

Clothing Coffins. New Evidence on Epidemic and Crisis Mortality in Late-Medieval Douai (1340-1500)¹

Stef Espeel

TSEG 23 (2): 37–74

DOI: <https://doi.org/10.52024/10zm6r24>

Abstract

This article analyzes mortality in late-medieval Douai (Flanders) using the unique funeral pall records of Saint-Amé parish (1340–1500). Covering more than 1,100 burials with indications on age, sex, and pall cost, they allow integrated assessment of mortality levels, demographic traits, household clustering, and socioeconomic variation in normal and crisis years. The long chronology shows recurrent mortality peaks matching regional epidemic waves, despite Douai's mild mid-fourteenth-century Black Death. Adult sex ratios remain stable throughout. Strong household clustering marks fourteenth- and early fifteenth-century peaks as epidemic, diminishing later. Over time, crisis years show a slightly growing overrepresentation of lower-status adults, revealing an increasingly structured, socially differentiated mortality regime.

Introduction

Understanding the nature and evolution of mortality in late-medieval Europe remains one of the most intensively debated issues in historical demography. The Black Death of 1347–52 and its successive waves transformed not only population size but also the structural relationship

¹ I would like to thank Tim Soens, Sam Geens, Jeroen Puttevils, Arnoud Jensen, and the other attendees of the Centre for Urban History seminar series for providing helpful feedback on earlier versions of this article. Both anonymous reviewers have also provided useful feedback to strengthen parts of the article. The FWO grant that provided funding for this research is titled 'The economic impact of plague. Disruption, mitigation and learning effects in the later Middle Ages' (2023–2027, n° 12AMB24N).

between environment, economy, and disease. Yet despite an enormous body of scholarship, the internal dynamics of this transformation (the shifting balance between famine and epidemic, between universal and selective mortality) remain contested.

Recent decades have witnessed a growing effort to move beyond the catastrophic framing of the fourteenth century and to trace instead the development of ‘mortality regimes’: long-term demographic systems defined by recurrent shocks, adaptation, and social differentiation.² Early studies tended to emphasize the exceptionalism of the Black Death as an unprecedented, indiscriminate calamity that cut across all social boundaries.³ More recent work, however, has sought to embed plague within the broader ecological and socioeconomic rhythms of pre-industrial Europe. Bruce Campbell and Philip Slavin have highlighted the deep interconnection between climatic fluctuations, harvest failure, epidemic disease, and even episodes of local or regional warfare.⁴ In this view, the first wave of the Black Death marked the culmination of a multi-decadal crisis rooted in environmental instability and nutritional stress.

At the same time, a parallel historiographical strand has examined the long aftermath of the initial catastrophe. Several scholars have argued that the later fourteenth and fifteenth centuries saw the emergence of more structured mortality patterns: recurrent plague outbreaks with varying degrees of demographic selectivity and increasingly clear socioeconomic differentiation.⁵ In this later regime,

2 Daniel R. Curtis, ‘From one mortality regime to another? Mortality crises in late medieval Haarlem, Holland, in perspective’, *Speculum* 96:1 (2021) 127–155, <https://doi.org/10.1086/711641>; Guido Alfani, ‘Pandemics and asymmetric shocks. Evidence from the history of plague in Europe and the Mediterranean’, *Journal for the History of Environment and Society* 5 (2020) 197–209, <https://doi.org/10.1484/J.JHES.5.122475>; Bruce M.S. Campbell, *The Great Transition. Climate, disease and society in the late-medieval world* (Cambridge 2016), <https://doi.org/10.1017/CBO9781139031110>.

3 John Hatcher, *Plague, population and the English economy, 1348–1530* (London 1977), <https://doi.org/10.1007/978-1-349-03149-8>; Ole Jørgen Benedictow, *The Black Death, 1346–1353. The Complete History* (London 2004).

4 Campbell, *The Great Transition*; Philip Slavin, *Experiencing famine in fourteenth-century Britain* (Turnhout 2019).

5 Samuel Cohn, *The Black Death transformed. Disease and culture in Early Renaissance Europe* (London 2003); Idem, ‘Changing pathology of Plague’, in: Simonetta Cavaciocchi (ed.), *Le interazioni fra economia e ambiente biologico nell’Europa preindustriale, secc. XIII – XVIII – Economic and Biological Interactions in Pre-industrial Europe from the 13th to the 18th Centuries* (Florence 2010); Guido Alfani, *Calamities and the economy in Renaissance Italy. The grand tour of the horsemen of the apocalypse* (London 2013), <https://doi.org/10.1057/9781137289773>; Guido Alfani and Tommy E. Murphy, ‘Plague and lethal epidemics in the pre-industrial world’, *The Journal of Economic History* 77:1 (2017) 314–343, <https://doi.org/10.1017/S0022050717000092>; Alfani, ‘Pandemics and asymmetric shocks’.

the disease became endemic, its demographic toll shaped as much by social and spatial factors as by biological ones. It is still debated to what extent late-medieval mortality was truly uniform, in addition to what extent local conditions (such as urban density, household composition, trade connections, and living standards) did shape whether epidemic mortality became socially selective.⁶ Why is there a division between towns where poorer households, women, or children were disproportionately affected in later waves, while others experienced largely indiscriminate mortality?⁷

Biological and bioarchaeological research has further complicated this picture. Analyses of skeletal assemblages by DeWitte and others suggest that the first Black Death outbreak was indeed relatively unselective by sex and age, but that subsequent recurrences may have displayed higher mortality among individuals with prior frailty or poorer nutritional status, presenting evidence of selective pressure over time. In short, there is now a broad consensus that late-medieval mortality regimes were heterogeneous: initially universal in impact, but increasingly shaped by social structure, environment, and immunity.⁸

Alongside this epidemiological transition ran a significant economic one. The relationship between food prices and mortality (a cornerstone of historical demography since the work of Wilhelm Abel) also evolved.⁹

6 Sean Clouston, for instance, advocates for an early universal mortality, followed quickly by a selective pattern. In contrast, Tommy Bengtsson and Frans van Poppel argue that there is no general socioeconomic selectivity noticeable: Sean A.P. Clouston et al., 'A social history of disease. Contextualizing the rise and fall of social inequalities in cause-specific mortality', *Demography* 53:5 (2016) 1631-1656, <https://doi.org/10.1007/s13524-016-0495-5>; Tommy Bengtsson and Frans van Poppel, 'Socioeconomic inequalities in death from past to present. An introduction', *Explorations in Economic History* 48:3 (2011) 343-356, <https://doi.org/10.1016/j.eeh.2011.05.004>.

7 Daniel R. Curtis, 'Was plague an exclusively urban phenomenon? Plague mortality in the seventeenth-century Low Countries', *Journal of Interdisciplinary History* 47:2 (2016) 139-170, https://doi.org/10.1162/JINH_a_00975; Curtis, 'From one mortality regime'; Joris Roosen and Daniel R. Curtis, 'The "light touch" of the Black Death in the Southern Netherlands. An urban trick?', *Economic History Review* 72:1 (2019) 32-56, <https://doi.org/10.1111/ehr.12667>.

8 Sharon N. DeWitte and James W. Wood, 'Selectivity of Black Death mortality with respect to preexisting health', *PNAS* 105:5 (2008) 1436-1441, <https://doi.org/10.1073/pnas.0705460105>; Sharon N. DeWitte, 'Age patterns of mortality during the Black Death in London, A.D. 1349-1350', *Journal of Archaeological Science* 37:12 (2010) 3394-3400, <https://doi.org/10.1016/j.jas.2010.08.006>; Idem, 'Mortality risk and survival in the aftermath of the medieval Black Death', *PLoS ONE* 9:5 (2014) e96513, <https://doi.org/10.1371/journal.pone.0096513>; Kirsten Bos and Sharon N. DeWitte, 'Human resistance and the evolution of plague in Medieval Europe', in: Kimberly A. Plomp et al (eds), *Palaeopathology and evolutionary medicine. An integrated approach* (Oxford 2022), <https://doi.org/10.1093/oso/9780198849711.003.0008>.

9 Wilhelm Abel, *Agrarkrisen und Agrarkonjunktur. Eine Geschichte der Land- und Ernährungswirtschaft Mitteleuropas seit dem hohen Mittelalter*, 3rd ed. (Berlin 1978).

The parallel occurrence or interaction of harvest failures – accompanied by famines if there were back-to-back failures, price inflation, warfare, and epidemic disease – remains a contentious debate. Empirical research shows that the short-term dynamics between grain prices and excess mortality take multiple forms. Subsistence crises and epidemic-driven mortality shocks could arise independently, follow one another, or unfold at the same time. Case studies from premodern Europe illustrate all of these scenarios, highlighting a continuing debate over which typically comes first, the epidemic or the food shortage. By the fifteenth century, many European towns had developed more resilient provisioning systems, weakening the link between market stress and death rates. Studies by Alfani, Campbell, and Hatcher demonstrate how, in this later period, mortality increasingly reflected the autonomous rhythms of plague rather than the vagaries of grain supply.¹⁰

Yet despite these advances, detailed local studies that span both the early and late phases of this transition remain rare. Parish-level or burial-based evidence can rarely be traced continuously from the fourteenth to the fifteenth century, and few sources allow for systematic comparison of mortality patterns across demographic categories. In this respect, the Douai material offers exceptional value. The surviving records of funeral palls from the parish of Saint-Amé provide a unique dataset for the period 1340–1500 – admittedly, with more than a few gaps – of 1135 burials over the course of 105 preserved accounting years, encompassing both normal and crisis years. They record not only the number of burials but also the sex, whether the deceased was an adult or child, and the social standing of the deceased as inferred from the cost of the pall, which serves as a proxy for socioeconomic status. This combination of chronological breadth, demographic detail, and economic information allows for a rare, fine-grained reconstruction of a northern French urban mortality regime across the entire late Middle Ages.

The structure of the article is as follows. Section 2 situates the parish of Saint-Amé within the urban, institutional, and demographic landscape of late-medieval Douai, providing the necessary historical and spatial context for interpreting the evidence. Section 3 examines funerary practices and the role of funeral palls, outlining how these materials were recorded in the church fabric accounts and assessing their potential and limitations as demographic and socioeconomic

10 Alfani, *Calamities and the economy in Renaissance Italy*; Campbell, *The Great Transition*; John Hatcher, 'Plague, population and the English economy, 1348–1530', in: Michael Anderson (ed.), *British population history. From the Black Death to the present day* (Cambridge 1996).

indicators. Section 4 reconstructs the chronology and characteristics of mortality crises between 1340 and 1500, identifying major peaks and analyzing household-level clustering to distinguish epidemic from non-epidemic mortality. Section 5 considers whether these crises exhibited demographic or social selectivity, evaluating patterns by sex, age, and socioeconomic status across both normal and crisis years. The article concludes by integrating these findings to characterize the long-term evolution of mortality in Saint-Amé and its place within broader late-medieval mortality regimes.

