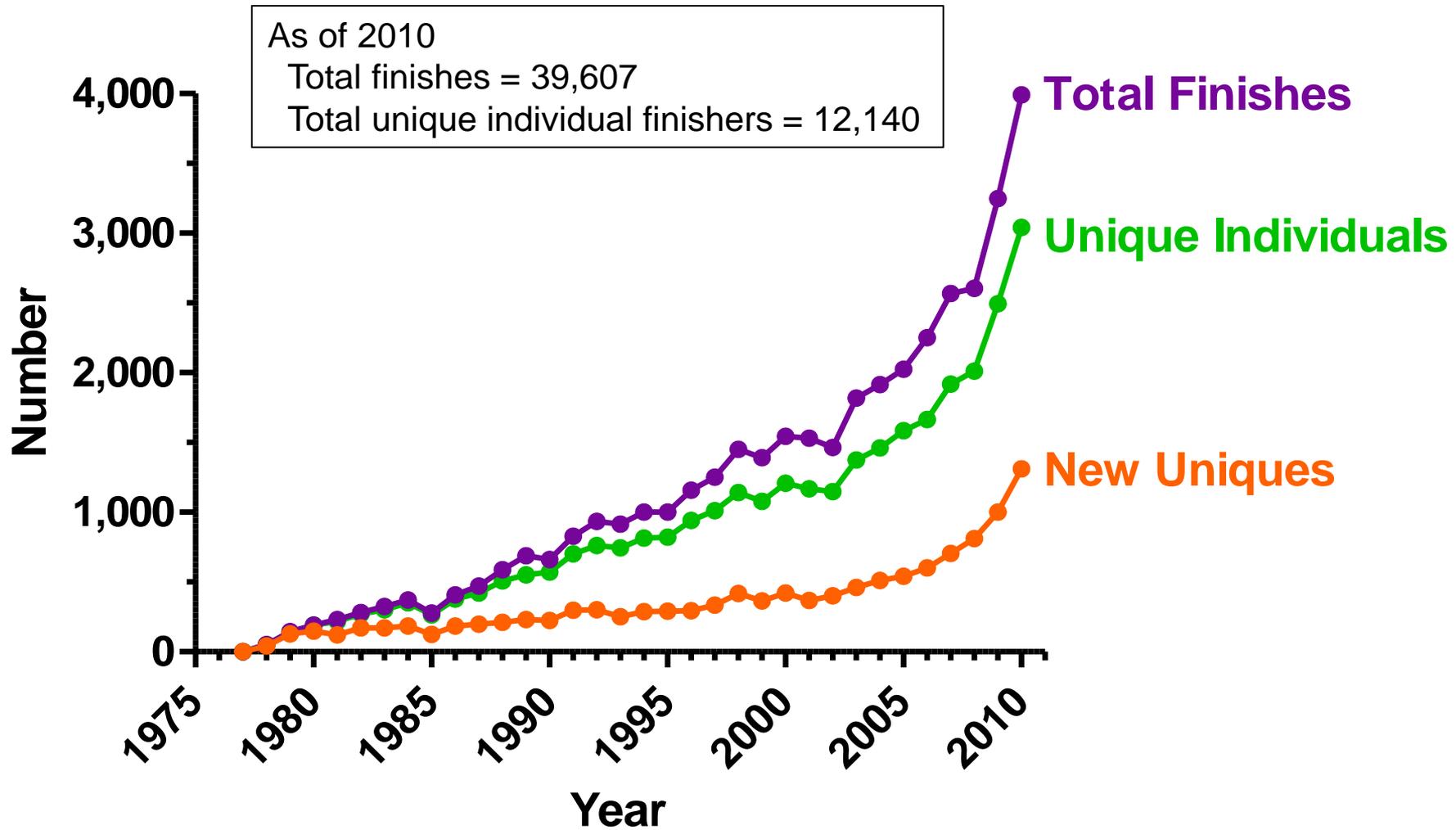
1974
★ Existing
• Previous



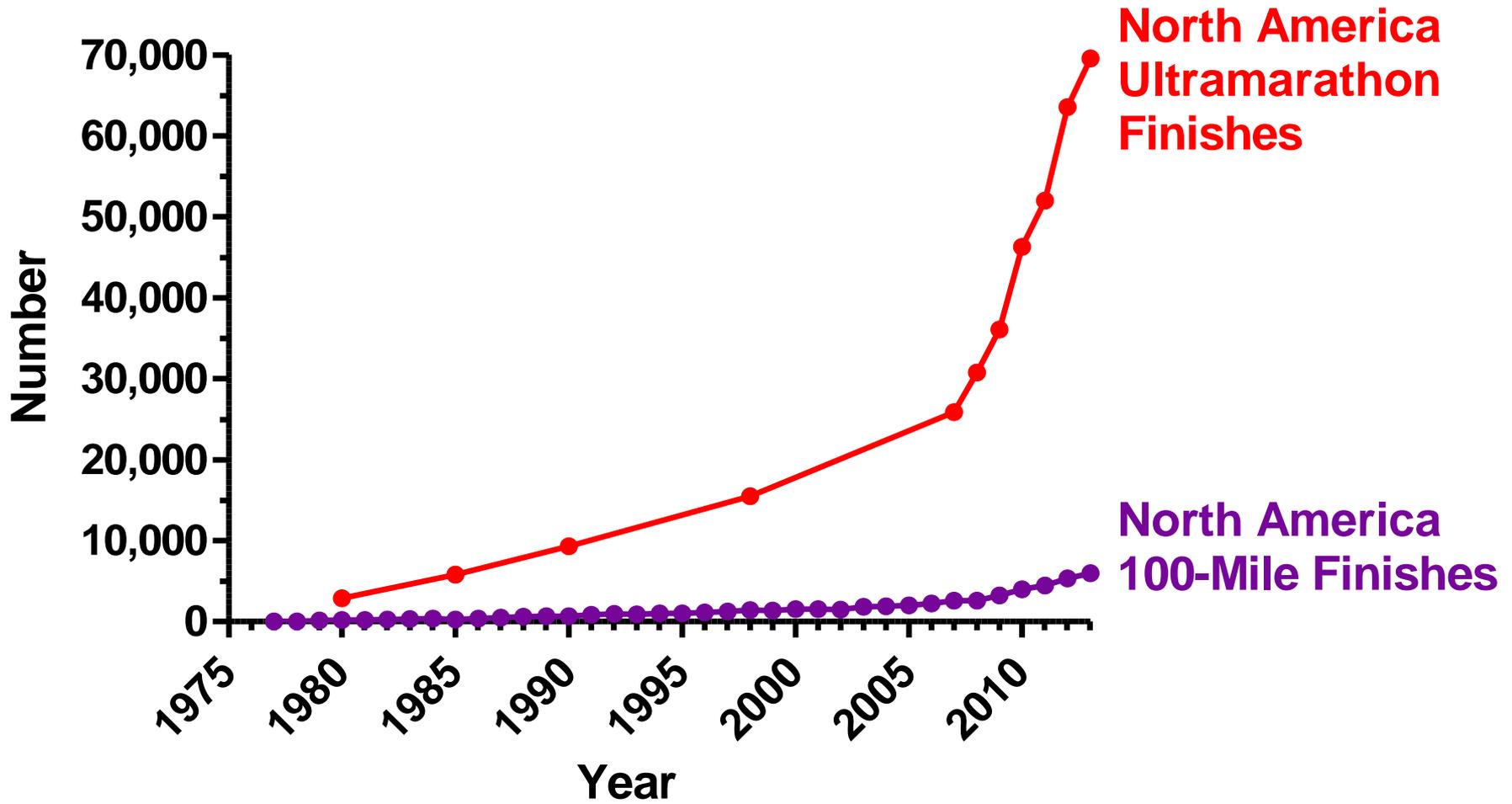
