IMPACT SUCCESS STORIES

HNN 3.0
HEALTH-NCP-NET

B-PATH project will develop Exhaled Breath Aerosol (XBA) sampling for diagnosis and screening of respiratory infections. This will involve the development of innovative devices for the early and accurate detection of pathogens like SARS-CoV-2, influenza, and tuberculosis.

Early and accurate diagnostics are essential for controlling the spread of infectious diseases, improving patient outcomes, and reducing healthcare costs. Proposed innovative devices promise to enhance disease screening, control transmission, and improve global health outcomes with accessible, point-of-care solutions.

B-PATH

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1. Describe your project through key words/key phrases that identify it.

- Breath-based diagnostics
- Respiratory infections
- Pandemic preparedness
- Point-of-care/rapid diagnostics
- COVID-19, influenza, Tuberculosis (TB)
- Breath sampling

2. In terms of impact, what will be the most tangible your project will achieve?

B-Path project will deliver a practical, usable tool and evidence that can directly improve how respiratory infections are detected:

- Innovative breath-sampling devices (face mask-based) that allow people to provide a simple breath sample instead of uncomfortable swabs, difficult sputum collection or invasive sampling
- Clinical validation data showing how accurate these devices are compared to current standard methods across multiple settings and populations
- A new diagnostic approach enabling detection of multiple pathogens (e.g., COVID-19, influenza, tuberculosis) from a single breath sample
- Evidence for diagnostic and screening use, including detecting infections in people without symptoms, and understanding about links to transmission
- Feasibility of self-sampling and self-testing, reducing the need for trained healthcare workers.
- Cost-effectiveness and impact models to guide policymakers on the potential to implement these tools in real-world health systems.

In short, project aims to move breath-based diagnostics from research into ready-to-use solutions for healthcare settings.

3. Please describe your project's overall impact, if applicable, at the European level.

At the European level, B-Path contributes to health security, innovation, and resilience:

- Stronger pandemic preparedness: By enabling rapid, non-invasive testing, the project supports potential for better detection of emerging respiratory threats and outbreaks earlier.
- Improved cross-border health management: Respiratory diseases spread easily across countries; a simple, scalable test may support screening in settings like airports, refugee centers, and healthcare facilities.
- Reduced burden on healthcare systems: Breath-based testing could shift diagnostics closer to patients (including self-testing), easing pressure on healthcare staff.
- Support for EU innovation and industry: The project advances new medical devices and diagnostic technologies, strengthening Europe's position in the global health innovation landscape.
- Better patient experience and equity: Non-invasive testing potential improves testing for vulnerable groups, including children, elderly people, and those unable to produce sputum.

Overall, B-Path aligns with EU priorities on pandemic preparedness, digital and diagnostic innovation, and equitable healthcare access.

4. As an applicant, what advice would you have wanted in the Horizon project design process? What support did you receive from National Contact point (NCP) and your organisation, and what improvement of support would you benefit from?

Advice for applicants:

• Start with a clear real-world problem. Strong proposals clearly show the unmet need, in this case, the limitations of current respiratory sampling methods.

• Integrate disciplines early. Successful projects combine clinical, technological, social, and economic expertise from the outset.

• Plan for impact from day one. Go beyond research, include pathways to implementation, regulation, and market uptake.

• Engage end-users. Including patients, healthcare workers, and policymakers improves relevance and adoption.

• Be realistic but ambitious. Balance innovation with feasibility, including regulatory and operational considerations.

National Contact Points (NCPs) and institutional support are highly valuable for understanding call expectations, structuring proposals, reviewing drafts and advice on impact sections, which are often the most challenging

5. Please highlight aspects of your Horizon project's strengths that you consider important and that may constitute good practice for other applicants.

B-Path includes several elements that represent good practice for Horizon projects:

• Strong multidisciplinary consortium: Combines academia, industry (SMEs), and non-profit organizations, ensuring both scientific excellence and real-world application.

•End-to-end innovation pipeline: Covers development, clinical validation, user acceptability, and economic impact, bridging the gap from lab to implementation.

• User-centered design approach: Incorporates patient and healthcare worker perspectives to ensure usability and acceptance.

• Focus on scalability and accessibility: Devices are designed to be low-cost, simple, and deployable across different healthcare settings, including low-resource environments.

• Comparative evaluation strategy: Testing multiple technologies side-by-side reduces risk and identifies the best solution for different use cases.

• Alignment with global health priorities: Targets diseases with major societal impact (e.g., TB, COVID-19, influenza) and supports WHO and EU preparedness goals.

HNN3.0 (The Cluster 1 Health consortium of NCPs for Horizon Europe) has received funding from the European Union's Horizon EUROPE research and innovation programme under Grant Agreement number 101057279