Saint-Amé and Douai: A small late-medieval central parish in a large city

Douai was one of the larger cities in the county of Flanders, behind Ghent and Bruges, but probably comparable to Lille and Ypres in population, located on the southern edge of the county. In the twelfth and thirteenth centuries, the city flourished under the impetus of a thriving textile industry, which declined during the fourteenth century due to political and economic developments.¹¹ Together with the castellany of Lille, the city and the castellany in which it was located became part of the French kingdom after the battle of Mons-en-Pévèle (1304) and the peace treaty of Athis-sur-Orge (1305) and returned to Flanders in 1369 through the marriage of the duke of Burgundy to the daughter and heir to the count of Flanders. According to Boone and Howell, Douai retained the distinct identity it had acquired under French rule, along with its surrounding castellany, similar to those of Lille and Orchies.¹²

Over the late Middle Ages, Douai remained an economic powerhouse because of its strategic position in the regional and interregional grain and wine trade, over which it held staple rights.¹³ Few documents survive

11 On this subject, an excellent overview can be found in the monumental work of Georges Espinas. Georges Espinas, *La vie urbaine de Douai au Moyen Âge*, 4 vols (Paris 1913) vol. 2.

12 Martha C. Howell and Marc Boone, 'Becoming early modern in the late medieval Low Countries', *Urban History* 23:3 (1996) 317, <https://doi.org/10.1017/S0963926800016886>.

13 Espinas, *La vie urbaine*, vol. 2, 210; Jacques Godard, 'Contribution à l'étude de l'histoire du commerce des grains à Douai, du XIV^e au XVII^e siècle', *Revue du Nord* 27:107-108 (1944) 171-205, <https://doi.org/10.3406/mord.1944.1865>; Jean-Denis Clabaut, 'Les caves, le négoce et les marchands de vin à Lille et Douai', *Histoire Urbaine* 16:2 (2006) 39-52, <https://doi.org/10.3917/rhu.016.0039>; Howell and Boone, 'Becoming early modern'; Michel Rouche (ed.), *L'histoire de Douai, Collection Histoire des villes du Nord/Pas-de-Calais* (Dunkerq 1985) 76-77, <http://ark.bnf.fr/ark:/12148/cb348423264>.

that provide direct evidence concerning the demographic development of Douai, leaving historians to rely on indirect indicators and comparative estimates.¹⁴ Jean Lestocquoy proposed a population of “less than 20,000” inhabitants in the thirteenth century, though without supporting evidence.¹⁵ Based on a prosopographic analysis of Douai’s bourgeoisie, Catherine Dhérent estimated a population of 10,000 to 12,000 inhabitants in the first half of the fourteenth century.¹⁶ Alain Derville, rejecting this relatively low figure, extrapolated an inhabitant count of at least 30,000 from more detailed information on the population structure of Saint-Omer.¹⁷ And if Douai followed the demographic trajectories of nearby cities such as Lille, Arras, and Saint-Omer, its population likely fell to around 10,000–15,000 during the fifteenth century.¹⁸ Peter Stabel ranked Douai as twenty-sixth among the towns of the fifteenth-century Low Countries, with only 8,000 inhabitants.¹⁹

From the mid-thirteenth century onward, the city was divided into six parishes, a structure that remained unchanged until the French Revolution. One of these was Saint-Amé, under the patronage of a collegiate church of the same name.²⁰ The parish was confined to the small island of Saint-Amé, situated between two branches of the Scarpe River.²¹ It included the old fortified tower (*Vièse Tour*), located near the fountain Saint-Maurand, as well as the area around the *castrum*, the residence of the counts of Flanders (see illustration 1). The parish was very small, probably no larger than two hectares, encompassing only the canons’ enclosure and a few houses on the neighboring streets on the island.

14 Even Georges Espinas, a renowned expert on late medieval Douai, refused to formulate any guesses towards the population levels of the city throughout the late medieval period.

15 Jean Lestocquoy, *Aux origines de la bourgeoisie. Les villes de Flandre et d'Italie sous le gouvernement des patriciens (XIe-XVe siècles)* (Paris 1952) 117, <http://ark.bnf.fr/ark:/12148/cb32378604k>.

16 Catherine Dhérent, ‘Abondance et crises. Douai ville frontière 1200-1375’, (Unpublished PhD-Thesis, University of Paris I 1992).

17 Alain Derville, ‘Le nombre d’habitants des villes de l’Artois et de la Flandre Wallonne (1300-1450)’, *Revue du Nord* (1983) 289-292, <https://doi.org/10.3406/rnord.1983.3928>.

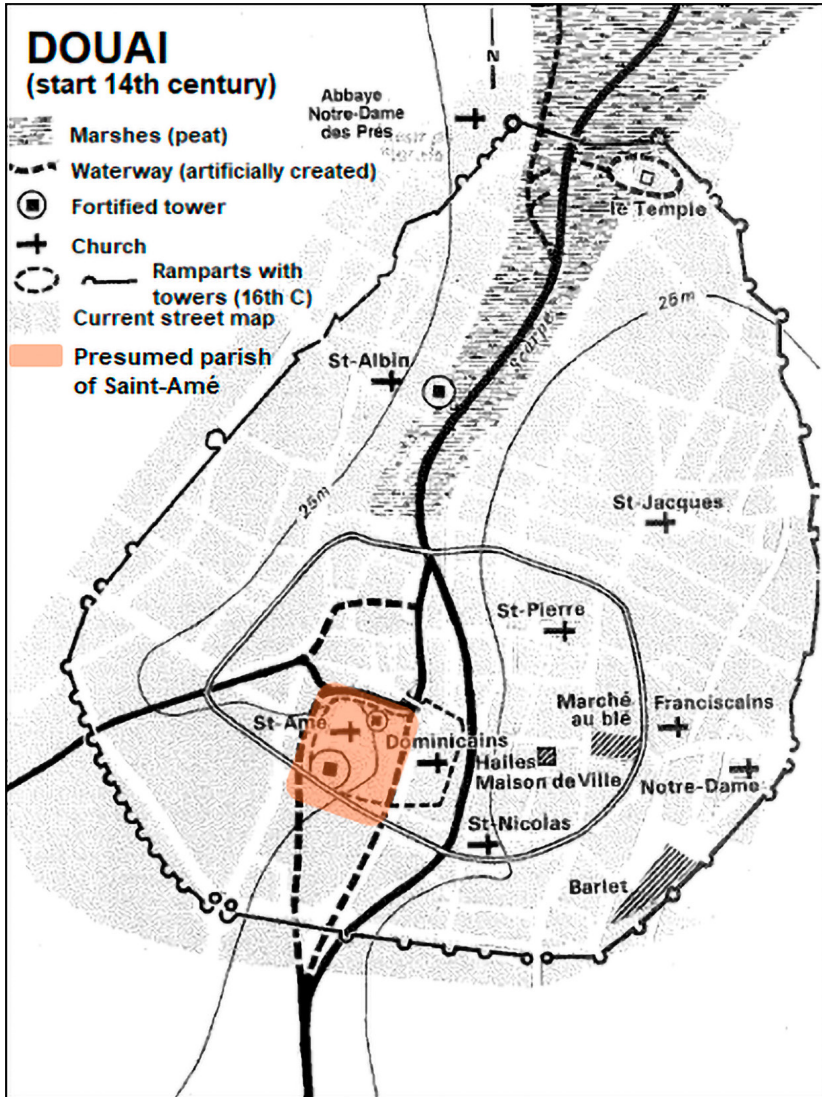
18 Derville, ‘Le nombre d’habitants’, 293; Alain Derville, ‘La population du Nord au Moyen Âge II: de 1384 à 1549’, *Revue du Nord* 81:329 (1999) 78-79, <https://doi.org/10.3406/rnord.1999.2906>.

19 Peter Stabel, ‘Composition et recompositions des réseaux urbains des Pays-Bas au bas Moyen Âge’, in: Elodie Lecuppre-Desjardin and Élisabeth Crouzet-Pavan (eds), *Villes de Flandre et d'Italie. Relectures d'une comparaison traditionnelle* (Turnhout 2008), <https://hdl.handle.net/10067/711690151162165141>.

20 Apart from Saint-Amé, the parish of Saint-Albin was also under the patronage of the Saint-Amé chapter. On the right bank of the Scarpe River, the parish of Saint-Pierre was located, under the patronage of the chapter that carried the same name, and comprised the rest of the twelfth-century city. Due to the rapid urban expansion in the twelfth and thirteenth centuries, the parishes of Saint-Jacques en la Neuville, Saint-Nicolas en la Poterne, and Notre-Dame were established, all under the patronage of Saint-Pierre.

21 Rouche, *L’histoire de Douai*, 62-63.

Illustration 1 Douai in the early fourteenth century



Note: Owing to rapid urban expansion, a new, initially undeveloped area was enclosed by walls and subsequently reinforced with towers and redoubts during the fifteenth and sixteenth centuries.

(Source: Map by Pierre Demolon and Michel Rouche in Rouche, *L'histoire de Douai*, 69.)

Although surviving sources do not permit a reconstruction of the social topography of Douai at a fine spatial scale, it is plausible that socioeconomic stratification within the city followed patterns defined by Gideon Sjöberg: a concentric and organized city with a dominant city center where the elite reside and exercise their power, surrounded by neighborhoods with a mixed residential and working function, whose social status decreases in direct proportion to their distance from the center.²² The densely built island around Saint-Amé, situated adjacent to the comital castle and some of the oldest urban structures, may have housed relatively affluent households alongside the canons' enclosure and administrative buildings, while newer or more peripheral districts likely contained a greater share of modest or poorer residents. If such spatial differentiation existed – as seems likely, even if it cannot be documented directly – it may have shaped the exposure and vulnerability of different groups during epidemic episodes. Social inequality operating at the level of districts, parishes, or even neighborhoods could have produced uneven mortality risks, whether through variations in housing density, domestic arrangements, access to resources, or patterns of movement within the city. The absence of detailed spatial evidence for Douai, therefore, limits our ability to assess how local social geography interacted with mortality, even as comparative experience suggests that such interactions were potentially significant.

Dignified burials: Funerary practices and the role of funeral palls

Throughout history, funerary practices have always played an important role in people's lives, often being an expression of the values and norms that are considered important in society and of the social status of the person being buried. Grave monuments, including epitaphs and images, provide valuable information about the social status of the

22 Gideon Sjöberg, *The preindustrial city. Past and present* (Glencoe (IL) 1960). This concept from sociology gained credibility in studies on urban history, drawing on research on pre-industrial cities such as Exeter, Dublin, and Newcastle. See John Langton, 'Residential patterns in pre-industrial cities. Some case studies from seventeenth-century Britain', *Transactions of the Institute of British Geographers*, 65 (1975) 1-27, <https://doi.org/10.2307/621607>. For the Low Countries, a profound study has shown that Oudenaarde followed broadly the same concept developed by Sjöberg, see Tineke Van de Walle, 'Van twee wallen eten? De stadsrand als overgangszone tussen stad en platteland in de late 15de en 16de eeuw. Casus Oudenaarde' (Unpublished PhD-Thesis, University of Antwerp 2019).

individual within society. For late-medieval Flanders, such monuments have been the subject of several studies that have deciphered various cultural elements.²³ Based on registrations of funeral costs and the location of burials included in eighteenth-century parish registers in Flanders and Brabant, which were compared to sources that reflect wealth distribution, Chris Vandenbroeke concluded that funerals provide an accurate reflection of social stratification.²⁴

Social identity would certainly affect the specific choice of burial service and location. Originally, most people were buried outdoors in the churchyard. By the late Middle Ages, however, growing numbers of wealthy or socially prominent individuals sought burial inside parish churches or monastic buildings.²⁵ Being interred close to the high altar, a side chapel, or the shrine of a saint was considered both honourable and spiritually beneficial. In churchyard burials, each person had an individual, permanent resting place, with bodies laid in orderly rows as long as space allowed, and often marked with brass plaques, effigies, or more temporary markers. Because churchyards were limited in size, older graves were sometimes reopened and the bones collected in charnel houses to make room for new burials.²⁶

In addition to the more enduring funerary monuments, burial costs, including those for the service (and rituals performed), also give information on the social status and wealth of the deceased.²⁷ The written records of all these costs were collected in the church accounts, particularly those related to the church council (*kerkfabriek*). Such accounts have generally been treated in historical research as anecdotal source material, with selected passages or entries offering historians

23 Jan Dumolyn and Katrien Moermans, 'Distinctie en memorie. Symbolische investeringen in de eeuwigheid door laatmiddeleeuwse hoge ambtenaren in het Graafschap Vlaanderen', *Tijdschrift voor Geschiedenis* 11:3 (2003) 332-349, <http://hdl.handle.net/1854/LU-397630>; Stijn Bossuyt, "'Media vita in morte sumus'. Graven als representatie van sociale structuren', in: Raoul Bauer et al (eds), *In de voetsporen van Jacob van Maerlant. Liber amicorum Raf De Keyser. Verzameling opstellen over middeleeuwse geschiedenis en geschiedenisdidactiek* (Leuven 2002); Valentin Vermeersch, *Grafmonumenten te Brugge voor 1578*, vol. 1 (Bruges 1976).

