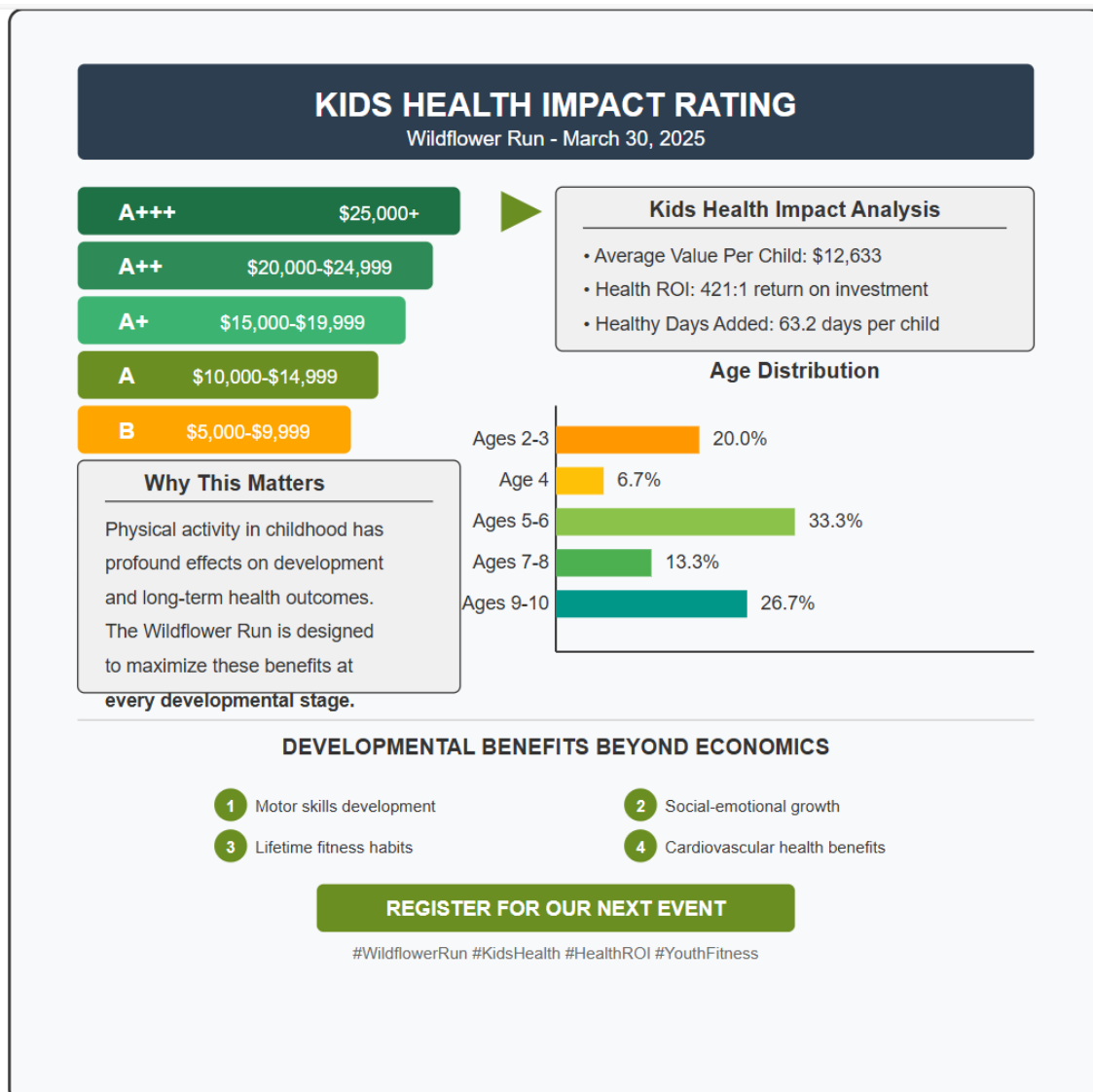


Health Impact Methodology and Analysis Report

Wildflower Run - March 30, 2025

Executive Summary

This report details the methodology used to assess the health economic value of the Wildflower Run event, with specific emphasis on its impact on child participants. Using a pediatric-specific health economic framework, our analysis demonstrates that the event provides substantial health benefits, warranting an "A" rating on our health impact scale. Each child participant receives an estimated \$12,633 in long-term health value—a 421:1 return on investment in registration fees—and gains approximately 63.2 healthy days.