North America 100-Mile Ultramarathons



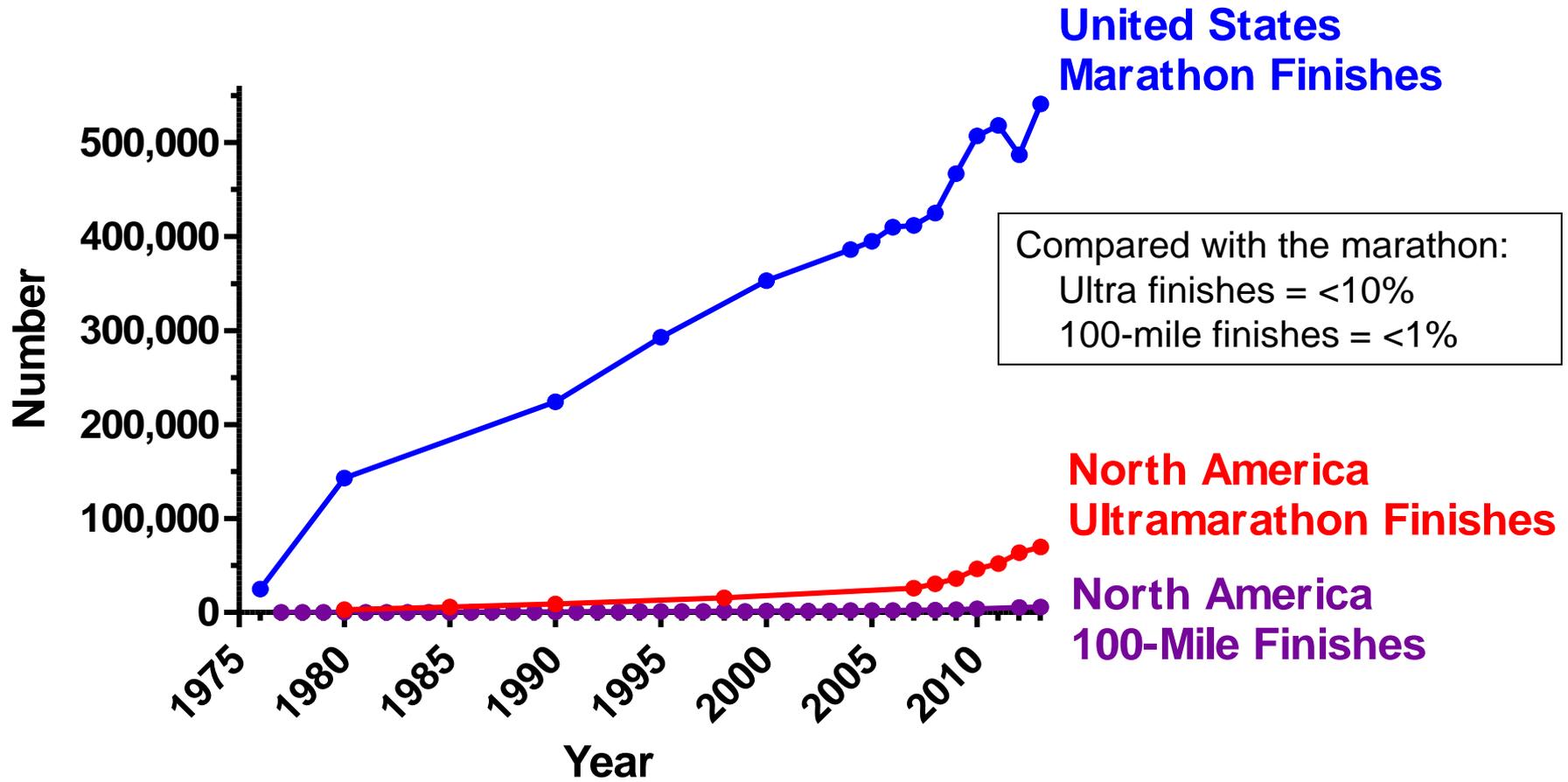
Participation Trend – All North America 100-Mile Ultras