24 Chris Vandenbroeke, 'Parochieregisters als bron voor de studie van sociale stratificatie', in: Jos De Belder et al. (eds), *Sociale mobiliteit en sociale structuren in Vlaanderen en Brabant van de late middeleeuwen tot de 20e eeuw* (Ghent 1983) 77.

25 Amy Appleford, 'Death's ritual-symbolic performance', in: Ashby Kinch (ed.), *A cultural history of death in the Middle Ages* (London 2024) 86-89, <https://doi.org/10.5040/9781474206334.ch-4>.

26 Vanessa Harding, *The dead and the living in Paris and London, 1500-1670* (Cambridge 2002).

27 Isabelle Devos and Chris Vandenbroeke, 'Historische demografie van de Middeleeuwen en de Nieuwe Tijden', in: Jan Art and Marc Boone (eds), *Inleiding tot de lokale geschiedenis van de 12de tot de 18de eeuw* (Ghent 2004) 196, <http://hdl.handle.net/1854/LU-303861>.

insight into the church's (building) history, certain religious practices, and aspects of everyday life. More recently, a few studies have used church accounts for historical-demographic purposes.²⁸

For sixteenth-century Dudzele (a small village to the north of Bruges), for instance, Kristof Dombrecht analyzed the costs associated with ringing a type of death bell, whereby three different kinds of bells could be rung (or even no bell for the cheapest funeral service) depending on the amount paid.²⁹ For this village, funeral expenses were organized into four distinct categories. Apart from the ringing of the death bells, there was an obligatory death donation (*testament*) and the cost of the funeral pall (or bier-cloth, mortcloth), which is draped over the coffin during the funeral service (see illustration 2). All funerals, including those without a bell, also incurred charges for candles and required a standard payment for digging or constructing the grave, as well as for the purchase of a coffin. By juxtaposing these costs in the church accounts with data from orphan registers, Dombrecht uncovered a strong correlation between a person's wealth and the type of funeral they received. Wealthy individuals consistently opted for more expensive forms of burial, including the use of the most prestigious death bells and interment inside the church. Poorer villagers, by contrast, overwhelmingly received simpler funerals, often without bell-ringing and always outside in the churchyard.

For late medieval Douai, an exquisite series of accounts of the church council of Saint-Amé has been preserved, with the first one dating back to 1341.³⁰ Still, it contains significant gaps, particularly for 1393–1410, 1428–1438, and 1483–1492, coinciding with years that historiography associates with major mortality crises (see below). In these accounts, only the income from renting out palls for funeral services is recorded systematically throughout the entire period, enabling a quantitative analysis (see illustration 3). Other costs regarding funeral services are not included, at least not systematically. For the first few decades of preserved accounts (up to 1381), additional details for these palls are included, such as their size (small, average, or large, with smaller palls indicating child

28 See, for instance, as to who used the funeral registrations for fifteenth-century Kortrijk and Hulst to assess mortality rates and patterns: Peter Stabel, *De kleine stad in Vlaanderen. Bevolkingsdynamiek en economische functies van de kleine en secundaire stedelijke centra in het Gentse kwartier (14de-16de eeuw)* (Brussels 1995) 54-69, <http://hdl.handle.net/1854/LU-258172>.

29 Kristof Dombrecht, "Edel, arm en rijk, maakt de dood gelijk?". Sociale ongelijkheid (post mortem) in plattelandsgemeenschappen ten noorden van Brugge (1500-1579); *Revue Belge de Philologie et d'Histoire* 91:2 (2013) 254-287, <https://doi.org/10.3406/rbph.2013.8418>.

30 Lille, Archives Départementales du Nord (further on: ADN), série 1 G, n° 1288–1398.

Illustration 2 The use of funerary palls on coffins in late medieval funerary services



(Source: fragments from Limbourg brothers, *Les Très Riches Heures du duc de Berry*, c. 1412-1416, Chantilly, bibliothèque Condé, Ms. 65, f° 82r, 87r & 199v.)

burials), color or fabric type, and decorative features, such as embroidered crosses or fringes along the edges. These attributes reveal the existence of social hierarchies among the deceased. After the early 1380s, however, descriptions of the palls themselves become rare, though their recorded costs still offer indirect information on size and decoration.

Remarkably, the nominal costs of the most basic palls remained largely constant throughout the studied period. The cheapest palls corresponded roughly to one full day's wage for an unskilled building

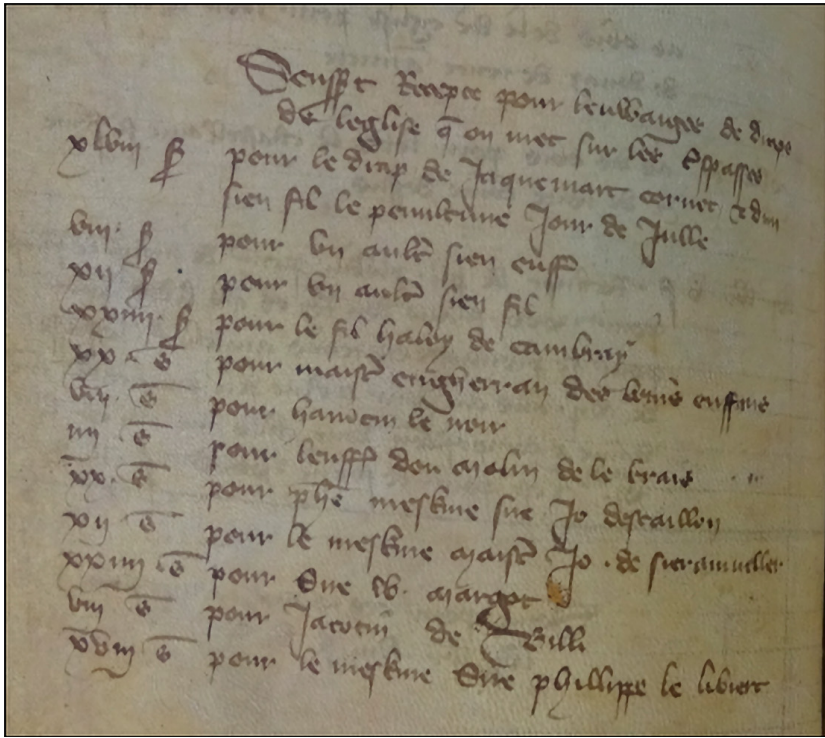
laborer, while more elaborate palls could amount to several days or even more than a week of wages for skilled workers, especially those for adults with extra embellishment.³¹ As real wages rose over the fifteenth century (from roughly 2-3 *groot* to 7-8 *groot* per day for skilled laborers), the absolute affordability of these palls likely improved. In that sense, their financial burden did not increase and may even have declined over time. For the purposes of this study, however, the crucial point lies less in the absolute cost of a pall than in the relative differentiation between pall categories within a given year. Because the nominal cost remained stable and applied uniformly to all parishioners, the choice of a more or less expensive pall continued to reflect differences in household spending capacity at the moment of burial. Even if rising wages altered the broader purchasing power of households over time, they did so for all groups simultaneously. Pall expenditure, therefore, remains a meaningful indicator of relative socioeconomic position within each year, allowing for the analysis of distribution patterns and inequality in mortality without requiring the reconstruction of absolute wealth levels.

Palls for adults are always listed *ad nominatim* throughout the surviving series, both for women and men, wed or unwed. Children were generally linked to an adult (sometimes grouped with a parent who died at the same time), yet neither age nor the age threshold between childhood and adulthood was ever recorded. In addition, if a servant of a certain household passed away, this death was explicitly mentioned by adding the term “*meskine*” or “*varlet*”, which provides a sign of social status and possible household clustering, in addition to the family members being buried together in the same year.

Although pall records can exclude important segments of the population, they still provide highly granular and analytically valuable data. At the margins, the very poorest parishioners (those unable to pay even for the cheapest bell or for the communal pall) are typically missing, as their funerals left few financial traces. Likewise, the wealthiest inhabitants often do not appear because they relied on private palls, commissioned bespoke ceremonies, or were buried inside the church, thus bypassing parish resources altogether. Yet even if, hypothetically speaking, roughly 10 to 20 percent of both the richest and poorest are absent, the remaining dataset captures the broad middle of the community with remarkable detail.

31 Sam Geens, ‘A Golden Age for labour? Income and wealth before and after the Black Death in the Southern Low Countries and the Republic of Florence (1275-1550)’ (unpublished PhD dissertation, University of Antwerp 2023) 45-96.

Illustration 3 Church fabric account of Saint-Amé (1382/83), showing costs for funeral palls



Note: The first sentence reads: "Senss(uivi)t recepte pour leuwaiges de draps de leglise q(ue) on met sur les t(re)spasses". Free translation: "The following shows the receipt of the rentals of palls of the church that were placed on the deceased".

(Source: ADN, série 1 G, n° 1327, f° 1 v.)

Another, though perhaps the most important, methodological consideration concerns the scale of the dataset itself. In total, 1,135 burials are recorded across the period 1340–1500. Spread over 160 years, this total would amount to fewer than seven burials per year on average; when calculated across the 105 surviving account years, the mean rises to roughly ten to eleven burials annually. Even so, these remain modest absolute numbers. Medieval demographic evidence is inevitably fragmentary, and parish-level series of this chronological depth are rare and valuable. Yet it is important to recognize that the statistical leverage of such a dataset is limited when compared to recent studies of epidemic mortality based on much larger urban

samples, where hundreds of deaths can be recorded within a single crisis year.³² In small series such as this one for Saint-Amé, relatively minor fluctuations in absolute numbers can translate into substantial proportional variation, making identified peaks and short-term shifts sensitive to baseline change. The same applies to any attempt to subdivide the material by demographic or social characteristics: once the data are broken down by period, sex, age, or status group, the underlying numbers quickly become too small to be significant. However, despite the low numbers, there is no indication that there are inherent biases in these burials towards a specific gender or age group.

One further uncertainty concerns burial location during epidemic years. Severe outbreaks could lead to the temporary use of hospital cemeteries, pesthouses, or other extra-parochial burial grounds, which could divert part of the mortality away from the parish church and thereby affect the completeness of the parish-based series. It is unclear to what extent these choices occurred in Douai, as the sources used here do not explicitly record alternative burial sites, but the possibility should be borne in mind. Despite any limitations, the accounts of Saint-Amé constitute an invaluable source for tracing mortality crises and their demographic dimensions. They illuminate not only the timing and intensity of epidemic peaks, but because of the distinction that was made between sex, adults and children, and the inclusion of the cost of the palls, there is a huge potential for analyzing the demographic, social and economic selectivity of death within a late-medieval urban community – issues explored in the following sections.

