

Disability and care in Western Europe during Medieval times: A bioarchaeological perspective

Ileana Micarelli^{a,*}, Mary Anne Tafuri^b, Lorna Tilley^{c,1}

^a *McDonald Institute for Archaeological Research, University of Cambridge, Downing St, Cambridge CB2 3ER, UK*

^b *Department of Environmental Biology, Sapienza University of Rome, Piazzale Aldo Moro 5, 00185 Roma, Italy*

^c *Independent Researcher, Australia*

ARTICLE INFO

Keywords:

Bioarchaeology
Post-classical
Medieval
Multidisciplinary approach

ABSTRACT

This Special Issue has its foundation in presentations delivered in the symposium *Disability and Care in Medieval Times: a Bioarchaeological Perspective into Health-related Practices* held at the 2019 European Association of Archaeologists conference in Switzerland. It comprises 12 papers, all relevant to aspects of pathology experience and/or care provision in Western Europe during the Early to Late Middle Ages (500 – 1500 CE). Reflecting the 1000 year timespan involved, these papers are characterised by diversity in subject matter and in the lifeways in which they are located, but all contribute to the symposium's primary aim: to demonstrate that our understanding of the Medieval period is enhanced by cross-disciplinary, bioarchaeological research into individual and collective experiences of disability and care. This Introduction provides the background to the 2019 symposium, and briefly discusses the papers contained in the Special Issue which emerged from this.

1. Introduction

Over the last decade, bioarchaeologists and paleopathologists have become increasingly aware of the insights achievable from a focus on health-related care needs and practices in past populations, but until recently studies, with a few notable exceptions, have focused on behaviours in prehistoric populations. To address this, the authors organised a dedicated symposium - *Disability and Care in Medieval Times: a Bioarchaeological Perspective into Health-related Practices* – as part of the September 2019 European Association of Archaeologists (EAA) annual meeting in Switzerland, designed to bring together colleagues working in medieval contexts and interested in the potential for research in these areas.

This Special Issue contains 12 papers, most of which are based on presentations given in this symposium. These papers focus on the implications of pathology impact and caregiving response in Western Europe during the Early to Late Middle Ages (500 – 1500 CE), where feasible adopting a multidisciplinary approach in considering biological and social aspects of disease and care provision. Inevitably, given the timespan involved, the contents of the Special Issue are characterised by cultural, economic, social and environmental diversity, but all contribute to this project's primary aim: to demonstrate that our

understanding of a period extending over 1000 years of continuous challenge and change is enhanced by a cross-disciplinary, bioarchaeological research focus on the individual and collective experiences of disability and care.

Little did we know, when organising the conference session and then celebrating its success, what the future held. It is ironic, to say the least, to have been involved in developing this Special Issue during a pandemic. COVID-19 turned two full years of our lives upside down. In a matter of weeks, we had to change the way we lived, adapting to new emotional and geographical horizons and adopting new working routines and priorities (see [Wissler and DeWitte, 2023](#)). We missed friends and family immensely, and coped with fear, uncertainty, distrust, apathy and boredom. On the one hand, as individuals, we had to learn to deal with a new 'disability', a very modern one, which restricted our liberty to move freely and to socialise (if only temporarily) ([Cadar, 2023](#)). On the other hand, COVID-19 showed us that little has changed in basic human response from what happened during pandemics in the past, especially where this concerns social and economic inequality ([Wade, 2020](#)).

In the following pages we outline the context, rationale and scope of the 2019 symposium, then briefly discuss the individual papers contained in the Special Issue which emerged from this.

* Corresponding author.

E-mail addresses: im452@cam.ac.uk (I. Micarelli), maryanne.tafuri@uniroma1.it (M.A. Tafuri), lornatilly@inet.net.au (L. Tilley).

¹ Formerly Australian National University.

