

## New NWU centre for children with developmental delays will focus on the whole family

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When children have disabilities or developmental delays, the whole family can be affected. This is why the Care2Kids division of the Centre for Health and Human Performance at the North-West University (NWU) is embracing a family-focused intervention.



These are some of the conceptual ideas for the intervention surveillance centre

Explaining the need for a family-centred approach, Hanlie Degenaar, a speech-language pathologist leading the Care2Kids multidisciplinary team, says there are many risks to children in South Africa that impact their development.

"These risks include poverty and a lack of resources in poor communities, communicable diseases (especially HIV-negative but HIV-exposed children), poor quality health and educational care, as well as the risk of poor home environments providing insufficient quality stimulation," she says.

All of these could affect a child's language and communication-interaction development, which are key to cognitive development, psychosocial health and academic performance.

## Impact on family members

"A developmental delay may have a lasting effect on a child's development and a psychosocial impact on the child's family," says Hanlie. "This may lead to family members experiencing stress, depression and feelings of helplessness. Accordingly, not only do children with developmental delays and disabilities have special needs, but families have unique needs as well."

According to Prof. Leenta Grobler, acting director for business development and stakeholder engagement in the Faculty of Engineering and parent of a child who overcame a developmental delay, she experienced the benefits of this family-centred approach. Still, as an engineer, she also realised the severe lack of accessible enabling technology within this setting.

"While some technology is developed to aid early childhood intervention, devices designed for the first world often are unaffordable, not sufficiently simple or robust, or just not compatible for use in our local setting."

This awareness prompted her to act. In 2019, she and a colleague, Dr Henri Marais, started to collaborate with the Care2Kids team to co-create user-centric solutions to use in the local context.

## Engineers as part of the healthcare team

The engineers quickly realised the need to become fully immersed in the therapy setting so that they could understand the context in which the solution is needed. This would allow the solution to be seamlessly integrated into the therapy being provided.

This prompted the dream of a Fourth Industrial Revolution-enabled facility offering therapy and rehabilitation surveillance, which will facilitate both family-focused assistance and medical device development, according to Prof. Grobler.

"The Faculty of Engineering then applied for strategic funds from the NWU to develop an intervention surveillance centre to facilitate both family-focused intervention and medical device development," she says. "In this facility, engineers will become part of the healthcare team, enabling them to understand where technology should be introduced."

To this end, the surveillance centre's custom-designed family, child, and adult intervention spaces will be equipped with 360-degree filming technology and virtual/augmented reality headsets.

The centre will also boast a sensory garden and paediatric nutrition education centre where feeding problems will be addressed in a family-focused manner.

Planning and design are underway, and implementation will commence as soon as all of the necessary approvals have been given.

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