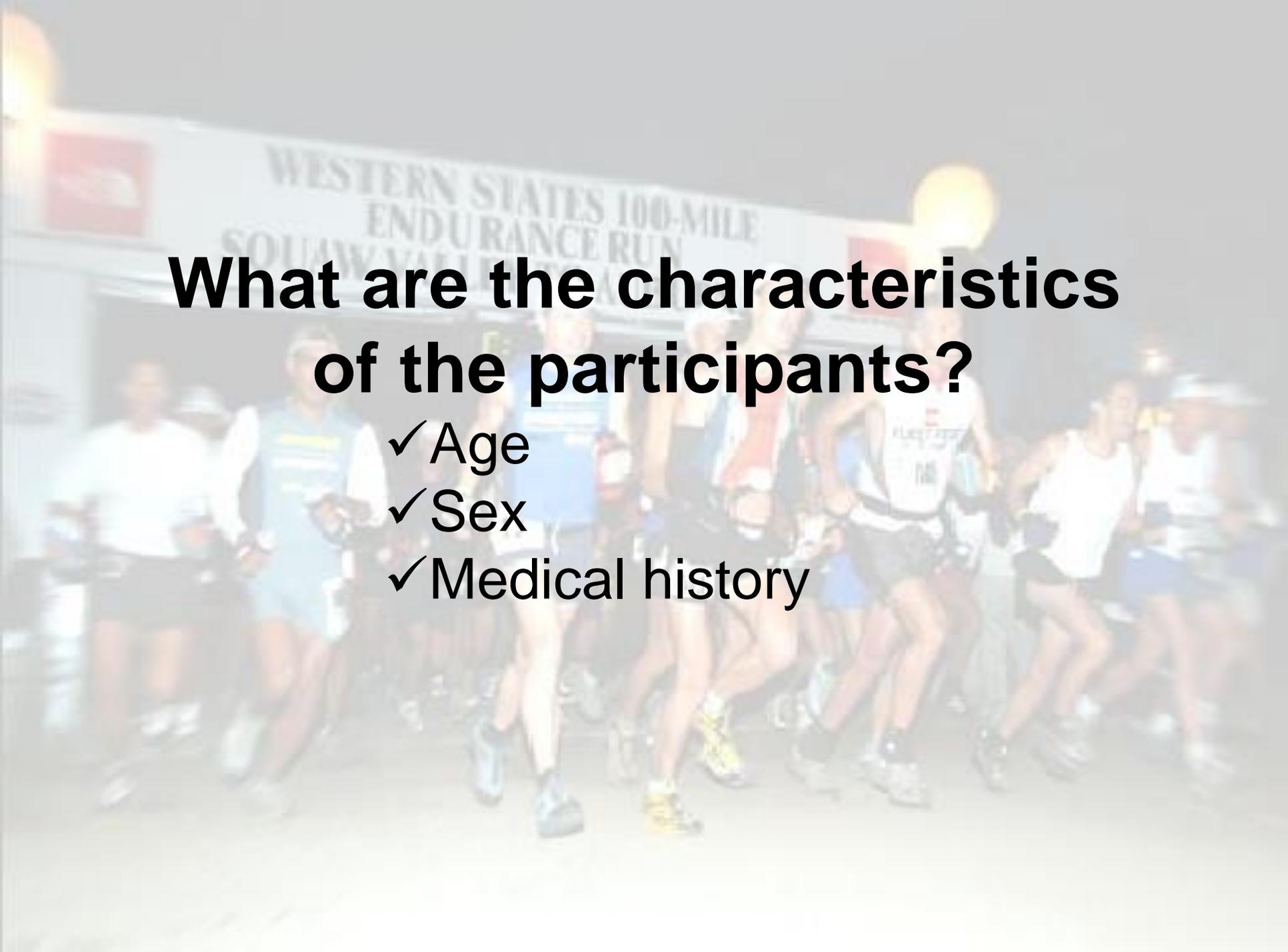


Participation Trend – Comparison of 100-Mile Ultras with All Ultras



Participation Trend – Comparison of Ultras with Marathons

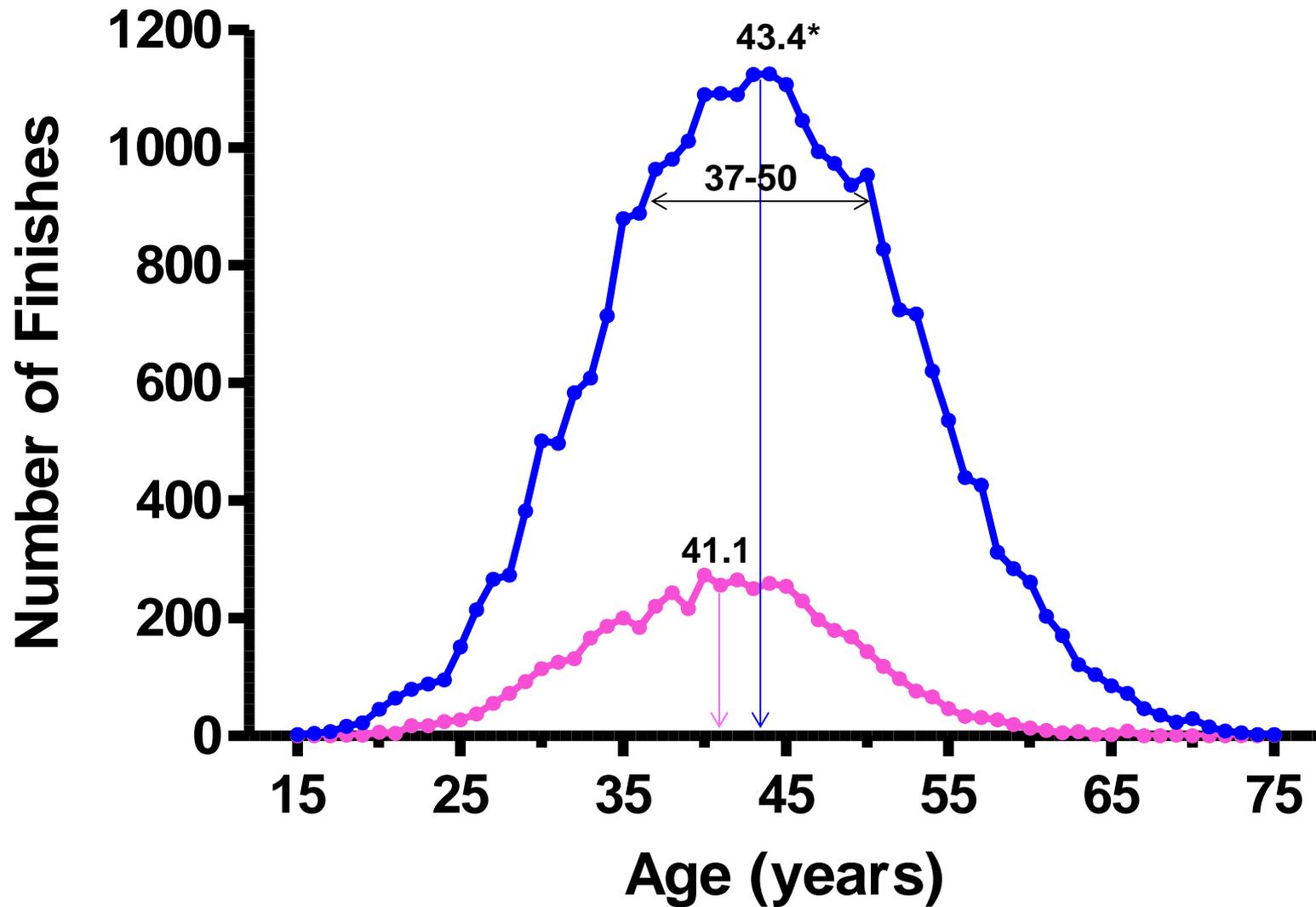


A group of runners participating in the Western States 100-Mile Endurance