Introduction

Epidemics, dense housing environments, food shortages, unhygienic waste management, etc. caused poor health during the middle ages (11th to 16th centuries) in England (Miller and Hatcher 1978, Dyer 2002, Rawcliffe 2013). Individuals who were sick and not able to provide for themselves sought out hospitals to care for them (Magilton 2003). For lower status individuals who became ill, family members would often take care of them (Magilton 2008).

Materials & Methods

- Blackfriars: A cemetery found on the grounds of the Gloucester Dominican Friary in Gloucester, Gloucestershire (Wiggins et al. 1993). The cemetery was in use from 1246 to 1539 (Wiggins et al. 1993). Fifty-six individuals were analyzed from this cemetery.
- Box Lane: A cemetery discovered on the grounds of St. John’s Priory in Pontefract, West Yorkshire (Boylston 1991). It is assumed to be associated with the priory that was founded in 1090 (Roberts and Burgess 1999). The usage dates of the cemetery is unknown. Thirty-four individuals were analyzed from this cemetery.
- Chichester A: A cemetery associated with St. James and St. Mary Magdalene Hospital in Chichester, West Sussex (Magilton 2008). This hospital was considered a leper hospital that only accommodated men until 1418 (Lee 2001). Thirty-four individuals were analyzed from this cemetery.
- Chichester B: A cemetery associated with St. James and St. Mary Magdalene Almshouse in Chichester, West Sussex (Magilton 2008). In 1450, the hospital transformed into an almshouse then started to admit women and children in 1540 (Lee 2001). Fifty-six individuals were analyzed from this cemetery.
- Linear enamel hypoplasia (LEH) was scored to identify skeletal stress distribution.

Discussion & Conclusion

- The results suggest that there are no significant difference between the lay and hospital population’s age and the distribution of stress markers.
- Based on two of the survival curves (Figure 1 and 2) the hospital populations were more likely to survive before the age of 30. This reflects the admission of adult males into the hospital from 1418-1450 and further on into the following years.
- Figure 3 suggests males from the lay cemeteries were more likely to survive with LEH.

Results

<table>
<thead>
<tr>
<th>Statistical Test</th>
<th>Analysis</th>
<th>P-Value</th>
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<tr>
<td>Mann-Whitney U Test</td>
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<tr>
<td>Pearson’s Chi-Square Test</td>
<td>LEH Adults</td>
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<tr>
<td></td>
<td>Non-Adults</td>
<td>0.26</td>
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</tbody>
</table>

Table 1. Statistical Test Results

Survival Functions

Figure 1: Kaplan-Meier survivorship for individuals from the hospital and lay cemeteries

Survival Functions

Figure 2: Individuals with linear enamel hypoplasia Kaplan-Meier survivorship.

Survival Functions

Figure 3: Adult males and females with linear enamel hypoplasia Kaplan-Meier survivorship for lay and hospital individuals.

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