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February 2014

Working paper no. 51

www.cgeh.nl/working-paper-series/

Should we call for a doctor? Households, consumption and the development of medical care in the Netherlands, 1650-1900

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Abstract: This article examines the Dutch medical marketplace between 1650 and 1900 from a household's perspective, based on the probate inventories database of the Meertens Institute. It offers the first quantitative analysis of demand for medical care in small towns and villages across the Netherlands. Our findings offer a substantial contrast to the well-known medical market in the Netherland's major cities and might be more representative for general European patterns. We observe that different usage of medical care bears similarity to the households' income, level of monetisation and engagement in commercial activities and other forms of non-essential consumption. While the pre-industrial era showed very outspoken differences in medical consumption between the commercialised maritime part of the Netherlands and the more autarchic inland region, patterns of medical consumption converged during the nineteenth century. These findings suggest that demand set a basic boundary for the further development of medical supply.

Keywords: Medical market, Household economics, The Netherlands, 17th-19th centuries

JEL Codes: D120, I110, I140

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Acknowledgements: Part of this research has been funded by the Interuniversity Attraction Poles Programme initiated by the Belgian Science Policy Office; the database has been adapted during a postdoc project at Utrecht University, part of the EURYI/Vidi project directed by Oscar Gelderblom and Joost Jonker. We would like to thank Frederik Buylaert, Frank Huisman, Catharina Lis, Wouter Ryckbosch, Hugo Soly, Anne Winter and the participants of the HOST-seminar at the Vrije Universiteit Brussel and the Workshop "Europe's Medical Revolutions. Markets and Medicine in Early Modern Europe" at the London School of Economics for fruitful discussions related to different aspects of this paper.

Introduction

The history of the patient in the Netherlands is largely unwritten. Although much excellent work has explored the concept of the "medical marketplace", its main focus has been on varieties of medical provision, particularly the complementarity between commercialised medical care and popular and religious healing.[1] This sheds some light on the agency of patients -- who in the end decided what kind of medical care they preferred. But we remain largely ignorant of the sick's level of engagement with different kinds of care, how this varied between social groups, how it related to their resources or wider patterns of consumption, or how it changed over time. The little we do know about the demand for medical care in the Netherlands has largely been imputed from the numbers of medical practitioners and the foundation of surgeons' guilds and colleges of physicians.[2] The narrative this suggests is of early and rapid growth – even 'medicalization' - coinciding with Holland's Golden Age. Surgical guilds spread in Dutch cities from the mid-fifteenth centuries; the supply of surgeons reached saturation in major cities in the 1600s with around one surgeon per thousand inhabitants. Physicians flourished from the mid-seventeenth. They remained scarcer than surgeons, but in Amsterdam, their number increased from one per 4,444 inhabitants in 1735 to one per 2,245 in the second half of the eighteenth century.[3] While this testifies to a well-developed and diversified body of medical practitioners in a few major cities, it tells us little about conditions elsewhere, and nothing about how the presence of practitioners translated into the employment of medical services by the sick.

This article approaches the Dutch medical marketplace between 1650 and 1900 from a different perspective. First, we begin with the sick, not with the medical practitioners. We locate demand for commercial medical care within households and take as a central question how the use of medical services was influenced by the budgetary opportunities or constraints that affected other purchasing decisions.[4] To achieve this, we use a large sample of inventories held in the Meertens Institute for a number of secondary towns and villages in the Netherlands. Much as Mortimer has

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[1] For a survey of the "medical market" literature: Jenner and Wallis (2007). International: Vandenbroeke (1980), Porter (1985), Jenner and Wallis (2007), Mortimer (2009); The Netherlands: Frijhoff (1983), Huisman (1989), de Blécourt, Frijhoff and Gijswijt-Hofstra (1993), van Vegchel (1993), Steendijk-Kuypers, J. (1994), Gijswijt-Hofstra (1995); a survey of previous medical historiography in the Netherlands: Kossmann-Putto (1985) 7-22, Van Vegchel (1993) 9-42.

[2] For instance: Amsterdam: Nieuwenhuis (1993); Groningen: Huisman (1996a).

[3] Nieuwenhuis (1993) 63-71.

[4] Porter (1985) 10.

demonstrated for seventeenth-century England, Dutch probate records allow us to identify households' medical expenditure in relation to wealth, socioeconomic status and location.[5] Although these sources have certain limitations, we argue that this approach is the best available method to analyse pre-modern household decision making over health consumption on a large scale. Indeed, our findings offer the first quantitative evidence on historical patterns of medical consumption in the Netherlands.