Run. The runners are wearing various athletic gear, including tank tops, shorts, and running shoes. Some are wearing hydration packs. The background shows a banner for the race and some spectators.

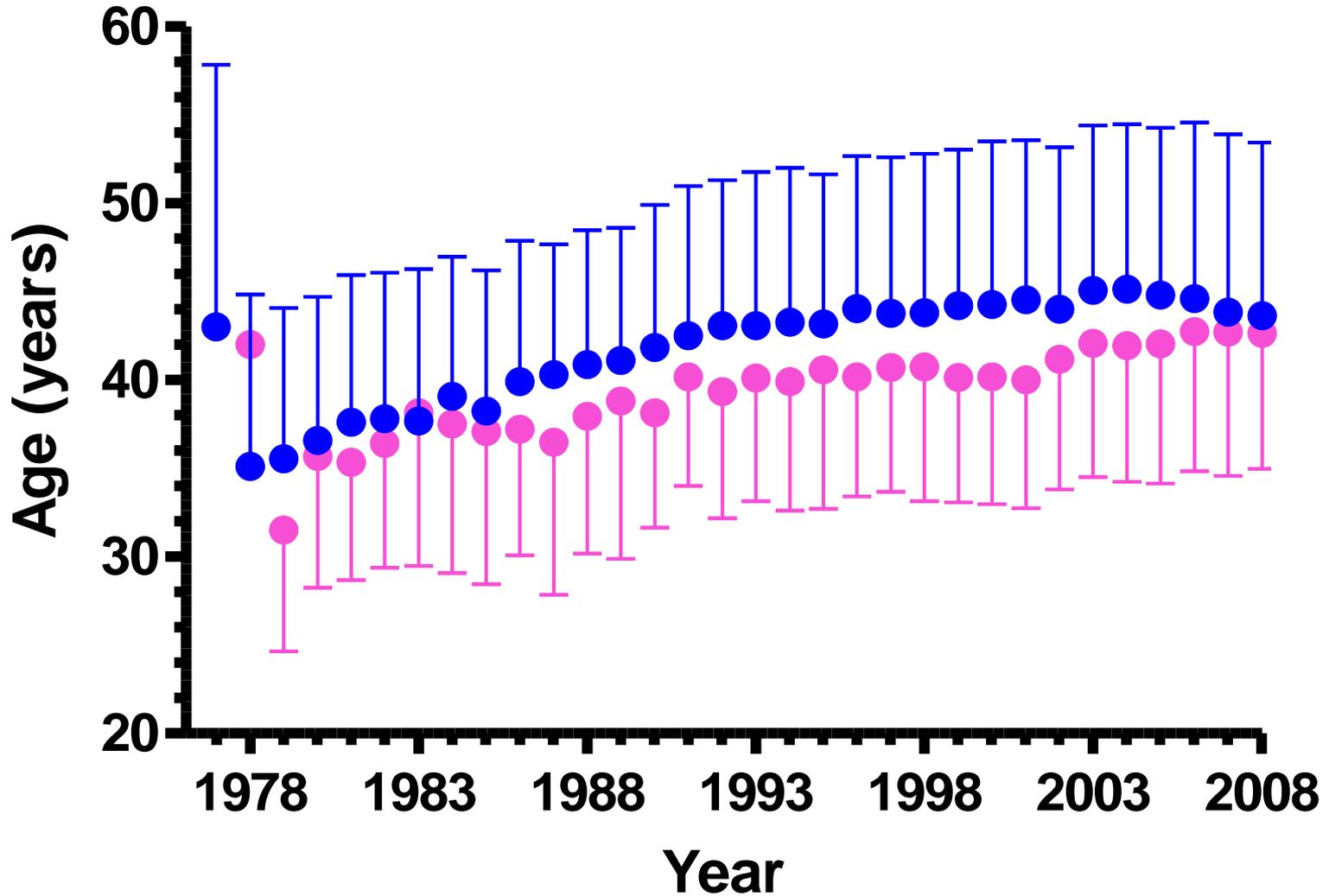
What are the characteristics of the participants?