Mortality in Douai between 1340 and 1500

Parish demographics and population estimates

As mentioned above, the parish records of Saint-Amé in Douai recorded on average ten to eleven burials annually, an average that remained stable across the entire period.³³ This relative stability suggests a steady

32 For example, the work of Daniel R. Curtis on Haarlem or Joris Roosen on Hainaut. See Roosen and Curtis, 'The "light touch"'; Daniel R. Curtis and Joris Roosen, 'The sex-selective impact of the Black Death and recurring plagues in the Southern Netherlands, 1349–1450', *American Journal of Physical Anthropology* 164:2 (2017) 246–259, <https://doi.org/10.1002/ajpa.23266>; Joris Roosen, 'The Black Death and recurring plague during the late middle ages in the County of Hainaut: differential impact and diverging recovery' (Unpublished PhD-Thesis, Utrecht University 2020); Curtis, 'From one mortality regime'.

33 The slope of the trend line of the linear regression equals -0.01 , which denotes a drop in the annual

parish population, in contrast to the diminishing population level of the city over the course of this period because of economic hardship, political trouble, and epidemic outbreaks. The parish's central location within Douai should explain this stability, as we would expect the peripheries to be more sensitive to fluctuation. However, the number of inhabitants within the parish remains unknown, and thus no control group exists against which to calculate actual mortality rates.

Using crude death rates from comparative studies, it is possible to estimate the approximate size of the group eligible for burial with a funeral pall. For Courtrai, Peter Stabel determined an average crude death rate of around 3.4 percent in the fifteenth century and 3.5 percent in the early sixteenth century. However, in the current dataset on funeral palls, it is highly unlikely that newborns were included, as nothing in the sources indicates it, and the ratio between adults and children would have been more in favor of children.³⁴ As crude death rates include those newborns, the mortality rate which I have to work with, excluding the newborns, would be closer to 2.5 percent.³⁵ Combining this 2.5 percent mortality rate with the median of seven deaths per year in Saint-Amé suggests a population of roughly 280 inhabitants. As the parish was confined to the small island of Saint-Amé, this small number is plausible. This figure is corroborated by the cadastral register of a few centuries later: in 1829, 95 building units are located within the borders of the late medieval parish, corresponding to 400 to 500 inhabitants, if we assume that a single family occupied a house (see appendix B). Since this material concerns the most central and oldest part of the city, it is reasonable to assume that the population level of this neighborhood would not have changed substantially over the centuries.

According to these numbers, more than 60 percent of the parish population is captured by the burials using funeral palls. The groups that are missing would have been the absolute poorest, richest, and members of other faiths. Still, the fact that in 31 cases the deceased are identified with the adjective *pauvre* ('poor'), or for some palls the description of the deceased was no more than *un homme de ville* ('a man of the city'), indicates that some degree of the destitute also received pall burials. A pall was even rented for a 'poor prisoner' in

average mortality rates of 1 death per century.

34 Pre-industrial deaths of children tend to outnumber those of adults within urban communities, as has been shown by Peter Stabel for several medium-sized towns in Flanders, see: Stabel, *De kleine stad in Vlaanderen*, 54-62.

35 These would account for about 20 to 30 percent of all deaths in this period.

1371.³⁶ If these people were too poor to pay for such a pall, it remains unclear who did. This accounting, however, does not rule out city-wide socioeconomic selectivity, since the centrality of this parish would imply a wealthier population in comparison to other parts of the city.

Late medieval mortality peaks in Douai

Even though one would expect the population of a central parish in a major city like Douai to remain relatively stable in the long run, demographic crises have certainly left their traces in the number of deaths, as witnessed by the number of funeral palls rented out. Presenting raw burial figures alone could give a misleading impression of mortality spikes; therefore, I have used deviations from the trend of the previous period to account for changes in population size.³⁷ A 50 percent increase in mortality over the previous period is treated as a minimum indicator of crisis, while a 100 percent rise represents a doubling of the normal rate. Because ordinary annual mortality was low, smaller variations could simply reflect random noise. In this case, only a doubling of deaths is considered a significant marker of a genuine mortality crisis.

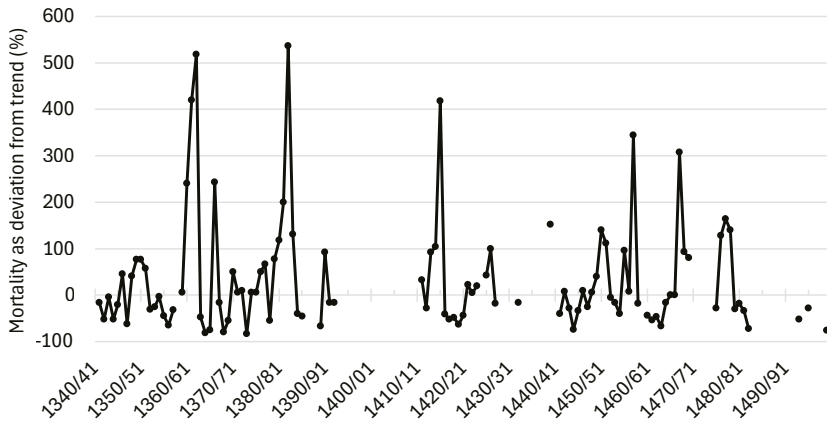
Applying this method to the funeral palls, figure 1 identifies mortality spikes exceeding 100 percent above trend during 1360-1362, 1366, 1380-1383, 1414-1415, 1426, 1439, 1450-1451, 1457, 1467, and 1476-1478. To contextualize these mortality surges, they have been compared to other evidence of surrounding regions and cities (see table 1). What stands out most is the absence of a mortality spike in the mid-fourteenth century. Catherine Dhérent has argued that the Black Death was less severe in Douai than in surrounding towns.³⁸ She based this conclusion on the reelection of city aldermen, personnel turnover in charitable institutions, vicars of Saint-Amé, and the same funeral pall

36 Lille, ADN, série 1 G, n° 1317, f° 1r.

37 The raw numbers are presented in appendix A. The relative increase or decrease is calculated against the average of the previous five years, after skipping one year back, in addition to excluding the highest and lowest values. If fewer than four data points are available to construct the usual rate, the deviation is calculated using the trimmed average of the entire period. The methodology of looking at backward projections is adopted from Lorenzo Del Punta and Massimo Livi Bacci, 'Chronologie, intensité et diffusion des crises de mortalité en Italie: 1600-1850', *Population* 32:1 (1977) 401-446. It has been reused for other mortality studies on premodern Italy, like Guido Alfani, 'Plague in seventeenth-century Europe and the decline of Italy: an epidemiological hypothesis', *European Review of Economic History* 17:4 (2013) 417-418, <https://doi.org/10.1093/ereh/heto13>. In the same fashion, other studies have used this methodology to study mortality in the premodern Low Countries: Curtis, 'From one mortality regime'; Curtis, 'Was plague an exclusively urban phenomenon?.'

38 Dhérent, 'Abondance et crises', 360-367.

Figure 1 Mortality trend from Saint-Amé, Douai, 1340-1500.



(Source: ADN, série 1 G, n° 1288–1398.)

data used here. In 1349, 1350, and 1351, respectively, 10, 10, and 11 palls were rented, only a modest increase compared to the preceding three years (8, 2, and 8), yet not suggesting any extraordinary mortality crisis. The 1340s were, in general, a rather unstable period, which is also reflected in the relatively strong variation of burials. Perhaps a slightly higher than normal mortality downplays the modest increase in funeral palls during the Black Death, which would make the Black Death mortality harder to demonstrate using backward projection averages, and yet, the numbers are very low in comparison to other crises. Dhérent states that Douai had a relative immunity due to its lower population density, better air circulation, and local preventive measures, including the closure of city gates and hygiene ordinances such as compulsory street cleaning.³⁹ She nonetheless acknowledges

39 Dhérent, 'Abondance et crises', 366. In addition, she adds that Douai was a rich city located in a grain-producing region, and grain prices do not indicate any shortage during these years. However, the argument that the inhabitants of Douai were better fed than those of other towns is not tenable. Already in the fourteenth century, this region and, by extension, Flanders, was economically well-integrated. Moreover, the causal link between famine or malnutrition and epidemic outbreaks is highly debated. See, for instance, Stef Espeel, 'Plague and hunger. Epidemic-induced pressures on household purchasing power in fourteenth-century Flanders', *The History of the Family* 30:3 (2025) 340–370, <https://doi.org/10.1080/1081602X.2025.2462214>; Monique Bourin and François Menant, 'Les disettes dans la conjoncture de 1300 en Méditerranée occidentale', in: Monique Bourin et al. (eds), *Les disettes dans la conjoncture de 1300 en Méditerranée occidentale. Actes de la rencontre de Rome, 27-28 février 2004* (Rome 2011) www.persee.fr/doc/efr_0223-5099_2011_act_450_1_10198; Alfani, *Calamities and the economy in Renaissance Italy*.

Table 1 Late medieval mortality crises in Douai and its neighboring regions, 1340-1500.

Accounting year	Douai (palls)	Hainaut	Cambrai	Lille	Haarlem
1360/61	240	81.8	-	288.9	-
1361/62	420	191.9	-	40	-
1362/63	518.2	19.0	-	-57.1	-
1366/67	242.9	-	-	28.6	-
1380/81	118.2	-19.2	59.1	-	-
1381/82	200	140.4	35.6	-	-
1382/83	236.4	96.5	-51.5	-	-
1383/84	130.8	-	-18.2	-	-
1414/15	104.1	255.3	99.0	-	-
1415/16	418.2	120.2	9.1	-	-
1426/27	100	34.2	-45.8	-	-25.6
1439/40	152.1	476.8	-9.3	-	365.5
1450/51	140	64.9	-1.9	-	-
1451/52	111.8	38.6	-22.4	-	-
1457/58	344	-44.4	57.8	-	-
1467/68	307.1	45.2	266.7	-	73.1
1476/77	128.1	8.0	-	-	-
1477/78	164.1	41.5	-	-	-
1478/79	140.1	58.3	-	-	19.7

Note: These numbers reflect the deviation from the "normal" period before the said year.

Sources: Hainaut: Roosen and Curtis, *The "Light Touch"*; Cambrai: Hugues Neveux, *La mortalité des pauvres à Cambrai (1377-1473)*; *Annales de Démographie Historique*, 1968, 73–97; Hugues Neveux, *Vie et déclin d'une structure économique: les grains du Cambrésis (fin du XIVe, début du XVIIe siècles)*; *Civilisations et sociétés* 64 (1980) 401-402; Lille: Martine Aubry, *Les mortalités lilloises (1328-1369)*; *Revue du Nord* 65:257 (1983) 327-342; Haarlem: Curtis, *'From one mortality regime to another?'*

that the Black Death did reach Douai in spring 1349, primarily affecting the poor, loosely and arbitrarily based on the absence of any indications of mortality surges for the more affluent layers of society.

