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An Innovative And Reproducible Data Visualization Tool For Continued Monitoring And Surveillance Of Pig Health, Welfare, And Public Health Using Abattoir Data

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Body of the Abstract

Introduction:Translating meat inspection results, crucial for monitoring animal health, welfare and public health, into actionable insights for the pig industry remains challenging. We are developing an innovative data visualisation and reporting tool for pig abattoir data, with potential for adaptation to other species and countries.

Methods: Meat inspection results encompass data on partial or total rejections of pig carcasses unfit for human consumption. Food Standards Scotland (FSS) collects and collates these data from all pig slaughterhouses. However, farmers lack access to aggregated data over time and visualisation tools. We are developing an RShiny app to visualise these abattoir data for Scottish pigs, enabling stakeholders to access and interpret data effectively. All software used (R and RShiny) is free. The (annotated) code and mock datasets will be shared with DECIDE project partners to enable its adaptation and further development to other species and types of data.

Results:The app features three tabs presenting different aspects of abattoir meat inspection results. The Basic tab shows the number of partial and full carcass rejections over time and highlights common rejection types. The Advanced tab allows users to filter by rejection type, farm, and abattoir, facilitating detailed analyses. Additionally, a TimeSeries tab shows specific rejection types by farm, with embedded alarm thresholds for monitoring purposes. The app also generates PDF reports based on user-defined parameters.

Discussion:This tool enhances transparency and facilitates benchmarking and informed decision-making among the livestock industry. By providing intuitive access to meat inspection data, the tool promotes proactive measures for disease control and surveillance. Effective communication strategies are pivotal to engage all stakeholders and promote behaviour change.

Conclusion:Abattoir data visualization tools contribute to disease surveillance and management in the pig industry. By fostering collaboration and enhancing data accessibility, this tool contributes to improving animal and human health outcomes in a globally connected environment.