Second, we focus on secondary towns with around 5,000 inhabitants, not the wealthy commercial cities that were at the vanguard of the Dutch Golden Age with its rapid economic growth, wealth accumulation and high levels of consumption. We take these more modest urban centres as more representative of the different conditions and lifestyles that could be found across the country and perhaps Europe more generally: in 1795, almost half of Dutch towns had between 2,500 and 10,000 inhabitants, and in the inland provinces 75% of the country's population continued to live in the countryside.[6] The sheer size of large cities allowed a level of economic specialisation that may have stimulated commercial medical consumption earlier than in smaller towns. Central places such as Amsterdam and Groningen (with around 210,000 and 22,000 inhabitants in 1800 respectively) generally had a more extensive set of medical institutions than small towns: for example both had surgeons' and apothecaries' guilds at an early stage, and established medical colleges guaranteeing the required quality of treatments by qualified practitioners.

In contrast, the smaller towns we study were service centres for rural hinterlands spread across several provinces of the Netherlands. Each harboured at least one doctor, surgeon or apothecary throughout the entire period, but few had medical guilds and none had a medical college. In this, they reflect the most common forms of medical supply across the country that persisted into the nineteenth century. They also allow us to look beyond the glare of the Golden Age: outside the maritime provinces, growth rates were lower. The inland provinces of the Netherlands remained relatively poor until the nineteenth century.[7] The potential importance of geographical differences is apparent from the connection between skill and location contained in the national medical laws passed in the Netherlands in 1818. These established two medical "orders": the first included medical doctors with university degrees who could practice anywhere; the second included practitioners without degrees, who were limited to the province where they had been examined.

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[5] Mortimer (2009); Mortimer (thesis; earlier TRHS essay).

[6] De Vries and van der Woude, pp. 58-9. These smaller towns contained 26.9% of the urban population.

[7] de Vries and van der Woude (1997); Soltow and van Zanden (1998)

Urban surgeons (*stadsheelmeesters*) were also distinguished from rural surgeons (*plattelands-heelmeesters*), who were allowed to practice internal medicine if they worked in a village without a doctor. Even at the time of Thorbecke's medical laws of 1865, medical provision was still unequally spread over the Netherlands, with limited numbers of practitioners in the south-eastern part due to its relative poverty.[8] We can thus explore the extent of regional differences in the scale and timing of medical consumption, and the large scale of regional differences are one of the striking findings of our analysis, as is the convergence across the country in medical consumption that occurred in the nineteenth century.

We first present the data and the selected towns and villages in the broader context of their respective regions, and then describe the main characteristics of Dutch inventories and the expenses they mention for medical care. The main sections of the paper analyse the evolution of medical consumption in households with specific attention to changes on both the supply and demand side of the medical market. We examine households' consumption of medical care, their spending in relation to income and other kinds of consumption, and variation between social groups. We then describe the changes in the types of care that are obtained.

Sources and Sample

The *Inventories Database* of the Meertens Institute[9] contains 2,889 inventories, with 594,774 individual records of possessions, debts and credits, from a number of locations across the Netherlands. Because the database was originally created for a project analysing material culture, it includes all available inventories listing and describing the possessions of individuals and households,

[8] Thorbecke's laws of 1865 regulated the supervision of public health care, defined the required education of different medical practitioners and the medical actions each category was permitted to perform. Whereas the medical laws of 1818 limited the geographical scope of different types of practitioners, Thorbecke's laws were intended to create clearly delineated categories of practitioners (doctors, midwives, apothecaries) permitted to operate within the entire country. L.H. Verwey (1866).

[9] We thank the Meertens Instituut and Hester Dibbits for the use of the original database. The data have been codified under Deneweth's supervision during the 2010-2011 Academie-Assistenten Project "De Macht en Onmacht van Kredietmarkten", directed by Oscar Gelderblom and Bas van Bavel at Utrecht University, and funded by the KNAW. We thank Annemiek de Jong, Oscar Gelderblom, Karen Hollewand, Heleen Kole, Joost Jonker, Verena Seibel, Thomas van den Brink and Jon Verriet for their valuable (data-)input and feedback. The original database can be consulted on: http://www.meertens.knaw.nl/boedelbank/

whether made after death, before marriage, on dividing inheritances, or at the instigation of creditors laying a claim on property.[10] We focus here on 2,149 after death inventories, containing 507,375 individual records, prepared between 1650 and 1900. These come from five secondary towns spread over the maritime and inland regions of the Netherlands:[11] Weesp and Medemblik in North-Holland, Maassluis in South-Holland, and Groenlo and Doesburg in Guelders (map 1). We are also able to include evidence from four villages: Maasland, near Maassluis; Lichtenvoorde and Geldermalsen in Guelders; and Rosmalen in North-Brabant. Unfortunately, few locations have continuous series for the entire period (table 1).

INSERT MAP 1 NEAR HERE

INSERT TABLE 1 NEAR HERE (**Inventories by location and period)**

All the towns and villages we study were secondary centres with populations that mostly ranging between 2,000 and 5,000 inhabitants. While Geldermalsen, Rosmalen en Maasland were smaller with 600, 1,100 and 1,500 inhabitants in 1795 respectively, their population increased to 2,000 in 1859 and 2,500 to 3,000 around 1900. All locations acted mainly as service centres to rural hinterlands, although several contained concentrations of industrial activity as well. Their inhabitants included some *binnenboeren*, farmers who lived in the city while farming the surrounding countryside.[12] Medemblik and Maassluis were flourishing trade and fishery centres servicing areas where agriculture, as practised in Maasland, was already heavily commercialized by 1650. Their

[10] The Inventories Database has been used in several publications on material culture: Van Koolbergen (1983), Dibbits en Doelman (1993), Dibbits en Noordzij (2000), Dibbits (2001).