The 1360-1362 spike corresponds to the *pestis secunda*, which Wim Blockmans identifies as striking Flanders even more severely than the initial Black Death, with mortality increasing up to fivefold over normal levels.⁴⁰ Comparable rises occurred in Hainaut and Lille, close to

40 Wim Blockmans, 'The social and economic effects of plague in the Low Countries, 1349-1500', *Belgisch tijdschrift voor filologie en geschiedenis* 58 (1980) 833-863, <https://doi.org/10.3406/rbph.1980.3301>.

Douai.⁴¹ Only a few years later, in 1366, another sharp increase occurred with mortality rates about 2.5 times the “normal” rate in relative terms, though absolute deaths were higher.⁴² This rise likely corresponds to the third plague wave, which ravaged northern Flanders through the late 1360s.

Another major mortality peak occurred between 1380 and 1383, when deaths rose to more than five times the normal rate, peaking dramatically in 1382. Jean-Pierre Deregnaucourt observed a surge in testaments that year, linking it to plague, fiscal strain, and the broader social unrest surrounding the Ghent Revolt (1379–1385).⁴³ Although Count Louis of Male employed siege and starvation tactics against Ghent in 1382, Douai was not directly affected, as its government was dominated by loyalist oligarchs aligned with both the count and the French crown.⁴⁴ Nor were there wheat price spikes in Douai, Cambrai, Lille, or Bruges.⁴⁵ Famine or warfare are thus unlikely explanations for the surge in burials, and the heightened mortality of 1380–1383 is best interpreted as a local or regional epidemic, consistent with Derville’s claim that plague struck Flanders in 1382–1383, though with lower virulence than earlier waves. Contemporary evidence from nearby cities (Lille, Cambrai, and those in the county of Hainaut) corroborates this pattern, while severe mortality in Holland during 1382–1383 confirms the supraregional extent of the outbreak.⁴⁶

41 Roosen and Curtis, “The ‘light touch’”; Martine Aubry, ‘Les mortalités lilloises (1328–1369)’, *Revue du Nord* 65:257 (1983) 327–342, <https://doi.org/10.3406/rnord.1983.3930>.

42 56 palls were registered in 1366, in comparison to 34 in 1362 (see appendix A). Since three years of increased burials (1360–1362) are used in calculating the “usual” mortality rate, the relative deviation seems lower.

43 Jean-Pierre Deregnaucourt, ‘Autour de la mort à Douai. Attitudes, pratiques et croyances, 1250–1500’ (Unpublished PhD-Thesis, University of Lille III 1993) 61.

44 Sam Geens, ‘The great destruction of people and wealth: the impact of the Ghent revolt on wealth inequality in the last quarter of the fourteenth century’, in: Bruno Blondé et al. (eds), *Inequality and the city in the Low Countries (1200–2020)* (Turnhout 2020), <https://doi.org/10.1484/M.SEUH-EB.5.120447>. Howell and Boone, ‘Becoming early modern’, 317.

45 Stef Espeel, *Prices and crises. The grain economy in fourteenth-century Flanders* (Brussels 2025); Monique Mestayer, ‘Les prix du blé et de l’avoine de 1329 à 1793’, *Revue du Nord* 178 (1963) 157–176, <https://doi.org/10.3406/rnord.1963.2469>.

46 At the hospital Saint-Sauveur in Lille, 13 poor persons died while none did in 1371 and 1375 and 5 in 1376. In 1382, Lille also declared itself greatly depopulated by a lengthy mortality phase. At the hospital Saint-Julien in Cambrai, a peak of dug graves for the deceased poor occurred in 1380, a number subsiding up to 1382. For the neighboring county of Hainaut, the mortmain records also show a spike during the period 1380–1382. Further north, in the northern Low Countries (Holland), an equally severe death toll was registered for the years 1382–1383. Alain Derville, ‘La population du Nord au Moyen Age. I: avant 1384’, *Revue du Nord* 80:326–327 (1998) 527, <https://doi.org/10.3406/rnord.1998.2872>;

No accounts survive for the fabric of Saint-Amé during the major crisis of 1400, but its severity is well attested elsewhere. In Douai, 71 wills were drawn up in August and September 1400, often followed by death within a week.⁴⁷ Comparable surges appear in Arras, Cambrai, and Lille, as well as in Hainaut.⁴⁸ The epidemic's spread across neighboring regions, though uneven in intensity, confirms a widespread outbreak in northwestern Europe around 1399–1401.⁴⁹

The 1414–1415 spike again reflects an epidemic resurgence, visible in a rise of new testaments in Douai and similar patterns in Hainaut and Cambrai, perhaps beginning as early as 1413.⁵⁰ Another increase occurred in the late 1430s, though for Douai, only the account of 1439/40 is preserved, showing mortality about 150 percent above normal, likely the tail end of a 1438 peak. In Cambrai, graves dug at Saint-Julien hospital jumped from 20–40 to 500 in 1438–1439.⁵¹ The 1438–1440 crisis, one of the most devastating after the Black Death, was pan-European, combining harvest failure, harsh winters, epidemic

Hugues Neveux, 'La mortalité des pauvres à Cambrai (1377–1473)', *Annales de Démographie Historique* (1968) 79, <https://doi.org/10.3406/adh.1968.994>; Hugues Neveux, *Vie et déclin d'une structure économique: les grains du Cambrésis (fin du XIVe, début du XVIIe siècles)* (Paris 1980) 401–402; Roosen and Curtis, 'The "light touch"'; Daniel R. Curtis, 'Plague and epidemic disease in the northern parts of the Low Countries, 1349–1450', *TSEG – The Low Countries Journal of Social and Economic History* 21:2 (2024) 87, <https://doi.org/10.52024/7gr34y91>.

47 Deregnaucourt, 'Autour de la mort', 61.

48 In Arras, a "pestilence" already raged in the years 1397–1400 and 246 people were buried by the Saint-Jean hospital from October 1399 to September 1400. In Cambrai, the Saint-Julien hospital buried 72 poor in 1400/01 and 56 in 1401/02, while it buried only 25, 28, and 20 poor in the three years prior. In Lille, the Saint-Sauveur hospital had to bury 40 deceased sick in the period from July 1400 to July 1401. Derville, 'La population du Nord II', 66–67; Gérard Sivéry, 'La peste noire et l'épidémie de 1400–1401 dans le Hainaut. Questions de méthodologie', *Annales de la Société Belge d'Histoire des Hôpitaux* 4 (1966) 51–65.

49 It arrived in Paris at the end of June 1399. In Dijon, 15 percent of the population died in this period, while in different regions of England death rates of 10–15 percent were attested. Pierre Galanaud et al., 'Mortality and demographic recovery in early post-Black Death epidemics. Role of recent emigrants in medieval Dijon', *PLoS ONE* 15:1 (2020) e0226420, <https://doi.org/10.1371/journal.pone.0226420>; Pamela Nightingale, 'Some new evidence of crises and trends of mortality in late medieval England', *Past and Present* 187 (2005) 33–68, <https://doi.org/10.1093/pastj/gti009>; Derville, 'La population du Nord II', 67.

50 Deregnaucourt, 'Autour de la mort'. This occurrence was noted by the *dame souveraine* of the Saint-Julien hospital in Cambrai. In the same period, Artois and the Cambrésis were the scene of military campaigns after the *Cabochien* revolt between the Armagnacs and the Burgundians. However, even though the *dame* mentioned damages to the grain harvest because of the people of arms, she did not blame the death on the soldiers, but on a contagious disease.

51 Neveux, *Vie et déclin d'une structure économique*, 170. The first two years of the crisis are the only years in about a century during which round numbers were noted (200 and 500), perhaps a sign of expected high mortality rather than actual deaths?

disease, and political unrest.⁵² The relatively modest crisis mortality in Douai is due to the lack of data for the years before 1439, when the actual peak probably would have occurred.

About a decade later, a modest increase occurred in 1450 (roughly 111 percent),⁵³ followed by a far sharper spike in 1457: 3.5 times the norm. City accounts mention an “epidemic” in 1454-1455, with Cambrai also peaking that year, though Douai’s highest mortality came in 1457-1458.⁵⁴ Monique Mestayer mentioned a deadly epidemic among the prisoners of the *Vièse Tour* (part of the Saint-Amé parish), as well as among the archers of the city, but her sources are unclear.⁵⁵ Blockmans distinguishes two separate epidemic episodes (1450-1454 and 1456-1459) but notes the erratic, often localized spread of plague.⁵⁶ The 1457 peak also appeared in Brabant, Artois, Namur, Holland, Guelders, and Bruges, where canons of Saint-Donatian were permitted to flee ‘for fear of the plague.’⁵⁷

Another spike followed in 1467, with mortality tripling in Douai and quadrupling in nearby Cambrai. In Mons, an epidemic broke out in the years 1468-1469, while the mortmain records for Hainaut only peak two years later.⁵⁸ Although the Ghent revolt of 1467 coincided with these events, it is unlikely to have affected Douai directly; the pattern instead reflects a wider epidemic across the Low Countries (1466-1472).⁵⁹ The final major spike, between 1476 and 1478, mirrors that

52 A concise overview for the Low Countries is given in Roosen and Curtis, ‘The “light touch”’, 43-45, 49; Curtis, ‘Plague and epidemic disease’, 91-92.

53 This limited increase is due to the 1440s having the lowest number of deaths over the entire period, a phenomenon also observed in Cambrai (from 6 to 12 deaths over the entire year). In Douai, the average deaths per year was 5.67 (median: 6) in comparison to a median death rate of 7 over the entire studied period. In 1450 and 1451, the death rate rose to 12, but dropped again thereafter, in no case the exuberant increases of other spikes. The testaments studied by Deregnacourt do not show any particular increases during these years.

54 Archives Municipales de Douai (AMD), série CC, n° 223, f° 40 v. Neveux, ‘La mortalité des pauvres’.

55 Rouche, *L’histoire de Douai*, 73.

56 Blockmans, ‘The social and economic effects’, 850-854.

57 *Ibid.*, 853.

58 Jean-Marie Cauchies, ‘Une épidémie de peste à Mons en 1468-1469’, *Annales du Cercle Archéologique de Mons* 69 (1975) 215-222. The numbers for the mortmains are only published up to 1450, but have been supplied by the authors of Roosen and Curtis, ‘The “light touch”’.

59 For these years, there are indications of an epidemic in Flanders, Mechelen and Brabant, Hainaut, Liège, Guelders, Artois, and Utrecht. Blockmans, ‘The social and economic effects’, 853. The revolt against the Flemish Count is described in Peter J. Arnade, ‘Secular charisma, sacred power. Rites of rebellion in the Ghent Entry of 1467’, *Handelingen der Maatschappij voor Geschiedenis en Oudheidkunde te Gent* 45:1 (1991) 69-93, <https://doi.org/10.21825/hmgog.v45i1.285>.

of 1467.⁶⁰ Hainaut's mortmains show smaller peaks in 1474, 1478, and 1482-1483.⁶¹ During these years, the war between the French king, Louis XI, and the Burgundian Netherlands raged, primarily fought in the southernmost castellanies of Flanders.⁶²

In sum, the funeral pall evidence from Saint-Amé demonstrates that Douai suffered repeated mortality crises throughout the later fourteenth and fifteenth centuries. Recurring mortality spikes in this period have typically been linked to outbreaks of plague or *Yersinia pestis*, even when the exact nature of the disease remains uncertain.⁶³ Apart from epidemics, peaks in death rates could have also been caused by, for instance, warfare or famine. The latter is rather complex to assess due to the lag between increased grain prices and famine and the accompanying deadliness of several degrees of malnutrition. This situation is certainly true for an economically well-connected region such as Flanders.⁶⁴

One factor that helps identify the occurrence of epidemic mortality is the manifestation of co-resident mortality (or household clustering) during a mortality surge. Once introduced into a household, infectious diseases, especially plague, tended to spread rapidly among co-residents, producing successive deaths of kin, servants, and dependants within a compressed timeframe.⁶⁵ The transmission of disease within domestic units can be traced in the records of Saint-Amé, as some burials can be linked either to the same household through explicit relational markers (e.g., a father or mother buried together with their children, not necessarily in childbirth) and in some cases through the joint listing of multiple adults or children under a single pall entry. Servants of a household who pass away in the same year as a member of that household are also counted as household-level clustering. It

60 It seems that the relative deviation is smaller, but this is linked to the absence of data during the preceding period of 'usual' mortality in the 1470s, while such data is available for the 1460s. In absolute terms, during both spikes, the number of funeral palls rose to about 20 per year.

