

Institution: University of Winchester
Unit of Assessment: UoA 17 Geography, Environmental Studies and <u>Archaeology</u>
Title of case study: Challenging the Past: The Magdalen Hill Archaeological Research Project (MHARP)
1. Summary of the impact Leprosy is one of the 17 poverty-associated diseases targeted by the WHO as being capable of elimination. Consequently there is great interest in the historic evidence of its incidence and treatment. Analyses of skeletons and medical artefacts excavated by MHARP in Winchester have thus contributed to the wider scientific research of the disease. Through its developing partnership with the UK Leprosy Mission, community links and widespread media coverage, the Project has raised public awareness of leprosy and the wider social issues surrounding it both as a historic disease and one which affects those living in extreme poverty today.
2. Underpinning research Over a quarter of all hospital foundations in medieval England were leprosaria. It is therefore surprising that, in contrast to a number of important historical works on leprosy, comparatively little archaeological work has been conducted on such hospitals. Archaeological research conducted at St Mary Magdalen, Winchester, has thus provided a valuable insight into both the form of early institutional care and the nature and status of its community from a relatively early date. The evidence confirms that the hospital is one of, if not the, earliest, excavated examples from medieval Western Europe dating to between AD 1070 and 1090 (Roffey 2012). The research has shown that the hospital was a pioneering establishment of both charitable and institutional health care. Consequently, Roffey and Tucker have argued that the development of early health care in England, and a 'national health service' emerged as a direct response to the spread of the disease of leprosy (Roffey and Tucker 2012). Roffey and Marter have further suggested that St Mary Magdalen, Winchester, may have provided a model for succeeding charitable institutions of social care, that was otherwise not properly formalised until more recent centuries. The research further suggests that the level of personal and communal provision for leprous patients was at an elevated level of social status, perhaps on par with that of members of monastic houses – ideas that radically question traditional interpretations regarding the status and wider perceptions of medieval leprosy. Such important results are key to addressing modern negative perceptions of the disease and its treatment (Roffey and Marter 2012). MHARP has achieved the most extensive modern excavation of a European leprosy hospital and associated cemetery to date. Analysis of the latter indicates skeletal evidence for leprosy in over 85% of excavated examples, a much larger percentage than has previously been recorded in any British medieval cemetery (Roffey and Tucker 2012). Consequently the skeletal collection from the site is key to a series of collaborative projects examining ancient disease. Current collaborative projects include DNA analysis of early leprosy (with the Universities of Surrey, Bristol and Lausanne), genome sequencing of medieval leprosy (Universities of Surrey, Lausanne and Tübingen), isotope analysis of the cemetery population (Southampton and Cambridge), and the metrics of medieval cemetery populations (Exeter). For example a recent paper in <i>Science</i> highlighted the exceptional preservation of DNA in the MHARP skeletal material in revealing a European origin for leprosy in the Americas and the presence of a <i>Mycobacterium leprae</i> genotype in medieval Europe now commonly associated with the Middle East (Schuenemann et al. 2013). As a result of all of the above MHARP has attracted support from a wide range of funding bodies including the Royal Archaeological Institute, the Society of Antiquaries, the Hampshire Field Club, the British Academy and the Wellcome Trust.
3. References to the research Schuenemann, V., Singh, P., Mendum, T.A., Krause-Kyora, B., Jäger, G., Bos, K. I., Herbig, A., Economou, C., Benjak, A., Busso, P., Nebel, A., Boldsen, J.L., Kjellström, A., Wu, H., Stewart, G.R., Taylor, G.M., Bauer, P., Lee, O., Wu, H.Y., Minnikin, D.E., Besra, G.S., Tucker, K., Roffey S., Sow, S.O., Cole, S.T., Nieselt, K., Krause, J. (2013) 'Genome-Wide Comparison of Medieval and Modern <i>Mycobacterium leprae</i> ' <i>Science</i> Vol. 341 no. 6142 pp. 179-183. Roffey, S. and Tucker, K. 2012 A contextual study of the medieval hospital and cemetery of St

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Mary Magdalen, Winchester, England, *International Journal of Paleopathology* 2, 170-180.

Roffey, S. 2012. Medieval leper hospitals in England: an archaeological perspective from St Mary Magdalen, Winchester, *Medieval Archaeology* 56, 203 -234.

Taylor, G.M., **Tucker, K.**, Butler, R., Pike A.W.G., Lewis, J., **Roffey, S.** and **Marter, P.** (2013) Detection and Strain Typing of Ancient *Mycobacterium leprae* from a Medieval Leprosy Hospital. PLoS 1. <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0062406>

Roffey, S. and **Marter, P.** 2010. Recent Excavations at St Mary Magdalen, Winchester. *Medieval Archaeology* 54. 404-408.

4. Details of the impact (indicative maximum 750 words)

In November 2012 The World Health Organisation pledged to renew efforts on 17 'neglected tropical diseases' including leprosy. Vital in this effort to eradicate leprosy is a historic perspective that informs modern epidemiology. Therefore the excavation of the cemetery at St Mary Magdalen and the subsequent analysis of human remains have provided an unparalleled opportunity to study disease expression, proteomics, human/pathogen DNA, and stable isotopes to inform modern understanding of Hansen's Disease. Indeed as noted above the exceptional preservation of *Mycobacterium leprae* biomarkers, both DNA and mycolic acids, in the skeletons has major implications for palaeomicrobiology and human pathogen evolution. The subject matter of MHARP therefore transcends pure archaeological goals and provides previously unexplored links between the study of medieval leprosy, past care for 'lepers' and contemporary work to alleviate the suffering of individuals with Hansen's disease.

