Introduction: There is growing recognition that a whole of food systems approach is needed to develop sustainable (i.e. durable) solutions to the growing burden of non-communicable disease and simultaneously address economic impact and environmental sustainability. However, there is little guidance on how to best realize this approach.

Methods: This study aimed to develop a food systems approach for public health nutrition by building on existing systems methods. We identified Global Value Chain Analysis (GVCA) as a suitable method and adapted this for public health research. To achieve this, we designed a case study on the New Zealand (NZ) potato sector. This sector was selected because potatoes are a healthy staple food, but are also processed into unhealthier products (e.g., chips). We initiated data collection by following the four GVCA steps and consulting with relevant stakeholders including farmers and industry representatives.

Results: We adapted the original GVCA methods to identify both health and monetary value of potatoes (e.g., what are the drivers to process potatoes into chips). Preliminary results showed that fresh potatoes, processed potatoes, potato starch and frozen potatoes have distinct value chains that need to be analysed separately. There are only a handful of potato farmers that supply fresh potatoes to the largest NZ supermarkets. Farmers experience tensions in meeting demands, achieving the highest yields, (low) margins, and appearance, taste and nutritional value of the potato.

Conclusion: The distinct value chains for processed and fresh potato products impact on (healthy) food availability, accessibility and affordability and thereby population diets.