61 Roosen and Curtis, 'The "light touch".'

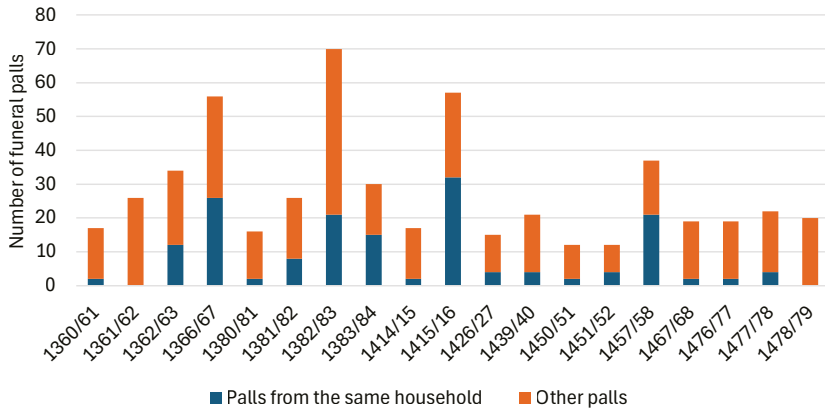
62 Jelle Haemers, *For the common good. State power and urban revolts in the reign of Mary of Burgundy (1477-1482)* (Turnhout 2009) 21-26; Alain Salamagne, 'La défense des villes des Pays-Bas à la mort de Charles le Téméraire (1477)', in: Philippe Contamine and Olivier Guyotjeannin (eds), *La guerre, la violence et les gens au Moyen Âge* (Paris 1996).

63 Curtis, 'Plague and epidemic disease', 82-83.

64 For the price integration of the Flemish grain market in the fifteenth century, see Stef Espeel, 'Driven by crises. Price integration on the grain market in late medieval Flanders', *The Economic History Review* 77:3 (2024) 849-872, <https://doi.org/10.1111/ehr.13301>.

65 Samuel K. Cohn and Guido Alfani, 'Households and plague in early modern Italy', *The Journal of Interdisciplinary History* 38:2 (2007) 177-205.

Figure 2 Mortality peaks and household-clustering: Funeral palls from co-residents.



(Source: ADN, série 1 G, n° 1288-1398.)

is not certain that every servant lived in-house with their employer; they could have also had their residence in another (perhaps poorer?) parish of the city. Conversely, servants could have been working in other parishes, having their residence in the parish of Saint-Amé. In any case, there are no indications regarding the place of residence of the deceased, so every person for whom a pall was rented is counted as an inhabitant of this parish.

When the clustering evidence is examined over the longer span of the late Middle Ages, a clear correspondence emerges between peaks in mortality and the concentration of multiple burials originating from the same household. In the decades following the Black Death and well into the early fifteenth century, years marked by heightened burial numbers also exhibit elevated levels of household clustering (see figure 2). These clusters of linked entries reflect the social and spatial realities of domestic life, with family members sharing living quarters, food, and daily routines that facilitated intra-household transmission. The coherence between mortality peaks and household clustering thus strengthens the interpretation that these surges were primarily epidemic in origin.

However, this relationship weakens strikingly in the second half of the fifteenth century. The number of linked household deaths is substantially lower for the later mortality peaks, indicating a shift in the underlying forces driving mortality. This period was marked by recurrent warfare, military mobilization, and political instability in the

Burgundian Low Countries. Whereas the 1467 peak was also attested in other, neighboring regions, the 1476-1478 peak could perhaps be seen in the context of warfare and political conflict.

Towards a certain selectivity in mortality?

The influence of sex and age

Recent scholarship has increasingly recognized that mortality during the late-medieval plague era was not demographically neutral. In a series of regional studies, Guido Alfani has shown that the Black Death and its subsequent waves in northern and central Italy often displayed selective impacts, sometimes disproportionately affecting women and the poor, reflecting both biological susceptibility and entrenched social inequalities.⁶⁶ Similarly, Curtis and Roosen have demonstrated for the county of Hainaut that the epidemics between the Black Death and 1450 often had a sex-selective effect, with more women dying during the epidemic years in comparison to normal years.⁶⁷ However, as epidemic mortality was rarely random, a consistent pattern could not be revealed either.

The data from Douai offer a long-term perspective on how such selectivity evolved in a northern French urban context. Table 2 compares “normal” years (i.e., periods of baseline mortality) with the mortality years characterized by epidemic or crisis-level deaths, defined in the previous section. Data are presented for three chronological intervals (1340-1399, 1400-1449, and 1450-1500), distinguishing adults and children, as well as males and females.

Across the entire period, adult mortality in Douai was largely non-selective by sex. Even though males were always in the majority, the male-to-female ratios remain close to parity, ranging from about 1.0 to 1.3, with no statistically significant differences between normal and mortality years in any sub-period. For the aggregated period 1340-1500, this ratio rises modestly from 1.14 in normal years to 1.26 in mortality years, yet this difference is not significant ($P = 0.54$). This pattern suggests that plague and other epidemic crises struck men

66 Alfani, ‘Plague in seventeenth-century Europe’; Alfani and Murphy, ‘Plague and lethal epidemics’, 323-326; Guido Alfani et al., ‘Pandemics and socio-economic status. Evidence from the plague of 1630 in northern Italy’, *Population Studies* 78:1 (2024) 21-42, <https://doi.org/10.1080/00324728.2023.2197412>.

67 Curtis and Roosen, ‘The sex-selective impact’.

and women with broadly equal force. Although gendered differences in daily exposure or labor could theoretically influence infection risk (men's public occupational roles versus women's domestic caregiving), these social asymmetries did not translate into measurable differences in mortality outcomes, judging from the funeral palls.

Table 2 Mortality data overview concerning sex and age, Douai, 1340-1499.

Period	1340-1500		1340-1399		1400-1449		1450-1500	
Years	Normal	Mortality	Normal	Mortality	Normal	Mortality	Normal	Mortality
# acc.	86	19	40	8	23	4	23	7
	Adults							
Male	207	175	100	103	54	28	53	44
Female	181	139	96	76	45	29	40	34
Unknown	1	0	1	0	0	0	0	0
Total	389	314	197	179	99	57	93	78
Ratio M:F	1.14	1.26	1.04	1.36	1.20	0.97	1.33	1.29
Fisher's Exact test	P = 0.54		P = 0.21		P = 0.62		P = 1	
	Children							
Male	54	45	30	22	16	15	8	8
Female	27	57	14	29	5	11	8	17
Unknown	138	110	40	45	45	27	53	38
Total	219	212	84	96	66	53	69	63
Ratio M:F	1.14	0.79	2.14	0.76	3.20	1.36	1.00	0.47
Fisher's Exact test	P = 0.00		P = 0.02		P = 0.23		P = 0.33	
	Adults vs. children (total)							
Ratio A:C	1.78	1.48	2.35	1.86	1.50	1.08	1.35	1.24
Fisher's Exact test	P = 0.14		P = 0.24		P = 0.21		P = 0.73	

Note: for Fisher's Exact test, a P -value less than 0.05 is statistically significant. P -values more than 0.10 indicate weak evidence against the Null hypothesis.

(Source: *ADN, série 1 G, n° 1288-1398.*)

Children, however, seem to show a markedly different pattern, though only superficially so. A majority of the child burials in the parish were

recorded with unknown sex: 138 of 219 'normal' and 110 of 212 'mortality' cases over the entire period. This imbalance is critical. If only known-sex cases are analyzed, the early data seem to show a striking female bias in child mortality during epidemic years: the male-to-female ratio falls during every sub-period in mortality years. One possible explanation could lie in differential treatment during periods of hardship. It has been suggested for other contexts that, in times of scarcity or epidemic stress, boys might receive preferential access to food, care, or protection, potentially resulting in higher female child mortality.⁶⁸ Or that women, including young girls, during preindustrial epidemics often took up caring roles that were not limited to their own households, but provided this service to other non-kin-connected households with one or more infected members as well.⁶⁹

However, once the 'unknown' category is taken into account, this apparent selectivity becomes much less certain. The high proportion of unsexed children in the Saint-Amé accounts most likely reflects recording practices rather than deliberate gender differentiation. In this late-medieval parish documentation, very young children were often identified generically or relationally, grouped under a parent's entry or described simply as 'child', especially during crisis years when burials may have been registered more summarily. There is no clear indication that one sex was systematically more likely to be omitted from identification, and therefore the 'unknown' category probably reflects age-related documentary conventions more than demographic structure. Hypothetically, if the unknown children are redistributed evenly between male and female categories (an arbitrary but reasonable assumption in the absence of clear sexing criteria), the revised ratios eliminate the statistical difference entirely. In other words, the supposed overrepresentation of girls among epidemic child deaths is likely an artefact of incomplete sex attribution rather than a reflection of genuine demographic bias.

The comparison of adult to child burials offers another dimension to the analysis. Across all periods, adults predominate in normal years (adult-to-children ratios between 1.35 and 2.35). During mortality years, these ratios tend to decline slightly, indicating that children

68 This possibility is hypothesized for seventeenth-century Italy in Alfani et al., 'Pandemics and socio-economic status'.

69 These roles were the so-called *schrobsters* in Dutch. However, it remains unclear when this phenomenon started to take off in the Low Countries. Daniel R. Curtis, *Epidemic disease and society in the premodern Low Countries* (Oxon 2026) 185-186, <https://doi.org/10.4324/9781003694908>.

contributed a somewhat greater share of deaths during epidemic crises, though again without statistical significance ($P = 0.14-0.73$). This minor shift likely reflects the increased vulnerability of younger individuals lacking prior exposure or acquired immunity, as observed in other plague-affected periods and regions. However, the differences remain too small and inconsistent to confirm strong age selectivity. Epidemics in Douai seem to have struck both adults and children heavily, without privileging one group. The modest downward drift in ratios can therefore be read as a weak indication, rather than clear evidence, of greater child susceptibility during epidemic peaks.