MHARP also bridges the gap between vocational training, education and research as well as contributing to raising awareness of wider social issues concerning leprosy. The overall social implications resulting from the project's work are beginning to challenge views of leprosy sufferers in medieval society, which has a direct result on public perceptions today. The implications of such views are particularly acute today where in much of the developing world many people still suffer from the disease. Over the last few years the idea of the medieval leper as an outcast has been challenged and data from MHARP have contributed to this revisionist view (see Roffey and Marter 2012). Furthermore this includes evidence for remedial care suggesting there were attempts to alleviate individual suffering. Clearly, the level of provision suggests a higher level of social status for sufferers of Hansen's Disease than previously thought. Such important results cannot be underestimated in the context of modern perceptions of the disease and its treatment. Since 2012 the project has formed an important alliance with the UK Leprosy Mission and, as well as helping in fund-raising, activities, including a charity pilgrimage walk, is helping to raise public awareness of leprosy by challenging long-entrenched misconceptions of the disease through archaeological research. The research is being used to highlight issues such as the general 'acceptance' of the disease by past societies (largely overturned by Victorian scholars), misconceptions regarding contagion and the fact that the disease and its social implications are as relevant today as in the past. The guided pilgrimage from Winchester Cathedral to St Mary Magdalen raised funds for the Charity as well as stimulated public awareness through newspaper articles and a feature on the BBC South News. In addition, the project was featured in an article for *Christian Today*, the on-line news site that reaches an audience of around 2.5 million people (May 2012).

Results of the project and their wider implications have not only been disseminated in a number of research articles (noted in section 3), but also at number of important conferences and seminars, including papers presented at the Wellcome Unit for the History of Medicine, Oxford; Conference for the History of Medicine, London and the British Museum. The results have been made available to the wider public via the written and broadcast media. Significantly the former have been disseminated not only to an archaeological audience, but also within the fields of history, medicine, religion and charitable groups promoting welfare and social awareness (detailed in section 5). MHARP has received the widest of popular media coverage, featuring on national television and in newspapers, as well as regional outlets. For example the project featured on the BBC One Show (c. 5 million viewers) on 16th January 2012 and the History Channel's *Grave Trade* on February 19th 2013. It has also been filmed for a series of BBC2's 'Digging For Britain'. Interviewed radio features include BBC Radio Solent (2009, 2010, 2011), BBC Sunday Religious

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Programme (Sept 2009) and BBC Radio 4 Today programme (Feb 10th 2013). Project updates include interview features on ITV Meridian News (Sept 2009) and BBC News (Sept 2009, 2010, 2011). Newspaper articles on the site have appeared in *The Telegraph*, *The Independent* and *The Guardian* as well as 'popular' magazines *British Archaeology* and *Current Archaeology*. Further afield, the subject of past societies' views on the care of the sick has provided opportunity for discourse between charities, museums and community stakeholders, links have been made between the project and one of Hampshire's largest charities, St John's Charity, and the Friends of St Cross (Charity). Open days, public tours and specialist tours have also been conducted for local schools and the local children's hospital in Winchester.

5. Sources to corroborate the impact (indicative maximum of 10 references)

Coverage in the media

The Independent (2010) Site of 'Britain's oldest hospital' uncovered. Available at: <http://www.independent.co.uk/life-style/history/site-of-britains-oldest-hospital-uncovered-2111808.html>

The Daily Telegraph (2010) Britain's first hospital discovered. Available at: <http://www.telegraph.co.uk/news/uknews/8076027/Britains-first-hospital-discovered.html>

BBC (2010) Britain's 'oldest hospital found' by archaeologists. Available at: <http://www.bbc.co.uk/news/uk-england-hampshire-11594335>

The Guardian (2010) Britain's 'earliest hospital' discovered: Radiocarbon analysis of site in Winchester provides date range of AD 960-1030 – preceding Norman conquest. Available at: <http://www.guardian.co.uk/science/2010/oct/20/britains-earliest-hospital-found-winchester>

MHARP and the origins of leprosy (2013): <http://www.bbc.co.uk/news/science-environment-22857578>

Times Higher Education (2011) University of Winchester - Middle Ages medical first. Available at: <http://www.timeshighereducation.co.uk/414059.article>

Coverage by leprosy, Christian and heritage organisations:

<https://ja-jp.facebook.com/TheLeprosyMissionEnglandandWales/posts/453799817969658>

<http://www.christiantoday.com/article/pilgrim.to.britains.oldest.leprosy.hospital/29838.htm>

<http://www.hampshirechronicle.co.uk/news/9709852.print/>

'Popular' articles written by the project team:

Roffey, S and Marter, P. 2012. Treating leprosy St Mary Magdalen, Winchester. *Current Archaeology*, 267. 12-18.CBA. <http://www.archaeology.co.uk/issues/ca-267.htm>

Roffey, S and Marter, P 2011, 'St Mary Magdalen Hospital Winchester'. *British Archaeology* 177, 22-7. <http://www.archaeologyuk.org/ba/ba117/feat2.shtml>.