- ✓ Age
- ✓ Sex
- ✓ Medical history

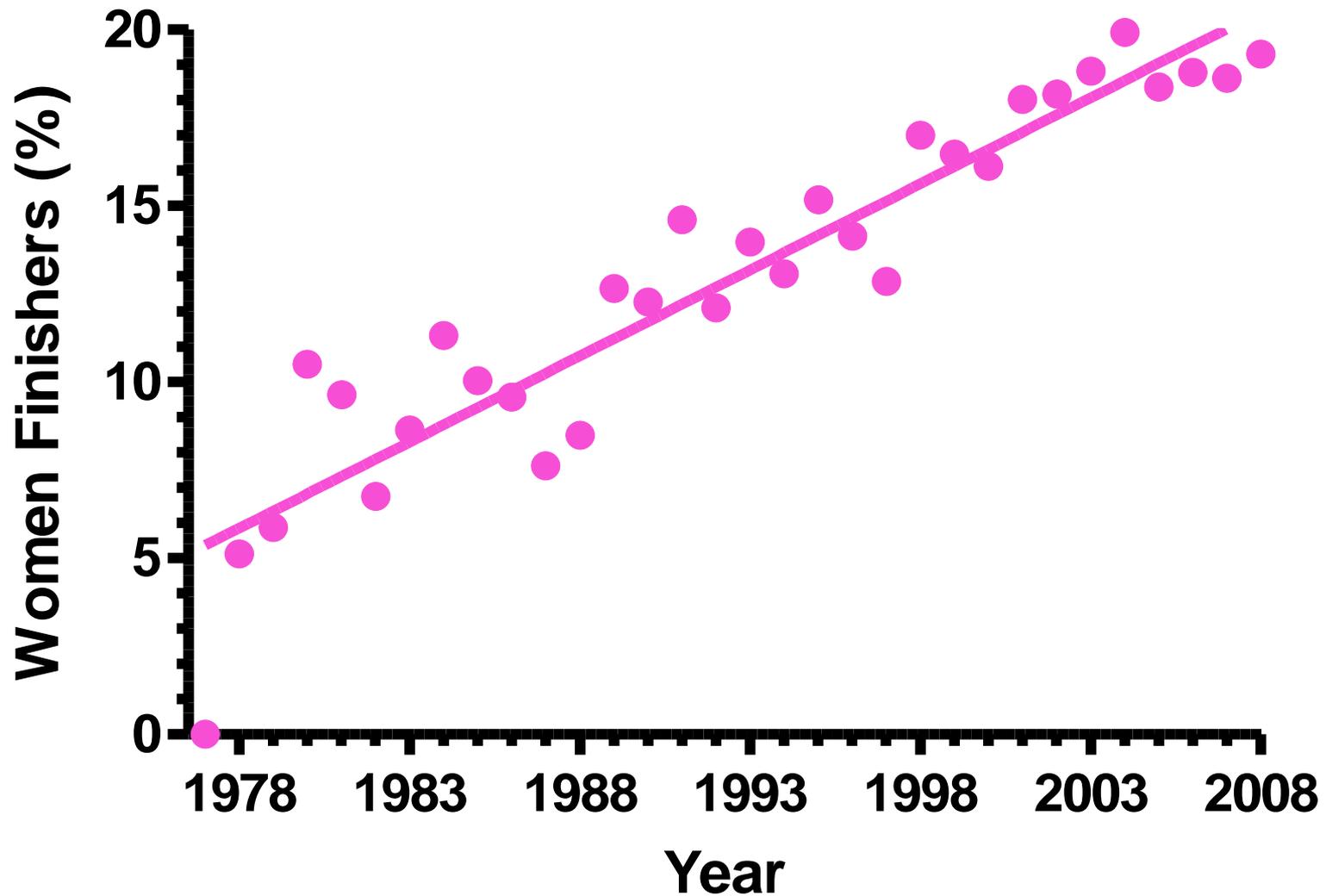
North American 100-Mile Participant Age Distribution 1977-2008



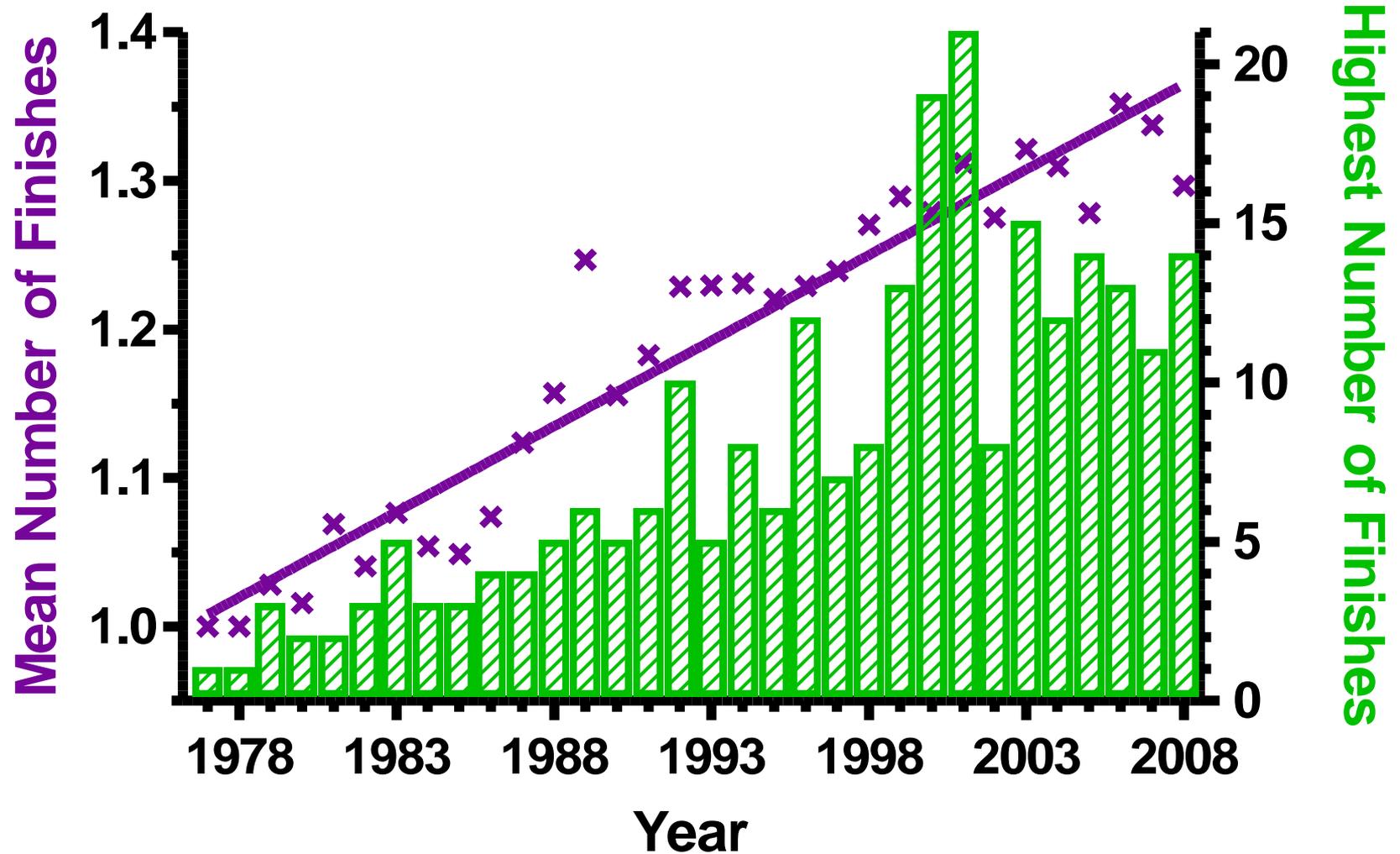
North American 100-Mile Participant Age Trend 1977-2008