Taken together, the funeral pall evidence suggests that epidemic mortality in Douai remained broadly non-selective across both sex and age. While initial impressions of female-biased child mortality emerge from the raw figures, these dissolve once the large proportion of unknown-sex burials is hypothetically evenly distributed among boys and girls, leaving no statistically significant differences. Adults and children alike were affected during crisis years, though without consistent demographic asymmetry. In contrast to findings from parts of Italy and England, where later plagues became more selective, Douai appears to have experienced epidemic mortality that was largely egalitarian in its demographic reach, reflecting either the homogenizing impact of recurrent exposure due to the socio-topographical organization of the parish, or the limitations inherent in the surviving record.⁷⁰ However, the lack of statistically significant differences should be interpreted cautiously, as it may result from limited statistical power or from the decision to distribute the unknown category evenly between males and females, rather than indicating true demographic neutrality. The patterns identified in this study are best understood as suggestive tendencies within a small but long-running parish series, rather than as definitive measurements of effect size. On the other hand, sex-selective temporary migration shifts, resulting perhaps in more women than men living in Douai for a certain period, could have also skewed the figures.⁷¹

70 Charles M. Evans and Angela E. Evans, 'Plague – a disease of children and servants? A study of the parish records of St Peter upon Cornhill, London from 1580 to 1605', *Continuity and Change* 3:2 (2019) 183-208, <https://doi.org/10.1017/S0268416019000158>.

71 The issue of sex-selective migration has been considered as an important factor for the early modern Low Countries, see: Daniel R. Curtis and Qijun Han, 'The female mortality advantage in the seventeenth-century rural Low Countries', *Gender & History* 33:1 (2021) 50-74, <https://doi.org/10.1111/1468-0424.12495>.

Looking at wealth: The effect of socioeconomic status

Next to any selectivity concerning sex or age, some authors suggest that socioeconomic status (SES) often mattered as well, with the poorer people in many places suffering higher mortality. Especially during later plague outbreaks, this would have been the case, while the Black Death was more indiscriminate.⁷² Certain mechanisms can produce these gradients on SES. Higher poverty rates could lead to worse baseline health and nutrition, crowded or unsanitary living conditions, occupational exposure (e.g., market sellers, port workers), and reduced access to charitable care. More wealthy groups had the possibility of fleeing the city to their rural estates, thus reducing the risk of exposure to an infectious disease.⁷³ Conversely, some well-to-do groups (clergy, caregivers, merchants who kept trading) were also more exposed, explaining why high mortality also appears in wealthier strata in some contexts.⁷⁴

We have to be aware that different sources and scales produce different results. When wills and tax lists are used, there is an inherent bias towards a wealthier population. Manorial records, frequently used for England, capture the tenants, but miss the very poor.⁷⁵ Archaeological or anthropological studies on cemeteries and skeletal remains are biased to who was actually buried there.⁷⁶ Larger aggregate databases, resulting in city-level mortality rates, could also conceal the heterogeneity of socioeconomic gradients. When using smaller-scale sources, for instance, including information on the household or parish level, such gradients are usually clearer, which is the case here. The church fabric accounts, including certain costs for renting certain palls, enable us to assess the impact of the deceased's socioeconomic status. Those costs for funeral palls serve as a proxy for wealth, allowing us to examine the changing relationship between SES and mortality across both adults and children during "normal" years and mortality years, even though this proxy has to be approached with caution. As the size

72 Galanaud et al., 'Mortality and demographic recovery'.

73 This phenomenon has been attested for fifteenth-century Leuven in Raymond Van Uytven, 'De bevolking', in: Raymond Van Uytven (ed.), *Leuven. "De beste stad van Brabant". De geschiedenis van het stadsgewest Leuven tot omstreeks 1600* (Leuven 1980) 123-125.

74 Alfani et al., 'Pandemics and socio-economic status'.

75 Mark Bailey, *The decline of serfdom in late medieval England. From bondage to freedom* (London 2014) <https://www.jstor.org/stable/10.7722/j.ctt3fgn5m>; Sharon N. DeWitte and Maryanne Kowaleski, 'Black Death bodies', *Fragments* 6 (2017) 1-37, <http://hdl.handle.net/2027/spo.9772151.0006.001>.

76 DeWitte, 'Age patterns'; DeWitte and Wood, 'Selectivity of Black Death mortality'; DeWitte, 'Mortality risk'.

of the cloth is significantly smaller for children, these groups have to be analyzed separately. As some studies suggest that from the start of the fifteenth century onwards, SES mattered more than during the previous period, I also look at 1340-1400, 1401-1450, and 1451-1500 separately.

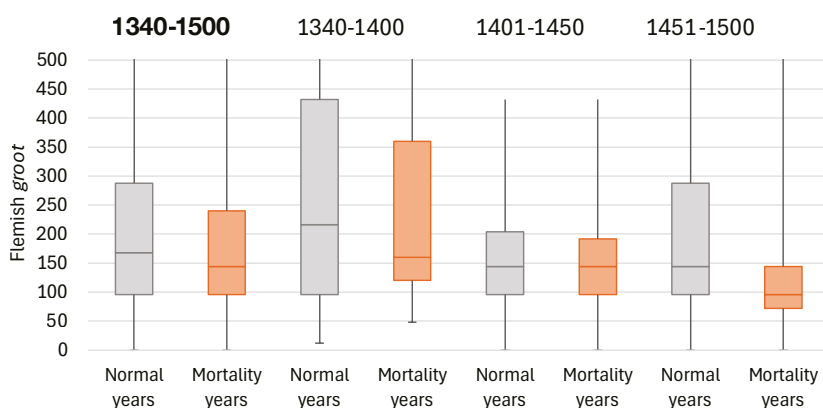
Across the broad period from 1340 to 1500, and within each of the three sub-periods, a clear and persistent divide emerges between the socioeconomic profiles of adults who died in “normal” years and those who succumbed during acute mortality peaks (see figure 3). Although death touched all levels of society, crisis mortality was systematically more concentrated among individuals of lower status. This recurrent pattern underscores the extent to which structural inequalities (of nutrition, housing, occupational exposure, and access to resources) shaped the vulnerability of medieval populations to epidemic and environmental shocks.

The period 1340-1400, covering the half-century that encompasses the Black Death and its recurrent waves, exhibits a marked divergence between normal-year and crisis-year mortality. In normal years, the distribution of wealth among the deceased is broad, with a relatively high median and a long upper range, indicating that individuals from both modest and affluent backgrounds appear in roughly proportional terms. Such a distribution suggests the more “random” nature of mortality in quieter demographic years, when deaths stemmed largely from endemic diseases, accidents, and the general life cycle, rather than from catastrophic events. In contrast, mortality peaks in this same period show a compression of SES: the median drops, the interquartile range contracts and the upper end of the distribution is quite a bit lower than in normal years. This material indicates that the wealthy are underrepresented among epidemic victims, while the poorer strata are disproportionately affected. The result aligns with well-established findings on the social selectivity of the later outbreaks, where repeated exposure, poorer nutrition, and more precarious living conditions heightened the mortality burden among the lower classes.⁷⁷

The subsequent period, 1401-1450, reveals a somewhat reduced, though still observable, degree of socioeconomic differentiation in mortality. Here, the medians for both normal years and crisis years are lower than those of the previous period, reflecting the general economic stagnation and demographic contraction. The narrowing gap suggests that differences between rich and poor were somewhat

77 Alfani and Murphy, ‘Plague and lethal epidemics’; Cohn, *The Black Death transformed*.

Figure 3 The distribution of socioeconomic status of adults buried with funeral palls during normal and mortality years, 1340-1500.



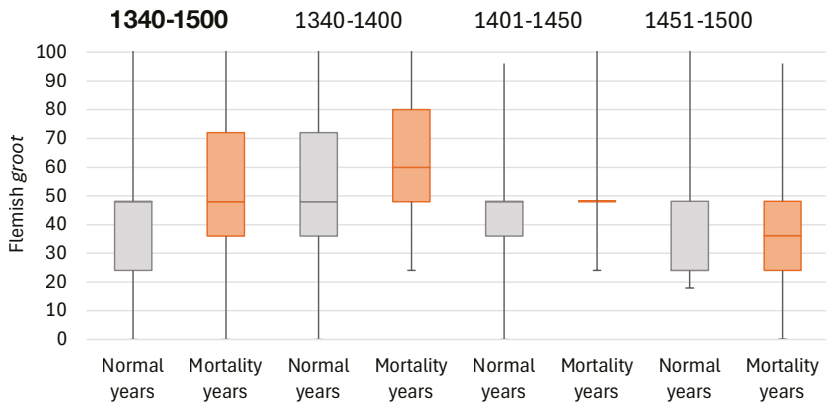
(Source: ADN, série 1 G, n° 1288–1398.)

less starkly reflected in mortality profiles. Nevertheless, mortality peaks continue to display a lower median SES than normal years, indicating that the poor remained more vulnerable to crisis mortality.

In the final period, 1451-1500, the divergence between normal and crisis mortality widens again. Normal-year distributions show a higher median and broader socioeconomic range, and crisis-year mortality once more drops to a noticeably lower median, with a compressed interquartile range and lower overall values. The implication is that, as economic conditions improved and social stratification became more pronounced, epidemic mortality again became more selective. The wealthier were better positioned to avoid exposure, whether through less densely populated living arrangements, greater dietary security, or the ability to withdraw temporarily from affected areas, while the poor remained disproportionately exposed to both contagion and scarcity. This renewed divergence highlights the dynamic nature of inequality: as prosperity and stratification increased, so too did the uneven distribution of risk during demographic shocks.

The data for children display a markedly different pattern from that observed among adults, revealing that the relationship between SES and mortality was far less pronounced among the youngest members of late-medieval society (see figure 7). Because children were buried with smaller and therefore generally less expensive palls, the absolute values shown here are inherently lower than those found in the adult dataset.

Figure 4 The distribution of socioeconomic status of children buried with funeral palls during normal and mortality years, 1340-1500.



(Source: ADN, série 1 G, n° 1288–1398.)

The distribution of pall expenditures among deceased children shows far narrower interquartile ranges than for adults. This set suggests that children's funerals, even in normal years, tended to perhaps be more standardized, or even economically restrained, and that their burial costs therefore offer a less sensitive proxy for underlying household wealth.

Across the full period 1340-1500, children who died in mortality peaks tend to have slightly higher median pall expenditures and a somewhat broader interquartile range than those who died in normal years. This increase contrasts with the adult pattern, where crisis years typically display a downward shift in socioeconomic status. For children, the modest upward shift during mortality peaks could reflect ritual dynamics rather than actual wealth differences: during crisis years, families may have devoted proportionally more attention or resources to children's burials, perhaps as an emotional response to elevated child loss. The effect remains modest, but the consistency of the pattern warrants attention.

The sub-period 1340-1400 clearly demonstrates this effect, as children buried in epidemic years exhibit a higher median pall value. In the early fifteenth century (1401-1450), the distinction nearly disappears. Both normal- and crisis-year distributions are extremely narrow with nearly identical medians. This situation reflects a period in which child funeral expenditures were likely fairly standardized, and

mortality crises did not significantly alter burial practices. In the final sub-period, 1451–1500, the median pall expenditure for children in normal years drops to one of the lowest points in the entire dataset, with the distribution so compressed that no lower quartile is visible. By contrast, mortality years show a somewhat higher median and a broader, though still modest, interquartile range. This divergence suggests that during the later fifteenth century, families kept investing marginally more in children's funerals when deaths occurred amid epidemic conditions than in ordinary years.

Taken together, the adult and child datasets underscore the fundamentally different ways in which socioeconomic inequality shaped mortality patterns in late-medieval society. Among adults, the contrast between normal years and mortality peaks is pronounced and consistent: crisis mortality disproportionately affected individuals from the lower end of the socioeconomic spectrum, while normal-year burials display a more socially mixed profile. Epidemic shocks thus exposed and intensified existing structural vulnerabilities. This growing differentiation in the later fifteenth century can be situated within broader discussions about the changing character of epidemic mortality in the northern Low Countries. Recent studies have suggested that the large-scale epidemic crises around 1400 and 1438–1440 differ in profile from the more frequent, and generally smaller, outbreaks of the later fifteenth century.⁷⁸ Whereas the earlier shocks are commonly associated with plague and appear as wide-ranging demographic events with relatively broad social reach, the later episodes may reflect a different epidemiological landscape, in which other infectious diseases (potentially more closely linked to local hardship, nutritional stress, or endemic conditions) played a larger role.

