

Understanding the socio-spatial distribution of “dark kitchens” in England: developing a unique location dataset

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Online food delivery services (OFDS, e.g. DoorDash, JustEat) allow people to access food prepared out-of-home more conveniently. The increasing popularity of OFDS has enabled a business model of food delivery from ‘dark kitchens’. Dark kitchens can take two forms: ‘ghost kitchens’, which are non-customer-facing commercial kitchens, and ‘virtual brands’, which operate from the kitchens of existing physical food outlets. However, a lack of national data on their locations limits our understanding of dark kitchens. In this study, we developed a comprehensive database of dark kitchen locations in England and analysed their socio-spatial distribution. We also developed a machine learning algorithm to predict ghost kitchen locations, as well as a record linkage process to identify virtual brands. By examining commercial kitchen providers’ location data, along with a review of keywords and addresses hosting multiple food outlets on meal delivery apps (JustEat, Deliveroo, UberEats), we identified 143 ghost kitchens hosting 1,446 food outlets (min-max: 1-57 food outlets per ghost kitchen), with the majority (66%) of these ghost kitchens in London. Using deduplicated, national data for food outlets on these three delivery apps (N=117,158), we also identified 20,801 virtual brands operating out of 9,732 kitchens. Some of the most prevalent virtual brands were SoBe Burger (N=193), Chick ‘N’ Bun (N=173), and Patty Guy (N=170). During the presentation, we will present the socio-spatial distribution of these dark kitchens including by type. This unique dataset will be instrumental in advancing research and shaping public policy on dark retail.

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