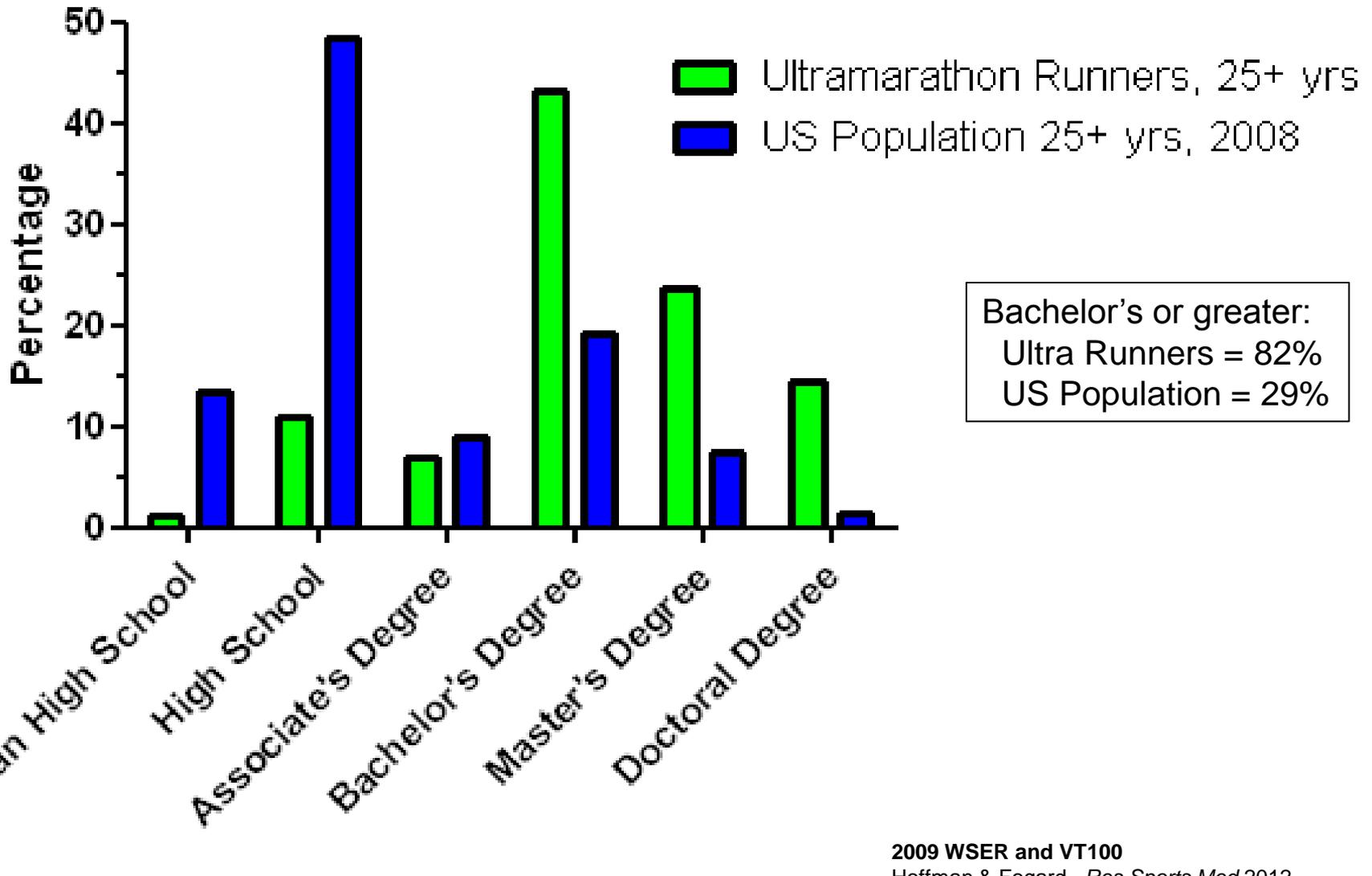
North American 100-Mile Participation by Women 1977-2008