1.1. Background: context for the 2019 EAA Symposium

Medieval Western Europe (500 – 1500 CE) provides an extraordinarily rich and culturally complex historical and (bio)archaeological backdrop for research into past disability and care. At any given time, a large proportion of the population endured disease and disability. In an environment of social and economic inequality, widespread political instability, increasing population density (relocation from rural to urban environments leading to problems ranging from inadequate hygiene to community breakdown), frequent and deadly pandemics, often precarious harvests (resulting in food shortages and sometimes famine), and major transformations in institutions and industries, significant pressure was placed on individual and collective health and well-being (e.g., Campbell et al., 1992; DeWitte, 2015; Horden, 2008; Lewis, 2002; Roberts, 2009; Verner, 2014; Walter and DeWitte, 2017; Wickham, 2016). From medieval documents, including medical treatises, manuals, religious directives, endowments, and even private correspondence between family members, and from the extensive “history of medicine” literature interpreting these, we have a wealth of knowledge about post-classical and medieval medical practices and their underlying philosophies and rationales. We have (sometimes detailed) accounts of contemporary disease, aetiologies, symptoms, diagnoses, prognoses, and medicinal, surgical, spiritual, and “folk” remedies, and we can identify different categories of formally qualified practitioners and less formal “healers”, along with the features of their training (or lack of it). Particularly relevant to the later Middle Ages, we have records of the institutions established to house the infirm and of developments in public policy aimed at disease control and containment (e.g., Bifulco et al., 2015; Bowers, 2007; Getz, 1998; Gilchrist, 2012; Green, 2009; Horden, 2008; Horden and Smith, 2013; Kealey, 1981; Rawcliffe, 1995, 2013; Riddle, 1974; Turner and Lee, 2018). Existing paleopathology and bioarchaeology research allows us to build a picture, albeit necessarily incomplete, of the epidemiological features, historic timelines, and community and personal impacts of disease, including – occasionally – the outcomes of medical (usually surgical) treatment interventions (After the plague, 2016–2020; DeWitte, 2016; Grauer and Roberts, 1996; Holck, 2002; Knüsel et al., 1995; Krenz-Niedbała, 2017; Lewis, 2002; Lewis et al., 2016; Micarelli et al. 2018; Olsen et al., 2018; Roberts, 2009; Shapland et al., 2015; Stirland, 1997; Walter and DeWitte, 2017; Willmott et al., 2020).

Yet despite all this, when we began thinking about a session for the 2019 conference, we realised that there was very little information on how hands-on, medium- to longer-term health-related caregiving was realised in practice. In other words, how was that form of care, which consists of ongoing support, rather than a one-off intervention, designed and delivered? Although there had been sporadic interest in the identity, roles and status of informal caregivers in the Middle Ages for some time (e.g., Cabré, 2008; Green, 1989; Phillips, 2019), scant attention had been paid by historians to “the cleaning, healing and caring labours necessary for the comfort, preservation, and maintenance of the body” (Phillips, 2019:7). Even in the rare contemporary descriptions of medical treatment given to specific, usually aristocratic, individuals, emphasis is almost always placed on the detail of the intervention itself rather than on features of the longer-term nursing and nurture which was almost inevitably required for the patient’s recovery (see, for example, Rawcliffe’s (1995) discussion of cases variously involving surgery, dentistry, phlebotomy and/or cupping; provision of herbal and/or other medicines, and the use of spiritual, astrological and/or magical remedies). There existed no clear picture of how disease and disability were managed on an everyday basis in Medieval communities.

In the context of the medieval lifeways outlined earlier, this represents a lost opportunity. According to the historian Marcus Bull,

[v]iewed as unique, flesh-and-blood individuals, most of the people who lived in Western Europe between about 500 and 1500 are now historically non-existent. They are literally nameless; they have slipped through the documentary net. [...] These medieval people are completely and utterly

gone. The best we can usually say about this anonymous multitude is that they must have existed in an abstract sense (Bull, 2005:81, emphasis added).

