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STORY FROM DELOITTE AUSTRALIA

Bringing AI to the forefront of a tech-driven food revolution

Compass Group Australia and Deloitte Australia launch an AI-enabled system for improving nutrition among older adults.

CAN AI MAKE HEALTHCARE MORE HUMAN?

THE SITUATION

For older adults, malnutrition can go undetected until other issues—such as a higher risk of illness, slower recovery time, and decline in overall health—begin to emerge. Malnutrition is one of the key reasons older adults' health can deteriorate quickly, which makes it a significant concern for any country with an aging population.

A 2021 study by Australia's Royal Commission of Aged Care Quality & Safety found 68% of residents in the country's older adult facilities were at risk of malnutrition. For Compass Group Australia, this was unacceptable and an issue that needed to be addressed. By doing so, the global food and support services company aspired to improve the lives and health of the elderly, while also bringing peace of mind to their families.

Compass Group Australia also recognized that healthcare workers worked grueling hours and carried large caseloads. In considering its approach to reducing malnutrition, Compass Group Australia believed there also could be an opportunity to support staff while improving the experiences and health outcomes of residents. And as a global leader in food and support services, Compass Group Australia set out to leverage advanced and emerging technologies, including artificial intelligence, to improve nutrition for all.



THE SOLVE



The Meal Vision Scanning Unit includes a high-resolution camera, radio frequency identification (RFID), and a LIDAR scanner for measuring the food. At the start of a meal, an RFID tag attached to a plate enables the unit to detect which resident a particular plate belongs to; then, the unit's camera scans the plate to identify the food and calculate its volumes. The process is repeated when the resident returns the plate after eating. Data captured at both touchpoints feeds into an AI cloud-based platform that is shared with staff and clinicians who can use these real-time insights to track the total percentage consumed and food categories to identify patterns in the residents' behaviors and determine which residents require adjustments in their meals.

"Using Meal Vision, we can tailor meals specifically to people's preferences and health needs, as part of a holistic, personalized care plan," says Suzy Hudson, Executive Director of Healthcare at Compass Group Australia. "The AI technology can automate food ordering and menu creation process, as well as track the consumption and nutritional value of food by scanning and assessing the meal before and after it's served. The real-time data recorded is more accurate than possible by a human. Over time, Meal Vision identifies trends and patterns, as well as forecasts potential malnutrition."

The information gathered can also be extended to residents' families, which means Meal Vision isn't just helping improve nutrition. It's helping enhance trust.

UNLOCKING THE FUTURE
OF FOOD TO **SAFEGUARD**
AT-RISK POPULATIONS

THE IMPACT

Before Meal Vision was introduced, nutrition concerns among Compass Group Australia residents often weren't identified until residents started to lose weight. Now, eldercare facilities can spot at-risk signs ahead of time, with Meal Vision flagging consumption-related warnings, so that medical teams, caterers, and caregivers can take informed actions with a focus on nutrition and quality care.

"Meal Vision is a critical innovation," says Lea Cornelius, General Manager of Digital & Tech Solutions at Compass Group Australia. She notes, "The data provides accurate insights about the nutritional value consumed by residents, as well as early detection of malnutrition or changed eating behaviors. The information assists staff and clinicians by informing and optimizing personalized care plans. Over time, the data will strengthen and identify individual and collective trends."

Kale Temple, data and AI specialist at Deloitte Australia, sees Meal Vision as an initial step toward a tech-driven future for healthcare. "Using AI and machine learning to analyze data, including scans, will be pivotal in improving preventative care and the quality of diagnostics," he says. "Preventing or identifying a health problem early means we can help avoid a patient falling into crisis, as well as reduce the total cost of care."



AI HELPS BRING AN INNOVATIVE VISION OF FOOD
INTO FOCUS

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