

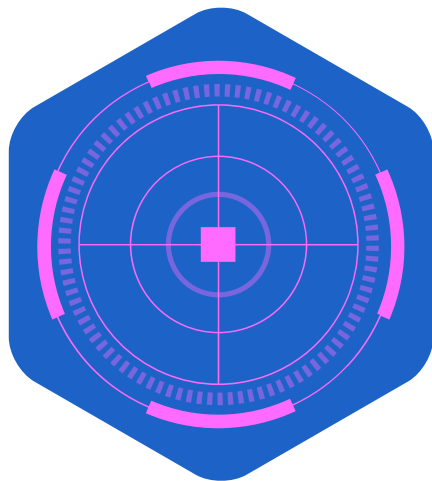
# Thank you!



## Dear Parent/Participant,

On behalf of the **BENEFICIAL study team**, we would like to sincerely thank you for your indispensable contribution to this scientific research.

Your child's participation helps improve the care of critically ill children.



### What was the **BENEFICIAL** study about?

A study on personalizing vancomycin dosing for critically ill children.

The children were randomly (by lottery) divided into two groups: one group in which the dose was calculated using the computer program, and one group in which the standard method was used.

**The challenge:** determining the most appropriate dose for each child.

Vancomycin is a powerful antibiotic used to treat severe infections. However, it is very difficult to determine the optimal dose for each child. A dose that is too low may not effectively fight the infection, while a dose that is too high can cause kidney damage.

Traditionally, vancomycin doses are calculated based on the child's weight and then adjusted according to the measured vancomycin concentration in the blood. Often, it takes a long time to find the most suitable dose.

### **Our main question:**

Can we use a computer program to calculate the appropriate dose more quickly for each critically ill child?

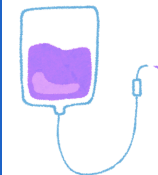
**BENEFICIAL:** a multicenter, randomized, controlled clinical trial evaluating the impact of a computer program for precision vancomycin dosing in critically ill children.



332 children



14 pediatric intensive care units



6075 vancomycin doses



123 study staff members

## What did we discover thanks to you/your child?

### Your child's participation led to valuable results:

#### Better dosing:

The computer program was significantly more effective in achieving a dose that results in the correct vancomycin concentration in the blood compared to the standard method.

The study also showed that a lower total dose of vancomycin was needed to achieve the same effect using the program. This is better for the patient and may potentially reduce costs. There was also a trend toward a shorter time to recovery.

#### Safety benefit:

Fewer kidney side effects were observed in the group where doses were calculated with the computer program. However, this difference was not large enough to confidently conclude that it was caused by the software, but it is still an encouraging indication.

#### Length of hospital stay:

No clear difference in hospital stay duration was observed.

### The future :

The researchers concluded that the use of this software should be recommended for patients receiving vancomycin over a longer period or for patients with pre-existing risk factors for kidney damage.

In view of implementation in routine practice, a follow-up study is ongoing to evaluate the experiences of doctors and nurses using such a computer program.

### Study data:

The data from this study were processed anonymously and used solely for scientific research.

The researchers have no commercial interests in the software used.

**Once again, our sincere thanks for your essential role in this research!**

### The BENEFICIAL study team:

**Principal Investigator: Prof. Apr. Pieter De Cock (UZ Gent)**

**Study Coordinator: Anca Amza (UZ Gent)**

**Clinical Trial Unit: HIRUZ UZ Gent**

[www.uzgent.be/beneficial](http://www.uzgent.be/beneficial)

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