Although the Douai material does not allow firm identification of pathogens, the increasing concentration of mortality among lower-status adults in the later fifteenth century is consistent with a context in which vulnerability to disease was more tightly bound to structural inequality. In this sense, the parish evidence aligns with the suggestion that the later fifteenth century witnessed not simply a continuation of earlier plague dynamics, but a shift in the dominant forms of epidemic mortality.

78 Curtis, 'From one mortality regime'; Jaco Zuiderduijn, 'Living la Vita Apostolica. Longevity of nuns in late-medieval Holland', *Age, Culture, Humanities: An Interdisciplinary Journal* 9:1 (2025) <https://doi.org/10.7146/ageculturehumanities.v9i1.147213>.

However, this interpretation must proceed with caution, since pall values represent ritual spending rather than absolute wealth. During periods of acute mortality, burials were often conducted more hastily and with fewer ceremonial elements, either because of practical constraints, pastoral concerns, or explicit ecclesiastical directives aimed at reducing contagion. As such, a temporary reduction in pall expenditure may reflect crisis conditions rather than a genuine shift in the socioeconomic composition of the deceased. Moreover, families might opt for more modest funerary rites during epidemic peaks for reasons unrelated to financial capacity, such as fear of infection, shortages of clergy, restrictions on gatherings, or changes in communal expectations about appropriate ritual behavior. These contextual factors complicate the direct translation of pall cost into SES.

In contrast, the children's dataset reveals only muted socioeconomic differentiation across the same periods. Because children used smaller and inherently cheaper palls, absolute values are less informative; what matters are the relative differences between normal and crisis years. These differences, however, remain limited. In some periods, most clearly in the late fifteenth century, crisis-year burials show slightly higher pall values than normal-year burials, suggesting that ritual expectations, communal norms, or heightened pastoral oversight may have led to more standardized or minimally dignified funerary treatment for children during mortality peaks. The narrow ranges and low medians across all periods indicate that child burials tended toward uniformity, with socioeconomic gradients far less pronounced than among adults.

Concluding remarks

The funeral pall records of Saint-Amé provide a rare long-term perspective on mortality in a late-medieval urban parish, allowing the experience of Douai to be viewed alongside broader discussions about plague, selectivity, and changing mortality regimes. Rather than pointing to a single, clear trajectory, the evidence suggests a more nuanced pattern in which some developments commonly noted in the literature are visible, while others appear less pronounced or more contingent on local circumstances.

In chronological terms, the series confirms the recurring character of mortality crises after the mid-fourteenth century. The repeated peaks

identified across the fourteenth and fifteenth centuries fit comfortably within the wider picture of plague, or another disease epidemic, returning at regular intervals, gradually becoming a structural feature of urban life, as suggested in the work of, among others, Bruce Campbell and Philip Slavin, who have emphasized the long-term interaction between environment, disease, and demographic instability. At the same time, the relatively modest demographic impact of the first outbreak in this parish serves as a reminder that the experience of the Black Death was uneven at the local level. The Douai material thus fits well with studies that emphasize both the persistence of epidemic mortality and the diversity of its regional and urban manifestations.⁷⁹

When viewed from a demographic perspective, the patterns observed in Saint-Amé are somewhat more restrained than those described for other regions. Across the long run, mortality appears broadly balanced between men and women, and the data offer only weak indications of age-related differentiation. In this respect, the parish does not display the clearer sex- or age-selective pattern that has sometimes been identified elsewhere, particularly for later plague waves.⁸⁰ The Douai material does not contradict these findings so much as it suggests that such forms of selectivity were not equally visible in every urban context, and that local social and spatial conditions may have played an important role in shaping exposure and vulnerability. At the same time, the relatively small absolute number of annual cases means that these patterns should be interpreted with caution, as modest fluctuations can appear proportionally pronounced and limit the statistical weight of subgroup comparisons.

Socioeconomic differences, by contrast, emerge more consistently, especially among adults. During crisis years, the distribution of pall expenditures shifts downward, pointing to a greater presence of individuals associated with lower-cost funerary arrangements. This pattern is visible in multiple periods and becomes somewhat clearer over time, suggesting that inequality increasingly intersected with

79 Hatcher, 'Plague, population and the English economy, 1348-1530'; Campbell, *The Great Transition*; Daniel R. Curtis, *Epidemic disease and society in the premodern Low Countries* (London 2026), <https://doi.org/10.4324/9781003694908>.

80 Bioarchaeological work by Sharon DeWitte, for instance, had pointed to changing selectivity over time, while regional studies by Guido Alfani, Joris Roosen, and Daniel Curtis have identified episodes of sex- and status-based differentiation in parts of Italy and the Low Countries. DeWitte, 'Mortality risk'; Curtis and Roosen, 'The sex-selective impact'; Roosen and Curtis, 'The "light touch"'; Alfani, 'Pandemics and asymmetric shocks'; Bos and DeWitte, 'Human resistance'; Alfani et al., 'Pandemics and socio-economic status'.

mortality risk, at least in moments of acute stress. In this respect, the evidence resonates with studies that emphasize the growing importance of structural vulnerability in later medieval epidemics, while still indicating a more moderate gradient than that sometimes observed elsewhere. This development may also reflect a shift in the dominant disease environment, as several recent studies have suggested that the large plague outbreaks of the late fourteenth and early fifteenth centuries gave way, in the later fifteenth century, to more frequent and smaller-scale epidemics that were not necessarily plague, and whose mortality impact may have been more closely tied to structural hardship and social vulnerability. Among children, socioeconomic contrasts are far less distinct, which may reflect both the more standardized nature of their funerary treatment and the limits of pall expenditure as a proxy for household resources. Although the findings remain provisional, they offer rare quantitative indications of shifts in the social profile of mortality during this period. Previous suggestions that fifteenth-century epidemics disproportionately affected poorer groups have largely rested on qualitative contemporary observations; the present analysis provides a more systematic empirical footing for that claim.⁸¹

The household-level material adds further texture to this picture. In the earlier part of the period, mortality peaks are closely associated with clusters of deaths within domestic units, pointing to the importance of co-residence in shaping the spread of disease. In the later fifteenth century, this connection becomes less evident, as peaks in mortality no longer coincide as clearly with intra-household clustering. This shift may reflect a changing mix of pressures affecting urban populations, in which epidemic disease remained important but interacted more frequently with warfare, political disruption, and subsistence stress, themes that have figured prominently in broader interpretations of late-medieval crisis developed since the work of Wilhelm Abel and more recently revisited by, among others, Bruce Campbell.⁸²

Taken together, the Saint-Amé evidence illustrates a community living with recurrent mortality over more than a century and a half. Epidemic disease appeared as a regular, if unpredictable, presence, one that touched all parts of society, though not in entirely uniform ways. The data point to a gradual strengthening of socioeconomic

81 Cohn, *The Black Death transformed*; Ann G. Carmichael, 'Plague persistence in Western Europe: a hypothesis', in: Monica H. Green (ed.), *Pandemic disease in the medieval world: rethinking the Black Death* (York 2015).

82 Abel, *Agrarkrisen und Agrarkonjunktur*; Campbell, *The Great Transition*.

differentiation, a continued role for the household in structuring exposure, and a demographic profile that remained relatively balanced by sex and age. Seen in the context of the wider literature, Douai does not stand apart so much as it adds another local case in which the long-term adaptation to recurring mortality can be observed in detail, highlighting both the common rhythms of late-medieval demographic life and the variability of their local expression.

About the author

Stef Espeel (°1992) is a postdoctoral researcher at the Center for Urban History at the University of Antwerp, working on an FWO junior postdoctoral project “The economic impact of plague. Disruption, mitigation and learning effects in the later Middle Ages”. His publications include research on the late-medieval grain economy and economic crises, and his doctoral dissertation was published in 2025 by the Académie royale de Belgique as “Prices and crises. The grain economy in fourteenth-century Flanders”.

E-mail: stef.espeel@uantwerpen.be

Appendix A: absolute numbers of funeral palls per year.

Year	# Palls	Year	# Palls	Year	# Palls	Year	# Palls
1340/41		1380/81	16	1420/21	6	1460/61	6
1341/42	7	1381/82	26	1421/22	9	1461/62	6
1342/43	4	1382/83	70	1422/23	7	1462/63	4
1343/44	8	1383/84	30	1423/24	8	1463/64	2
1344/45	4	1384/85	11	1424/25		1464/65	5
1345/46	5	1385/86	13	1425/26	10	1465/66	5
1346/47	8	1386/87		1426/27	15	1466/67	5
1347/48	2	1387/88		1427/28	7	1467/68	19
1348/49	8	1388/89		1428/29		1468/69	9
1349/50	10	1389/90	6	1429/30		1469/70	9
1350/51	10	1390/91	16	1430/31		1470/71	
1351/52	11	1391/92	7	1431/32		1471/72	
1352/53	6	1392/93	7	1432/33	7	1472/73	
1353/54	7	1393/94		1433/34		1473/74	
1354/55	9	1394/95		1434/35		1474/75	
1355/56	5	1395/96		1435/36		1475/76	6
1356/57	3	1396/97		1436/37		1476/77	19
1357/58	5	1397/98		1437/38		1477/78	22
1358/59		1398/99		1438/39		1478/79	20
1359/60	6	1399/00		1439/40	21	1479/80	11
1360/61	17	1400/01		1440/41		1480/81	16
1361/62	26	1401/02		1441/42	5	1481/82	11
1362/63	34	1402/03		1442/43	9	1482/83	5
1363/64	6	1403/04		1443/44	6	1483/84	
1364/65	4	1404/05		1444/45	3	1484/85	
1365/66	4	1405/06		1445/46	5	1485/86	
1366/67	56	1406/07		1446/47	6	1486/87	
1367/68	10	1407/08		1447/48	4	1487/88	
1368/69	3	1408/09		1448/49	6	1488/89	
1369/70	3	1409/10		1449/50	7	1489/90	
1370/71	9	1410/11		1450/51	12	1490/91	
1371/72	6	1411/12	11	1451/52	12	1491/92	
1372/73	8	1412/13	6	1452/53	6	1492/93	

Year	# Palls	Year	# Palls	Year	# Palls	Year	# Palls
1373/74	1	1413/14	16	1453/54	7	1493/94	4
1374/75	6	1414/15	17	1454/55	5	1494/95	
1375/76	6	1415/16	57	1455/56	17	1495/96	6
1376/77	10	1416/17	8	1456/57	9	1496/97	
1377/78	10	1417/18	7	1457/58	37	1497/98	
1378/79	3	1418/19	7	1458/59	6	1498/99	
1379/80	13	1419/20	5	1459/60		1499/00	2

Appendix B: Fragment of the 1829 cadastral register of Douai.



Note: the assumed borders of the late medieval parish are highlighted. Mark that the church Saint-Amé is no longer visible on the map, as it was destroyed after the French Revolution.

Source: Lille, ADN, série P31: cadastre napoléonien, Douai 1829. (online accessible: <https://archivesdepartementales.lenord.fr/ark:/33518/x9tvwcmk56nh/49cc5989-ec3-4dac-a5b5-9af65c5024cf>)