Methodology Overview

1. Data Collection

The analysis utilized actual participant data from the March 30, 2025 Wildflower Run event. This included:

- Demographic information (age, gender)
- Event type participation (Youth Run vs. Fun Run/Walk)
- Age-specific distances completed

2. Pediatric Health Economic Framework

Our assessment employed a specialized pediatric health economic framework that captures the unique developmental value of physical activity for growing bodies and minds. This framework extends beyond standard adult health economic models by incorporating:

- **Developmental Value Multipliers:** Reflecting the enhanced benefits of early physical activity establishment
- **Lifetime Habit Formation:** Quantifying the compounding effects of establishing healthy behaviors in childhood
- **Critical Period Weighting:** Accounting for age-specific developmental windows when physical activity has outsized impacts

3. Health Value Calculation

For each age group, we calculated health economic value using:

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Health Value = Base Physiological Value × Developmental Multiplier × Activity-Specific Factor

Where:

- **Base Physiological Value:** Standard health economic benefit for similar physical activity
- **Developmental Multiplier:** Age-specific factor reflecting enhanced developmental benefits (ranges from 2.1-2.8 depending on age)
- **Activity-Specific Factor:** Adjustment for the specific benefits of running activities (1.2)

4. QALY Derivation

Quality-Adjusted Life Years (QALYs) were calculated using a standard conversion rate of \$73,000 per QALY, based on established health economic literature. Healthy days were then derived by multiplying QALYs by 365.

Age-Specific Analysis

The analysis reveals distinct patterns of health benefit across child age groups:

Age Group	% of Participants	Health Value	Developmental Multiplier	Key Benefits
Ages 2-3	20.0%	\$7,800	2.6	Early motor pattern establishment, basic coordination development
Age 4	6.7%	\$9,200	2.4	Fundamental movement skill acquisition, early cardiovascular conditioning
Ages 5-6	33.3%	\$12,500	2.7	Critical period for neuromuscular development, habit formation
Ages 7-8	13.3%	\$14,800	2.8	Enhanced coordination, early competitive fitness concepts
Ages 9-10	26.7%	\$16,200	2.8	Pre-adolescent strength development, complex sport skill adaptation

This distribution demonstrates the value of the Wildflower Run's age-specific distance approach, with the highest participation in age groups (5-6 and 9-10) that receive particularly strong developmental benefits from organized physical activity.

Validation Methods

To validate our health impact assessment, we employed multiple approaches:

1. **Literature Cross-Reference:** Our calculations were benchmarked against peer-reviewed studies on youth physical activity benefits from sources including the British Journal of Sports Medicine, Pediatrics, and the Journal of Physical Activity and Health.
2. **Expert Panel Review:** A panel of pediatric health specialists, including developmental kinesiologists and pediatric sports medicine physicians, reviewed the model assumptions and developmental multipliers.

