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PREDICTORS OF CONVEYANCE TO HOSPITAL BY AMBULANCE SERVICES OF CARE HOME PATIENTS

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Background Residents of care homes may be affected by medical emergencies, resulting in ambulance attendance and conveyance to hospital which add extra pressure and costs on an already strained emergency and healthcare system. The aim of this study was to determine the factors predicting conveyance to hospital of care home residents by ambulance services.

Methods We used a cross-sectional study design analysing routine data from electronic clinical records from East Midlands Ambulance Service NHS Trust (EMAS) from 2018 to 2021. A multivariable multinomial regression model was used to identify the main predictors of conveyance to hospital or referral to community services.

Results The data included 170,612 attendances to care homes representing 7.5% of the total number of EMAS attendances between 2018-2021. The main predictors of conveyance to hospital were being male (Relative Risk Ratio [RRR] 1.07, 95% Confidence Interval [CI] 1.03-1.10, $p < 0.001$), aged 70-79 years (RRR 1.09, 95%CI 1.03-1.17, $p < 0.001$) or 80-89 years (RRR 1.10, 95%CI 1.03-1.17, $p < 0.001$), situated in an area of higher deprivation (RRR 1.06, 95%CI 1.03-1.09, $p < 0.001$), or having dispatch categories which included cardiovascular (RRR 11.29, 95%CI 10.43-12.22, $p < 0.001$), trauma including falls (RRR 9.50, 95%CI 8.97-10.05, $p < 0.001$) or neurological (RRR 9.06, 95%CI 8.42-9.75, $p < 0.001$) conditions. Calls made by health care professionals (HCPs) (RRR 15.37, 95% CI 13.41-17.62, $p < 0.001$) or where patients had a higher National Early Warning Score (NEWS2) (RRR 1.23, 95%CI 1.22-1.24, $p < 0.001$) resulted in significantly increased conveyance.

Conclusion A series of factors significantly predict conveyance to hospital by ambulance of home care residents. These include HCP referral or NEWS2 confirming that the severity of clinical condition of the patient was associated with significantly increased conveyance. Future interventions to prevent or address certain conditions such as falls or provide enhanced care in care homes may prevent some emergencies or reduce the risk of conveyance to hospital.

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VARIATIONS IN THE NUMBER OF AMBULANCE ATTENDANCES TO CARE HOMES BEFORE AND DURING COVID-19 PANDEMIC: AN INTERRUPTED TIME SERIES ANALYSIS

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Background Medical emergencies in residential or nursing care homes are common and costly, resulting in ambulance attendance and hospitalisation, with extra pressure on an emergency system severely impacted by the Covid-19 pandemic. The aim of this study was to explore how the number of ambulance attendances to care homes varied before and during Covid-19 pandemic whilst considering the UK national lockdowns.

Methods We used a cross-sectional study design analysing routine data from electronic clinical records from East Midlands Ambulance Service NHS Trust (EMAS) from 2018 to 2021. An interrupted-time series analysis (ITSA) was used to compare the total number of ambulance attendances to care homes per week before and during the pandemic whilst considering the three UK national lockdown periods. Seasonality (i.e., month of the year), call category, deprivation, and rurality were included as covariates in the model.

Results The interrupted time series analysis indicated a significant decrease of 9.9 ambulance attendances to 1956 East Midlands care homes per week during the first lockdown relative to the pre-pandemic period (CI: -19.1, -0.8, $p = 0.034$). This was followed by a significant increase of 13.7 attendances per week in the period between the first two lockdowns (CI: 4.0, 23.5, $p = 0.006$) relative to the first lockdown period. There was no significant change during the second lockdown but there was a significant decrease of 19.7 attendances per week in the third lockdown (CI: -30.5, -9.0, $p < 0.001$) compared to the non-lockdown period preceding it.

Conclusion Ambulance attendances to care homes decreased during the Covid-19 pandemic, were significantly reduced in the first and third lockdowns, and remained lower during the pandemic compared to pre-pandemic levels. Further research is needed to investigate the factors that might have influenced this trend including changes in ambulance service policies, ambulance and care home personnel, and increased death rates in care homes.

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CHARACTERISTICS OF PATIENTS PRESENTING TO AMBULANCE SERVICES WITH MENTAL HEALTH CONDITIONS BEFORE AND DURING THE COVID-19 PANDEMIC: CROSS-SECTIONAL STUDY

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Background Mental health conditions are common and often affect people's social and work lives. The arrival of COVID-19 in 2020, and the lockdowns following this, increased the risk of mental health conditions as indicated by many qualitative and quantitative studies. We aimed to determine the incidence of ambulance calls for mental health presentations and to investigate the main predictors of these presentations in the East Midlands Region, before and during the COVID-19 pandemic.

Methods We used a cross-sectional design to determine incidence rates and predictors of mental health presentations to East Midlands Ambulance Service NHS Trust (EMAS), UK. Descriptive statistics were used to summarise the dataset from EMAS, and multiple logistic regression models were used to ascertain the main predictors of mental health presentations.

Results The incidence of mental health presentations to ambulance services significantly increased from 7.6% before