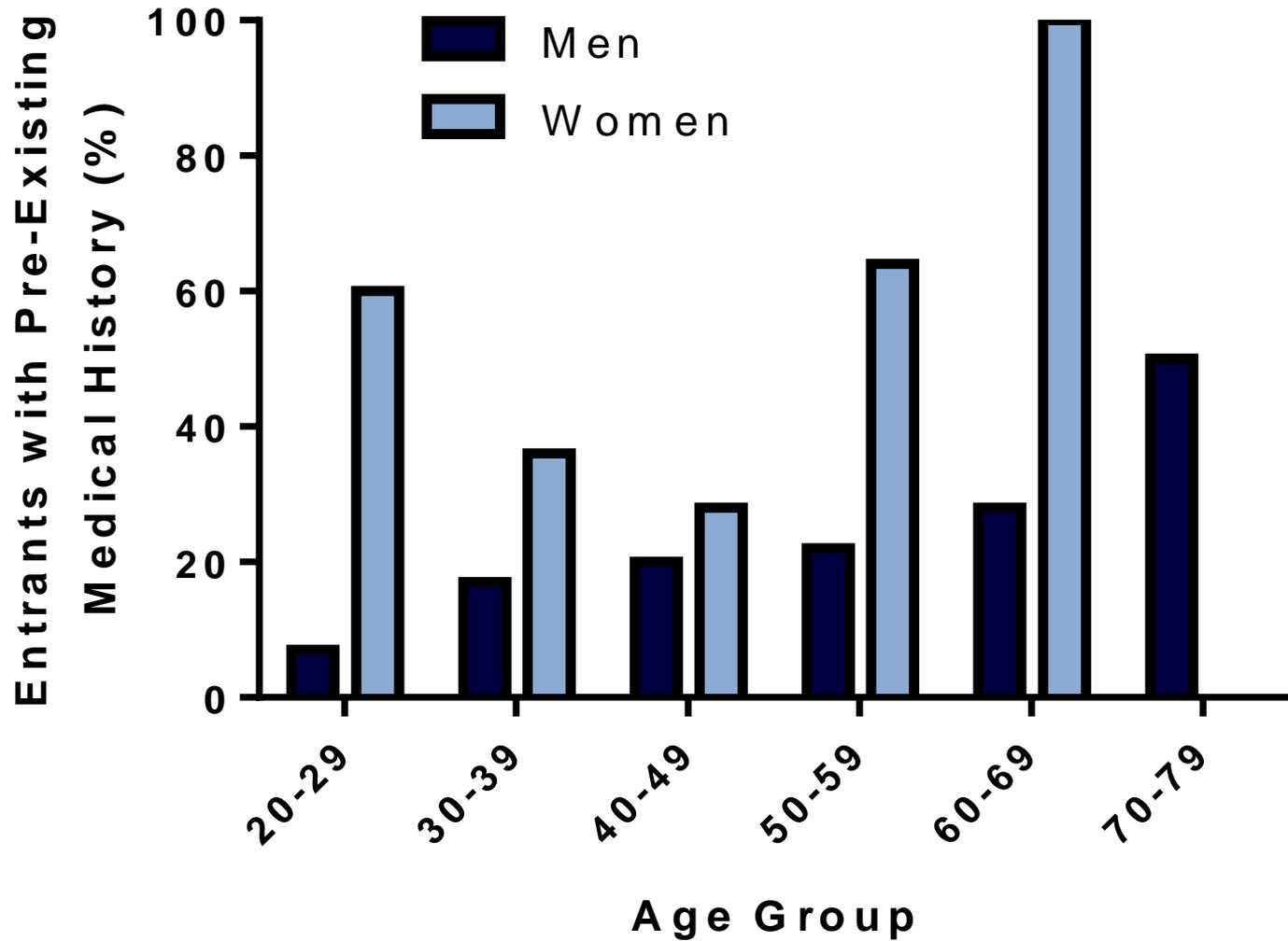
North American 100-Mile Races Completed Annually by Individual 1977-2008



Education Level



2012 WSER Pre-Existing Medical History



The background of the slide is a faded photograph of a marathon race. In the foreground, several runners are visible, wearing athletic gear and race bibs. In the background, a banner reads "WESTERN STATES MARATHON" and "SQUAW VALLEY".

Ultrarunners Longitudinal TRAcking (ULTRA) Study

Study details at:

<http://www.run100s.com/ULTRAstudy.htm>

Enrollment and initial survey at:

<http://bit.ly/ULTRAstudy>

Prevalence of Medical Conditions Among 1,212 Ultramarathon Runners Participating in ULTRA Study

Medical Condition	Percent
Vascular Diseases/Disorders	
Arrhythmias or irregular heart beats	7.6
Hypertension	7.6
Varicose veins	2.4
Thrombophlebitis	1.2
Coronary artery disease	0.7
Coronary valve disease	0.6
Raynaud's disease	0.5
Cardiac hypertrophy	0.4
Stroke or transient ischemic attack	0.2
Lower extremity claudication/peripheral vascular disease	0.2
Bradycardia	0.2
Conduction abnormality	0.2
Anemia	0.2
Other	0.8
Lung Diseases/Disorders	
Exercise-induced asthma	13.0
Asthma (other than exercise-induced)	10.7
Chronic bronchitis or cough	2.3
Spontaneous pneumothorax	0.2
Pulmonary embolism	0.2
Other	0.6

Medical Condition	Percent
Cancers	
Basal cell	1.6
Melanoma	1.4
Thyroid cancer	0.2
Brain cancer	0.2
Squamous cell	0.2
Prostate cancer	0.2
Other	0.7
Musculoskeletal Diseases/Disorders	
Chronic low back pain or lumbar disc problems	9.7
Osteoarthritis	4.6
Chronic neck pain or cervical disc problems	2.6
Osteoporosis	1.9
Rheumatoid arthritis	0.8
Osteopenia	0.3
Scoliosis	0.2
Fibromyalgia syndrome	0.2
Gout	0.2
Other	0.6

Prevalence of Medical Conditions Among 1,212 Ultramarathon Runners Participating in ULTRA Study

Medical Condition	Percent
Neurological and Psychological Issues	
Depression or bipolar disease	11.8
Anxiety	7.8
Seizure disorder/epilepsy	0.7
Attention deficit disorder	0.6
Multiple sclerosis	0.4
Brain injury	0.2
Restless leg syndrome	0.2
Other	0.3
Gastrointestinal Diseases/Disorders	
Hemorrhoids	12.9
Gastroesophageal reflux disease	6.7
Colitis or irritable bowel or colon	4.8
Peptic ulcer disease	3.2
Gall bladder disease/stones	2.1
Liver problems, hepatitis or cirrhosis	1.5
Diverticulitis	1.1
Celiac disease	0.3
Gastritis	0.2
Other	0.3

Medical Condition	Percent
Other Medical Issues	
Allergies/hay fever	25.1
Frequent severe headaches or migraines	5.9
Sleeping difficulties or sleep apnea	5.8
Thyroid disease (hypothyroidism or hyperthyroidism)	5.1
Kidney disorders/stones	4.5
Weight problem/obesity	4.3
Hyperlipidemia or hypercholesterolemia	4.1
Alcoholism or drug abuse	3.4
Disordered eating/anorexia	2.9
Prostate enlargement (not cancer)	2.5
Cataracts	2.0
Significant hearing problems	1.9
Significant vision problem other than cataracts	1.2
Incontinence	1.0
Glaucoma	0.8
Diabetes	0.7
Skin disease	0.4
HIV disease	0.2
Endocrine disorder (other than diabetes)	0.2
Other	1.4



Why do we need organized medical coverage and standards?

