

Stable asthma patients and satisfied parents thanks to the Puffer app

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Around 1,000 children with asthma are being treated at the Medisch Spectrum Twente. Young asthma patients visit the hospital for their check-ups three times a year on average. But that is a thing of the past at MST. Boony Thio, who is a pediatric pulmonologist at MST says, "We can now offer a good quality of care remotely thanks to technology."

Pediatric pulmonologist Boony Thio has been carrying out [scientific](#)

[research](#) into [children](#) with [asthma](#) for a long time. "Sometimes I hit a wall. I had the sense that care could be improved, with fewer appointments at the outpatient clinic as result. Technology makes it possible to offer a good quality of care remotely. Barriers have been broken down with the aid of technology."

Insight into how they are really doing

Asthma is a challenging illness to diagnose and to keep monitoring. "Asthma comes in spurts. That makes it difficult for us to analyze a patient at an annual check-up. Previously, we would be informed at check-ups that 'it is going well now, but two months ago she coughed for nights on end.' That is precisely the moment we want to be able to assess children. We can monitor patients remotely with the aid of technology and gain an insight into how they are really doing."

Real-time observation

To be able to treat patients effectively, doctors want to observe children when they are suffering from asthma. Boony Thio therefore developed an app in collaboration with students from the Technical Medicine bachelor's program at the University of Twente. Parents can simply submit a video of their child when they are suffering asthma symptoms via this app. "Our clinic receives notification as soon as a video is submitted. The video is analyzed and parents immediately receive advice digitally as to what they can do help their child. In a few cases, we have to arrange for a child to attend the outpatient clinic to treat them quickly."

Parents also receive an instruction booklet, a peak flow meter, a spirometer and a [heart rate monitor](#) to take home. These devices are connected to the app. All results can be followed in real-time via the app

and are thus available to both parents and doctors at MST. The objective: to provide parents with advice digitally and quickly, to provide a [real-time](#) insight into how the patient is doing, and to be able to assist the patient quickly in their own environment.

Compliance with therapy

The technology makes it possible to improve [patient care](#) considerably. But parents also have an important role to play. "With remote care, it is very important for patients to comply with therapy. Asthma patients require medication daily to prevent asthma attacks. When the child is doing well, parents often think they can 'do without medication for a while.' Nothing could be further from the truth. We can monitor our patients' use of medication with the aid of technology and speak to parents about compliance with treatment if necessary. The measurements and monitoring of the use of medication provides us with a great deal of valuable information."

Stable asthma patients

Keeping children stable, that is Boony Thio's most important goal. "We started with scientific research and tests over five years ago. We have been using the app and measuring devices for a year and a half. With great success! We have seen the number of admissions reduce now that fewer hospital check-ups are needed because we can provide care remotely. It is a win-win-win situation: [parents](#) are satisfied and are less likely to become concerned, children are assisted quickly in their own environment, and most importantly: our asthma patients are more stable."

More information: 'People first technology' is central during the 58th Dies Natalis of the University of Twente. In the run-up to the Dies

Natalis, we spoke to Boony Thio, pulmonologist at MST, about the added value of technology in personal healthcare.

More information on the 58th Dies Natalis on the website:

[www.utwente.nl/en/organization ... monies/dies-natalis/](http://www.utwente.nl/en/organization...monies/dies-natalis/)

Provided by University of Twente

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