We reasoned that bioarchaeological research focused on experience of disability and care could help to redress this anonymity. Although up to 2019 only a handful of studies had applied a bioarchaeology of care approach to Medieval remains (e.g., Matczak and Kozłowski, 2017; Roberts, 2017; Van, 2018), these clearly illustrated that, where evidence permits, it is possible to address questions such as: who in the Middle Ages received care – young, old, rich, poor, male, female? How did the provision of care for a particular individual fit with the expectations of their role within society? How were the short- and longer-term care needs of the individual met, and how was such care sustained over time; for example, did the person require direct support or less demanding “support as accommodation”, or both at the same or different times or for different conditions? Using evidence of cultural, social, and economic lifeways contexts, research can also ask who likely provided care, and what care was considered appropriate, what resources were available, and how, and by whom, were the costs of care provision borne?

From a different perspective, there was another question that called for closer attention. How were people with disabilities regarded at various times in the Middle Ages, and what might the characteristics of their care suggest about perceptions of disability more generally? The definition and experience of ‘disability’ in medieval times is an issue of longstanding contention, with application to modern-day social discourse (e.g., Cusack, 1997; Eyler, 2016; Hubert, 2000; Metzler, 2006; 2011). We believed that bioarchaeological analysis incorporating (but at the same time interrogating) textual evidence alongside osteological evidence of how people with conditions limiting ‘normal’ social and economic community participation were treated had the potential to contribute to this continuing debate.

In short, we argued that strategies adopted for managing activity-limiting pathology in the challenging environment of the Middle Ages would have had a range of manifestations in everyday life which bioarchaeological analysis could help to tease out. Individual osteobiographies produced through this process would potentially allow us to recover some of the personal stories of those with activity-limiting pathologies, which are seldom included in historical texts. But a case study of disability and care extends beyond the story of a single person – it can be seen as a narrative which includes those people who lived with this individual (Dobres and Robb, 2005:161; Tilley, 2015:6), and in this way the narrative becomes, at least in part, a tale of community. We hypothesised that an historically-informed bioarchaeological focus on individual and collective experience of disability and care might reveal new insights into medieval life and times.

Bioarchaeological interest in the topic of disability and care in Medieval times has grown since we submitted our original EAA 2019 Conference session proposal (in addition to the papers in this volume see, for example, Bohling, 2020; Bohling et al. 2023; Matczak et al. 2021; Redfern and Austin, 2020). Despite progress in research in this area, shortcomings still exist that are essential to tackle. The 2019 symposium, then, was designed as our first step towards identifying the gaps in history that bioarchaeological research into past disability and care might help to fill. This Special Issue represents our second step towards reaching this goal.

1.2. Why Medieval Western Europe?

Convention refers to the thousand years between 500 CE and 1500 CE as the “Medieval era” or the “Middle Ages”. This all-inclusive terminology is employed in describing histories throughout Europe and the Middle East, conveying a misleading impression of homogeneity. Cultures and communities across Europe were in a constant state of flux, often with substantial differences in lifeways, practices, and beliefs between regions, let alone between nations, and differences between medieval experience in a predominantly Christian Europe and medieval

experience in the Islamic world were even more pronounced (for a full discussion see [Bull, 2005:42–61](#)).

We chose to restrict the session presentations to studies situated in the Western part of the medieval world, conscious that attempting a broader focus would involve so many different cultural variables it would be difficult to draw out any commonalities (or significant differences) across time and place in research findings. It is fair to say, however, that this is probably an artificial distinction. Although all Special Issue articles refer explicitly to Western European medieval experience, some also – if only indirectly – reflect the influence of cultures from further afield. In the Medieval period, new schools of medicine grew out of the Graeco-Roman world, and fashioned by beliefs and values of old and new monotheistic religions: Judaism, Christianity, and Islam ([Creamer, 2009](#); [Schipper, 2009](#)). Many medical treatises and reports from the contemporary Islamic world were translated into Latin, and these were available to Western scholars and helped shape Western medical training; one example of this is the treatise *Kitāb al-Kulliyāt al-tibbiyya* [The General Principles of Medicine, by Ibn Rushd, also known as Averroes (~1162 CE)] ([Ventura, 2018](#)).