- ✓ Enhance participant safety
- ✓ Limit event liability
- ✓ Avoid catastrophic effect of an adverse event on our sports

**Western States Endurance Run (WSER) Official
Release/Agreement, Covenant Not to Sue, Waiver and
Assumption of Risk**

IMPORTANT: Please read the following carefully since you are giving up many of your legal rights by signing this document.

WSER Official Release/Agreement, Covenant Not to Sue, and Waiver

In consideration for being permitted by WSER Foundation and the officers, trustees, directors, shareholders and/or members, agents, employees, and families of each; U.S. Forest Service; State of California; Counties of Placer and El Dorado; City of Auburn; Caltrans; G.E. Placer Co. Water Agency; and any official sponsor or entity; all medical, research and other personnel assisting with the Run; or any of them and any other person connected with this running event, their representatives, successors and assigns (herein collectively referred to as "Promoters and Sponsors") to participate in the WSER, I hereby agree that I, my successors, assignees, heirs, representatives, distributees, guardians and legal representatives will not make a claim against, sue or attach the property of the Promoters and Sponsors, for any and all injuries to me or my property, or for damage caused by me or by anyone else, including Acts of God, arising out of or in connection with my participation in this event. I further agree that I will defend and indemnify the above release parties against all claims, demands and causes of action or other proceedings brought by or prosecuted to my behalf contrary to this agreement. This release extends to all claims of every kind and nature whatsoever, whether known or unknown, and I expressly waive any benefits I may otherwise have under Section 549 of the Civil Code of California, which protects me from the release of unknown claims.

I understand that entry fees are necessary to meet the costs of preparation months in advance of the Run, and that if the Run is cancelled because of fire, drought, storms, floods, loss of permits, closure by Federal, State or Local governmental agencies, Acts of God or any other circumstances beyond the control of race management, the entry fee will not be refunded and the Western States organization and its Promoters and Sponsors will not be held liable.

I consent in advance to such medical treatment as Run medical personnel deem necessary in the event of an emergency condition, and assume the risk of such treatment; further consent to the release or publication of medical information about myself, to the extent such release or publication is deemed necessary to secure immediate treatment. I understand that the Run's provision of medical care does not obligate the Run to continue providing such care when it becomes impossible (impractical) or unnecessary for the Run to do so. For emergency treatment I authorize WSER officials to give medical information

Page 1 of 3
Separated into 5 pages
waiver for racers!

Updated: Dripping Springs man dies in Texas Water Safari

Posted By [The Mercury Staff](#) On 06/11/2012 @ 2:54 pm In [Featured,News,San Marcos,Texas,The Corridor](#) | [1 Comment](#)

UPDATED 5:49 p.m. JUNE 11:

A Texas Parks & Wildlife game warden tells the Victoria Advocate that he is investigating Texas Water Safari racer Brad Ellis' death.

Brad Ellis, 30, of Dripping Springs died Monday afternoon in San Antonio after being evacuated by helicopter from the Guadalupe River early Sunday. Rescuers plucked Ellis from the river about 11 miles downriver from the Gonzales city dam on the 98th mile of the 280-mile race.

Ian Rolls, the other man in Ellis' boat, told game warden Dan Waddell that "he had been rowing for the last 20 miles by himself and the other gentlemen had given up and laid down for a nap in the boat," [Waddell told the Victoria Advocate](#) ^[1]. He has jurisdiction to inquire into the cause of Ellis' death because the canoeist became ill while traveling a state waterway

Rolls accidentally tipped over the canoe while pushing off the bank after stopping, Waddell said Rolls told him, plunging Ellis into the water. Rolls pulled Ellis out of the water, the newspaper reports.



Avid runner's death in race stuns friends

Ellen Huet

Updated 10:42 pm, Tuesday, June 4, 2013

VIEW: [LARGER](#) | [HIDE](#)

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◀ PREV

NEXT ▶



Rene Brunet, 63, finishing a 50-mile race in Marin in 2012. Photo: Courtesy, Allen Lucas

Photo Galleries Displaying 1-3 of 40



Songwriters Hall of Fame 44th Annual Induction



The Forge



Glaze Teriyaki

Father's Day Rebates!

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Ultramarathon burns victims to sue for \$10m

Updated Thu Aug 16, 2012 12:57pm AEST

Competitors injured in the ill-fated Kimberley ultramarathon are planning to sue the event's organisers for millions of dollars.

Several competitors suffered life-threatening burns when a bushfire ripped through the ultramarathon course last September.

Kate Sanderson, 36, and Turia Pitt, 25, were among the worst injured after they became cornered by the bushfire near the El Questro Wilderness Park, in north-west Western Australia.

Ms Pitt, 25, was an engineer working in Kununurra.

Since the accident she has spent over \$3 million having her face, hands and body reconstructed.

Her lawyer Greg Walsh says Ms Pitt will sue event organiser Racing the Planet for much more.

"Conservatively her case would be in my opinion something in the value in excess of \$10 million," he said.

Mr Walsh is acting for five competitors.

The economics and standing committee has been taking evidence since April, investigating the management of the event.

The inquiry is examining whether the organiser, Hong Kong-based RacingThePlanet, and Tourism WA which



PHOTO: Kate Sanderson (l) and Turia Pitt at the ultramarathon inquiry

PHOTO: Ultramarathon victim Turia Pitt suffered burns to 64 per cent of her body

MAP: Kununurra 6743



PHOTO: Turia Pitt worked in the Kimberley as a mining engineer. (Cumberland Courier Newspapers)