An Approach to Cluster EU Member States into Groups According to Pathways of Salmonella in the Farm-to-Consumption Chain for Pork Products - DTU Orbit (08/11/2017)

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The aim of the project as the cluster analysis was to in part to develop a generic structured quantitative microbiological risk assessment (QMRA) model of human salmonellosis due to pork consumption in EU member states (MSs), and the objective of the cluster analysis was to group the EU MSs according to the relative contribution of different pathways of Salmonella in the farm-to-consumption chain of pork products. In the development of the model, by selecting a case study MS from each cluster the model was developed to represent different aspects of pig production, pork production, and consumption of pork products across EU states. The objective of the cluster analysis was to aggregate MSs into groups of countries with similar importance of different pathways of Salmonella in the farm-to-consumption chain using available, and where possible, universal register data related to the pork production and consumption in each country. Based on MS-specific information about distribution of (i) small and large farms, (ii) small and large slaughterhouses, (iii) amount of pork meat consumed, and (iv) amount of sausages consumed we used nonhierarchical and hierarchical cluster analysis to group the MSs. The cluster solutions were validated internally using statistic measures and externally by comparing the clustered MSs with an estimated human incidence of salmonellosis due to pork products in the MSs. Finally, each cluster was characterized qualitatively using the centroids of the clusters.

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