2. The papers: an overview

The 12 papers in this Special Issue, eight based on conference presentations and four invited contributions, explore the biological and social consequences of disease in the Medieval past at the individual and/or population levels and across diverse geographic, social and chronological lifeways (see [Figs. 1 and 2](#)). More specifically, two papers are situated in the Early Medieval period (450–1000 CE); two in the High Middle Ages (1000–1250/1300 CE); three analyse materials dated between the High and Late Middle Ages (1000–1500 CE); two are located in the Late Middle Ages (1250/1300–1500 CE); and one extends into the Early Modern period. One paper covers a topic spanning pre-history, as well as the Middle Ages: the identification of ‘healers’ in the archaeological record. Geographically, some of these studies are situated in territories which were once part of the Roman Empire (Italy, France, and Great Britain), and others in countries outside the Empire’s direct sphere of cultural influence (Lithuania, Russia, and Ireland); in a larger sample of studies it would be interesting to examine whether any significant differences in care strategies existed between these two groups. Many of the papers combine several disciplines, including historical archaeology, human biology, paleopathology, and history of



Fig. 1. A geographical and chronological map of the Special Issue papers. As a conceptual paper, [Knüsel \(2021\)](#) is not present in this map.

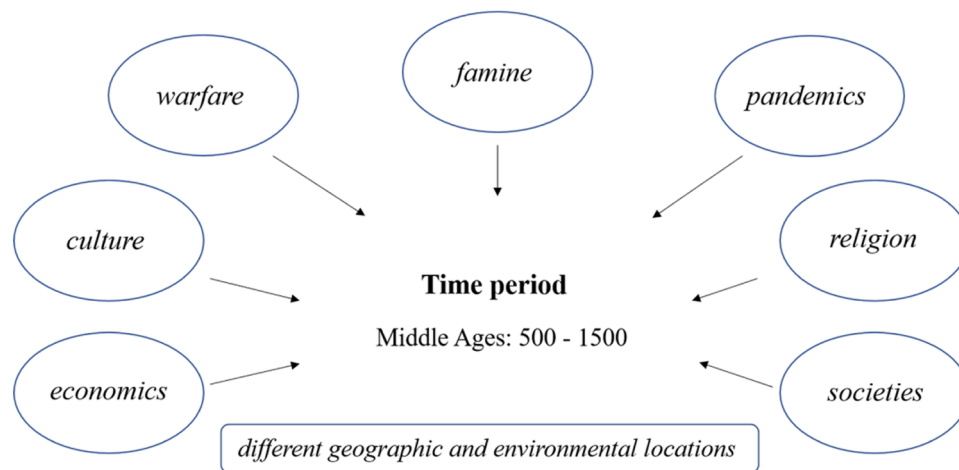


Fig. 2. A summary of the themes related to the period under investigation.

medicine, with ground-breaking methodologies, such as biomolecular analyses (e.g., isotopic analyses, aDNA investigation) and CT scanning. A number of the papers employ (in part or whole) the bioarchaeology of care methodology (Tilley, 2015); these studies allow critical reflection on the opportunities and limitations encountered when applying the bioarchaeology of care approach in historic periods, as opposed to the more common prehistoric focus, and will hopefully contribute to broader discussions on the potential for the intersection between historical and bioarchaeological research (Novak and Warner-Smith, 2020; Perry, 2007).

Over the last three years, all papers in this volume have appeared as separate publications in the International Journal of Paleopathology. Bringing them together in one place allows a deeper appreciation of the rewards – and obstacles – encountered in bioarchaeological research into medieval disability and care, offers an opportunity to review a range of methodologies applicable in this area of study, and illustrates some of the different perspectives from which this topic can be approached.

2.1. Contextual contributions

The Special Issue opens with three papers addressing what can loosely be described as contextual issues. In the first of these, Cilione and Gazzaniga (2023), historians of ancient medicine, offer conceptual guidelines for understanding the range of Medieval responses to health and disease; these guidelines are grounded in a history of medicine approach to interpreting perceptions of ‘impairment-disability’. Illustrating application of these guidelines in (re)interpreting a paleopathology case study from eighth century Rome, the authors emphasise the importance of going beyond the received Christian texts on disability and care provision in attempting to identify the detail of individual lived experience.

