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Population Health and Digital Health Promotion

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Easy Breathing: Digital Health Promotion for Urban Youth

Target Group: Children and Adolescents (Ages 5-18) in Urban Areas

Focus: Asthma and Airborne Diseases Prevention and Management

Presentation Content



- The Urban Respiratory Health Crisis
- Statistics and Recent Research
- Consequences of Inaction
- Why Urban Children
- The Digital Advantage
- Chosen Health Intervention
- Alignment with National Guidelines

Justification - The Urban Respiratory Health Crisis

STATISTICS AND RECENT RESEARCH

- According to the WHO (2023), over 4.2 million premature death occurred in 2019 among urban dwellers due to their exposure to air quality levels that exceeds WHO guideline limits.
- NHS England (2019) estimated that over 1 million children are receiving medical care in the UK for Asthma in 2019
- Achakulwisut et al., (2019) found that children in high-traffic urban areas have a 45% higher risk of developing asthma. They found that 690 out of 100,000 in the urban areas contract Asthma every year.

CONSEQUENCES OF INACTION

Increased hospitalizations and emergency room visits

Reduced school attendance and academic performance

Long-term respiratory issues extending into adulthood

Significant economic burden on healthcare systems and families

Justification - Why Urban Children?

VULNERABILITY FACTORS

Higher exposure to air pollutants
(traffic, industrial emissions)

Limited access to green spaces

Increased allergen exposure in
densely populated areas

Higher stress levels affecting
immune responses



Wooller and Sun, (2019)

Justification - The Digital Advantage

WHY DIGITAL HEALTH PROMOTION?

High smartphone penetration among urban youth (95% ownership rate for ages 13-18, Pew Research 2023)

Increased engagement through gamification and interactive content

Real-time air quality monitoring and personalized alerts

Remote access to health education and support

EVIDENCE-BASED BENEFITS

- Lin et al., (2022) found out that asthma patient adhere to mobile app treatment increases asthma control as compared to traditional management.
- JAMA Pediatrics (2024): Digital asthma management tools reduced ER visits in adolescents.
- Digital Health Journal (2023): 85% adherence to medication regimens when using smartphone reminders vs. 60% with traditional methods.

Chosen Health Promotion Intervention

BreatheBuddy - A Comprehensive Digital Respiratory Health Platform

KEY FEATURES

- Personalized asthma action plans
- Real-time air quality maps and alerts
- Gamified education modules on respiratory health
- Virtual support groups and peer mentoring
- Symptom tracking and medication reminders

WHY BREATHEBUDDY?

- Combines education, monitoring, and support in one platform
- Tailored to the unique needs and preferences of urban youth
- Promotes self-management and empowerment
- Facilitates communication between children, parents, and healthcare providers

Alignment with National Guidelines

National Institute for Health and Care Excellence (NICE) Guidelines

- **Asthma**
- Diagnosis, monitoring and chronic asthma management (NG80)
- Regular monitoring and review, Education on self-management
- **Air Pollution**
- Recommendations for local authorities to improve air quality
- Emphasis on raising public awareness about air pollution

NHS Long Term Plan (2019)

- Commitment to improving outcomes for children with respiratory conditions
- Focus on digital solutions to support self-management

Public Health England (PHE) - now UK Health Security Agency:

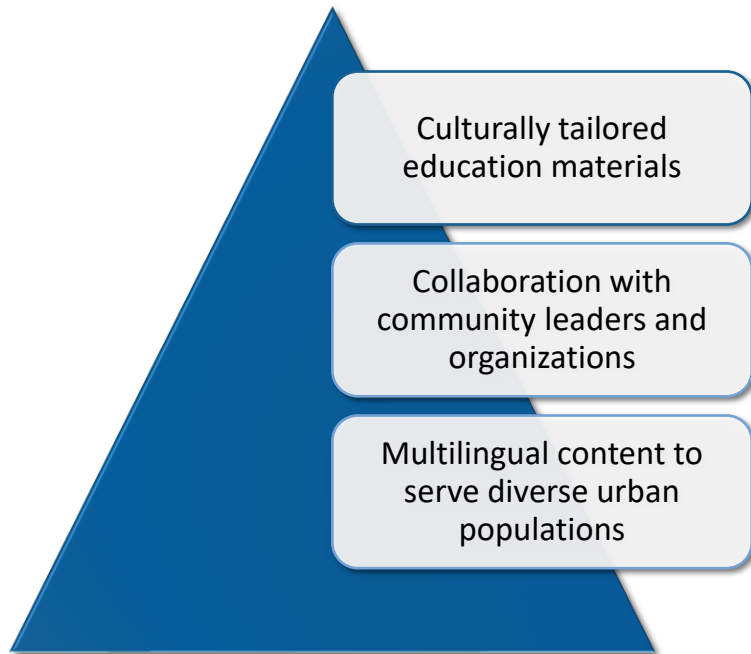
- Health Matters: Air pollution guidance for health professionals
- Emphasis on reducing exposure to air pollution, especially in vulnerable groups

British Thoracic Society (BTS) Guidelines

- British Guideline on the Management of Asthma
- Recommendations for asthma management in children and young people

Addressing Health Disparities

TARGETED APPROACH



ADDRESSING SOCIAL DETERMINANTS OF HEALTH

- Integration with social services for housing and environmental improvements
- Partnerships with schools for comprehensive asthma management programs
- Advocacy features for community-level environmental changes

Conclusion

Key Takeaways

- Urban youth face disproportionate respiratory health risks.
- Digital interventions offer unique advantages for this demographic.
- The development of a digital tool know as “**BreatheBuddy**” as a solution to the problem

Call to Action

- Invest in digital health promotion for long-term public health benefits
- Collaborate across sectors: healthcare, education, technology, and community
- Empower urban youth to take control of their respiratory health

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Thank you

QUESTIONS?