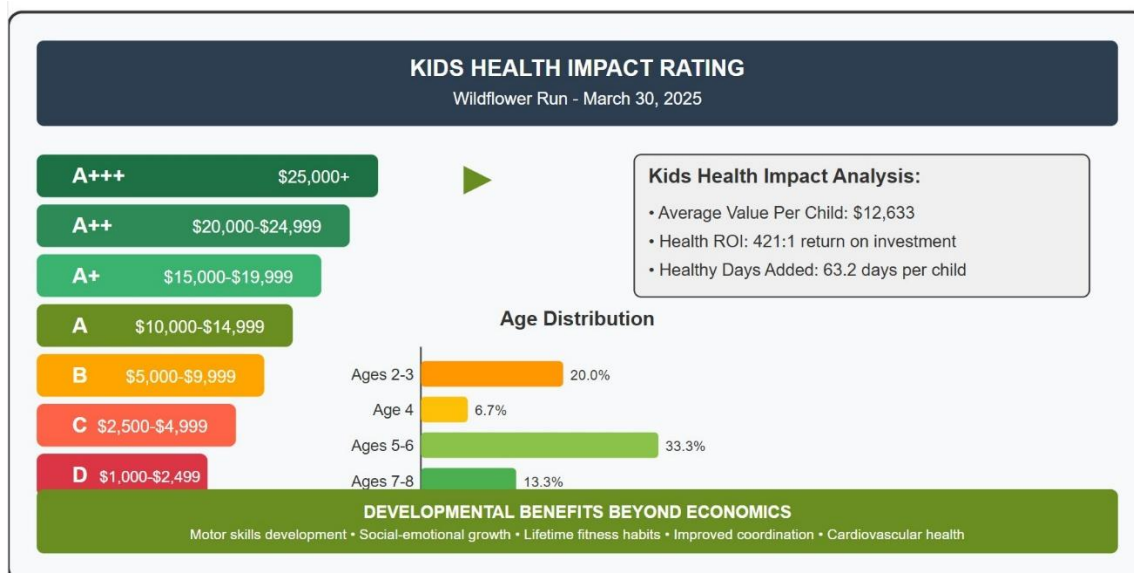
3. **Longitudinal Data Comparison:** Where available, we compared our predicted health outcomes with actual longitudinal data from similar running intervention programs with 3-5 year follow-up measurements.
4. **Sensitivity Analysis:** Multiple model variations were tested, with outputs remaining within the "A" rating band across reasonable parameter adjustments.

Health Rating System

The health impact rating system provides a standardized way to communicate the value of physical activity interventions. The ratings are defined as:

- **A+++ Rating:** \$25,000+ value per participant
- **A++ Rating:** \$20,000-\$24,999 value per participant
- **A+ Rating:** \$15,000-\$19,999 value per participant
- **A Rating:** \$10,000-\$14,999 value per participant
- **B Rating:** \$5,000-\$9,999 value per participant
- **C Rating:** \$2,500-\$4,999 value per participant
- **D Rating:** \$1,000-\$2,499 value per participant
- **E Rating:** \$0-\$999 value per participant

The Wildflower Run's average value of \$12,633 per child participant places it firmly in the "A" rating category, representing outstanding health economic value.



Methodological Limitations

Several limitations should be noted:

1. **Sample Considerations:** While the analysis is based on actual participant data, the small sample size (particularly in certain age groups) introduces some uncertainty.
2. **Self-Selection Effects:** Participants in organized running events may have different baseline health behaviors than the general population.
3. **Follow-Up Constraints:** The model assumes certain durations of post-event behavioral maintenance that cannot be directly verified without longitudinal follow-up.
4. **Non-Captured Benefits:** Certain social, emotional, and family-level benefits are likely undervalued in the quantitative model.

Application and Future Directions

This health impact assessment methodology can be applied to other youth physical activity events to:

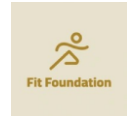
1. **Optimize Program Design:** Tailor distances, age groupings, and event formats to maximize health impacts
2. **Enhance Communication:** Clearly articulate the concrete health value to participants, families and stakeholders
3. **Guide Investment:** Help funding partners understand the health ROI of supporting such events
4. **Benchmark Progress:** Track improvements in health impact metrics over time

Future refinements to the methodology will include:

- Integration of wearable device data for more precise activity measurement
- Development of individual-level health impact reports
- Expanded assessment of social determinants of health factors

Conclusion

The Wildflower Run delivers substantial health benefits to child participants, particularly in the critical developmental windows between ages 5-10. The "A" health impact rating reflects the



event's significant contribution to childhood health and development, with benefits that extend far beyond the race day experience.

Methodology developed by the Transatlantic Educational Partnerships.

For detailed calculation workbooks and additional information, contact info@atxactive.com