In the following paper, Knüsel (2021) discusses the figure of the “healer” using a cross-cultural frame of reference in which uniquely specialised individuals perform a variety of roles associated with transcendent ideologies, beliefs, and religion. Knüsel contends that although identification of healers within the archaeological record is controversial, it is not impossible; healers often exert disproportionate influence within their society, and where there this leaves discernible traces an archaeological focus on healers has the potential to complement historical sources when researching the development of medicine.

The third of these ‘contextual’ papers, by Robb et al. (2021), sets out to calculate the disability burden of, and challenge assumptions about, major health problems in the English Middle Ages. Based on an integration of modern health and disease data from developing countries, information from historical records, and findings from paleopathology

studies, the authors compare the burden of disease corresponding to various pathologies (e.g., plague, tuberculosis, leprosy, childbirth, dental disease, malaria, back pain, diseases of infancy), review the results against the backdrop of contemporary social conditions (e.g., warfare, poverty, religious prejudice, and spiritual despair), and overturn some of the commonly-held views about the significance of the bubonic plague.

2.2. Case study contributions

Nine case studies then report on experiences of disability and care at the individual (and in two cases community) level. These reports are presented in approximate chronological order, and each allows us to enter into a different aspect of life in the Middle Ages.

In the earliest case study, Tilley and Cave (2023) apply the bioarchaeology of care methodology to evidence for a range of pathologies in remains from an Anglo-Saxon cemetery (mid-5th – early-7th c. CE) in England, achieving findings which suggest caregiving at both the individual and population level and a community practicing interdependence, practical cooperation and acceptance of difference – a conclusion at odds with the popular perception of the Early Middle Ages as an era distinguished by ruthless interpersonal aggression. This study provides proof of concept for the proposition that bioarchaeology of care analysis can offer a new way of looking at everyday life in a largely undocumented time of turbulent transition (the so-called ‘Dark Ages’), and proposes this approach as a model for future investigations into social practice in this, and potentially other, similarly poorly-documented, historic periods.

In the case study following, Dittmar et al. (2023) combine paleopathological and biomechanical analyses to reconstruct the effects of severe lower limb trauma evidenced in the remains of three individuals from Medieval Cambridge, England (11th – 14th c. CE). X-ray and micro-computed tomography imaging was used to examine the status of healed fractures and cortical bone architecture respectively, and to establish the immediate and longer-term physiological impacts of injury. The likely clinical and functional consequences of these were then assessed within the corresponding lifeways context for each individual using the bioarchaeology of care methodology. This cross-disciplinary approach produced convincing accounts of each subject’s experience of disability and care, leading the authors to argue that integration of micro-computed tomography imaging within bioarchaeology of care analysis has great potential wide application.

Miclon, Bédécarrats and colleagues present two case studies from Medieval France (12th – 15th c. CE). The first paper (Miclon et al., 2021) focuses on the remains of a woman from the cemetery of Rigny, France, which display severe facial dysmorphia, likely evidence of

Teacher-Collins syndrome. The second (Bédécarrats et al., 2021) investigates trepanation as a treatment for neurological disorders in the Middle Ages, reporting on evidence for this surgery in six individuals (four of whom were assessed, using geometric morphometric analysis, as having experienced neurological pathology) from the Medieval community of La Riche. In both studies the signs and symptoms associated with the diagnosed pathologies are discussed: in the former, the possibility of social rejection on the basis of anomalous appearance and/or behavior is considered, with potential difference in diet suggested as a proxy measure for marginalisation; in the latter, the researchers suggest changes to diet may have been prescribed as part of medical treatment. In neither case, however, does stable isotope analysis show any difference in diet, suggesting that the subject from the first study was likely well-integrated in her community, and in the second study that, contrary to the surgical treatises of those times, dietary changes were not necessarily a component of medical care. Bédécarrats et al. (2021) also reveal a further discrepancy between the written sources and observed practice by monks in Medieval France; for, while contemporary medieval texts represent trepanation as a treatment reserved for depressed cranial fracture, their study unequivocally shows trepanation employed in attempts to treat neurological dysfunction. Based on contemporary text, it was long thought that trepanation was reserved for the treatment of depressed cranial fracture. Both studies rely heavily on a virtual anthropology approach (i.e., the application of digital technologies within biological anthropology; see Weber, 2014; 2015), using imaging techniques to assess the likely effects of disease on function and again illustrating the value of these technologies for research into the implications of past disability in terms of impact on function.

In the fifth case study, McKenzie et al. (2022) use the bioarchaeology of care approach to recreate the experience of a middle-aged man from Late Medieval Ireland (13th – late 16th c. CE) who suffered several injuries, the most serious requiring dedicated nursing in the short-to-medium term and minimally ‘accommodation’ up until death. The authors locate consideration of likely disability impacts, options for care, and altered community status within an exceptionally rich lifeways context, drawing from wide-ranging historical, ethnohistorical, anthropological, literary and folk sources. This background allows a very sensitive discussion of the psychological challenges possibly facing this man, and this brings him – and his community – to life for the reader.

The contribution by Fedorina et al. (2022) is an interesting and informative outlier in the Western Europe context. The authors examine the experience of those facing an array of health challenges in a small rural settlement in medieval Russia (14th – 15th c. CE); osteological evidence indicates that life was physically stressful and that the group was characterised by high levels of chronic disease. Based on the osteobiographies of a selection of individuals experiencing pathology in combination with material culture and mortuary evidence from the site, and contextualised with information taken from ethnohistoric sources, the authors suggest that there were likely well-developed, supportive care practices and mechanisms within the community. This study offers a rare glimpse of medieval lifeways in a region of the world still very under-represented in the bioarchaeological literature.

In a compelling collaboration between bioarchaeology and neuroscience, Bethard et al. (2021) apply the bioarchaeology of care approach to the remains of a man from Medieval Transylvania (mid-15th – mid-17th c. CE) who survived penetrating cranial trauma to the left parietal bone. Macroscopic and radiographic examination of the cranium was undertaken, and the cranium was digitally scanned (the article contains a link to the archived 3D image). The information gained from this process was then interrogated in terms of impact on neurocognitive functioning, resulting in possibly the most rigorous analysis to date of likely neurological consequences of severe brain injury in a skeletal subject. The results lead the authors to conclude that this man experienced a permanent reduction in his normal (i.e., pre-injury) functioning capability, requiring a level of long term support from his community.

In the final two papers, Kozakaitė and colleagues present two case

studies from Vilnius, Lithuania, which deal with approaches to disability and care in the Late Middle Ages (13th – 17th century CE) (Kozakaitė et al., 2022a) and the early Premodern era (16th – 17th century CE) (Kozakaitė et al., 2022a, 2022b). In the first of these, three instances of amputation are reported; in only one of which did the individual (who suffered amputation of the right foot) survive. A wide-ranging historical overview of amputation practice and treatment in Medieval Lithuania provides a context which, together with detailed paleopathology examination, enables a culture-rich bioarchaeology of care analysis of this subject’s experience. The second report, the most recent case study in this Special Issue, is centred on the remains of a young woman which display indicators of disuse atrophy, likely resulting from a neurological disorder (probably polio) acquired as a teenager. Once again, a powerful combination of history and (bio)archaeology allows detailed discussion of likely subject experience, the socio-cultural impacts of disability, and the nature of care provided.

3. Concluding observations

One collection of papers based on a single conference session cannot possibly cover 1000 years of disability and care – even when research is restricted to Western Europe. However, each of the nine case studies in this Special Issue provides a unique perspective on the past – they are the vignettes on which history relies for nuance (Curthoys and Docker, 2010). The three papers addressing issues around perceptions of disability, the identity and roles of healers, and actual vs. assumed population impact of disease, are very valuable in reminding us of the need to reconsider questions about medieval life which we might have believed already settled.

Some common themes emerge from the twelve papers in this Special Issue, warranting careful consideration. To begin with, there is general consensus that, when researching disability and care in the Middle Ages, transdisciplinary collaboration between bioarchaeologists and, as appropriate, archaeologists, paleopathologists, bioanthropologists, historians, ethnohistorians, specialist clinicians and medical technologists is essential for achieving a fully-rounded, convincing account of experience. Several papers illustrate the benefits accruing from the use of increasingly sophisticated imaging technologies and associated analytical techniques for identifying the nature and clinical impacts of pathology with greater precision; this precision underpins a more refined assessment of the individual’s need for, and receipt of, care (in particular, see Bédécarrats et al., 2021; Bethard et al., 2021; Dittmar et al., 2023; Miclon et al., 2021). Most authors reference relevant contemporary texts (even if briefly) where these are available, but in some papers these sources are central to content (e.g., Cilione and Gazzaniga, 2023; Kozakaitė et al., 2022a, b; Robb et al., 2021); in three instances (Fedorina et al., 2022; Knüsel, 2021; McKenzie et al., 2022), folkloric, ethnographic and ethnohistoric sources – often overlooked in bioarchaeological reports – enrich interpretation significantly. Many papers challenge (sometimes overturn) assumptions about aspects of health, disease and care practices and/or social attitudes in relation to disability in medieval times (e.g., Bédécarrats et al., 2021; Miclon et al., 2021; Robb et al., 2021; Tilley and Cave, 2023), demonstrating that a bioarchaeological lens can offer new perspectives on a past we believe is ‘known’. Finally, a number of the case studies highlight the importance of (re)considering medieval attitudes towards those experiencing disability, with findings indicating a lack of stigmatisation and an acceptance of difference which support the observations of some medieval historians (e.g., Metzler, 2006; Cilione and Gazzaniga, 2023) and add a touch of humanity to our understanding of life in this era (e.g., Bethard et al., 2021; Kozakaitė et al., 2022b; McKenzie et al., 2022; Tilley and Cave, 2023).

As every clinician is well aware, not all patients can be cured – but there are *no* patients who cannot be cared for (Swanson, 2001). All the case studies discussed here attest to the fact that in the Middle Ages neither the lack of effective medical treatments, nor the awareness that

someone was unlikely to recover, necessarily precluded attempts to prolong life or prevented provision of the support needed to make it easier for the individual to manage their disability. We encourage fellow bioarchaeologists to continue examining what exposure to disease and injury, and the care given in response to this, may suggest about medieval practices, norms and values more broadly – and then to consider how this fits with existing conceptions of history. This Special Issue is the first volume of research to focus on the bioarchaeology of disability and care in the Middle Ages. We predict it will not be the last.

CRedit authorship contribution statement

Tafari Mary Anne: Writing – review & editing, Writing – original draft, Conceptualization. **Tilley Lorna:** Writing – review & editing, Writing – original draft, Conceptualization. **Micarelli Ileana:** Writing – review & editing, Writing – original draft, Conceptualization.

Declaration of Competing Interest

None.

Acknowledgments

We are deeply grateful to all the authors of the Special Issue, both for their hard work, which helps establish a foundation for future research in this area, and for their cooperation with us in our roles of symposium organisers and Special Issue editors – the latter during the long period of COVID isolation. We are very grateful to Anne Grauer, Editor of the International Journal of Paleopathology, for enthusiastically welcoming our proposal for a Special Issue and for her endless patience throughout its realisation. We dedicate this Special Issue to the medics and paramedics who lost their lives while providing care during the COVID-19 pandemic.

Source of support: HORIZON EUROPE Marie Skłodowska-Curie Actions, B-CARED Osteobiographical investigation of disability and care in Medieval Europe, 101061838, Funded by UK Research Office.

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