[11] We excluded inventories from Oirschot, as only 1-2% included detailed records of debts, and Twisk, as only 15 survive. The data for Groenlo and Lichtenvoorde does not clearly distinguish between this small town and the large village, so we address them together in the analysis. The North-eastern part of the Netherlands is not covered by this database. At the time of composition (the 1980s), Jan de Vries (1975) had published his research on peasant communities in Friesland and Anton Schuurman (1989) was working on probate inventories of Groningen (among other regions).

[12] Detailed studies of Weesp and Doesburg have been carried out: Weesp: Zondergeld-Hamer (1990) 11-12, 167-169, 218-221; Van Koolbergen (1997) 121-123; Doesburg: Dibbits (1998) 55-58, 69; Vermeesch (2006) 35-40, 107-114.

economies, however, stagnated during the second half of the eighteenth century.[13] Their inland counterparts, Lichtenvoorde and Geldermalsen, were surrounded by rural hinterlands characterized by a peasant economy until the eighteenth century.[14] Lichtenvoorde profited from a (re)conversion to cattle breeding and meat exports during the nineteenth century.[15] Weesp and Doesburg were both textile centres, and were also renowned for their gin distilleries and beer breweries respectively. Rosmalen was a poor, rural community situated in the sandy Campine region of Northern Brabant.

The economies of these centres and their rural hinterlands differed so much between the west and east of the Netherlands that it makes sense to differentiate between two larger geographical units: a western maritime region containing Weesp, Medemblik, Maassluis and Maasland, and an eastern inland region containing Doesburg, Geldermalsen, Lichtenvoorde and Rosmalen. Both regions experienced divergent trajectories of economic development during the early modern period.[16] Although the economy of the Dutch Republic expanded rapidly during the Golden Age (1580-1650), spectacular growth was concentrated in the maritime region and particularly the province of Holland. There, urbanisation and highly commercialised agriculture and fisheries led to high levels of labour specialisation. The inland region offered a stark contrast. It was less urbanised and grew less rapidly. Inland agriculture has often been characterised as a 'peasant economy', with limited commercialisation or labour specialisation. In the inland (urban) industrial sector, craftsmen's wages were only 70 percent of comparable wages in Holland. Additionally, the south-eastern of the Netherlands was sporadically affected by warfare, further hindering economic development.[17]

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[13] Population figures: CBS, Volkstellingen 1795-1971, http://www.volkstellingen.nl/nl; Medemblik: De Vries and van der Woude (1997) 64, 510-513; Maassluis and Maasland: Noordam (1986); Dibbits (1998).

[14] Van Zanden (1985) 20-22 defines the main characteristics of a peasant economy. 1) The household defines the norms for production and consumption. The main production strategies are risk-averse and oriented on self-sufficiency. Production of a labour-intensive 'cash crop' or engagement in proto-industrialisation enable the payment of taxes and rent, and additional market goods. 2) The "little tradition" of the farmers, which differs from the official "urban culture" dominates the local community. 3) Peasants are part of a larger society and produce a surplus to pay rent, taxes and services, trying to evade possible conflicts with society.

[15] Lichtenvoorde: Van Zanden (1985), Noordzij (2000); Oirschot: Joor (1986), Lesger (1986).

[16] See for instance de Vries and van der Woude (1997) or Soltow and van Zanden (1998).

[17] de Vries and van der Woude (1997), 615.

The gap between the maritime and inland regions started to narrow from the mid-eighteenth century. Rising food prices and growing exports of industrial crops, dairy products, wheat and meat stimulated innovation and intensification in the agricultural sector across the country during the nineteenth century. Productivity did not increase to the same degree in all regions, as soil and hydrography varied. Lichtenvoorde and other communities in Guelders, for instance, benefited greatly from the increasing demand for meat during the nineteenth century, while the region around Rosmalen remained one of the poorest of the Netherlands.[18]

Inventories and medical expenditure

Dutch after-death inventories provide a detailed source of information on expenditure on medical care that is comparable to the information available in England from probate accounts, although structured somewhat differently.[19] In the Netherlands three different types of after-death inventory existed: estate inventories (*boedelinventarissen*), probate inventories (s*taten van goed*) and probate accounts (r*ekeningen*). Each occurred at a different stage of post mortem estate management.

Estate inventories detail all the possessions, including real estate and land, credits and debts of an individual or his household at the time of death. This immediate listing prevented "the disappearance" of valuables before the division of the estate in order to ensure that minor heirs would eventually inherit a fair share. Most estate inventories date from within two months of death, and were prepared in the presence of relatives, servants or landlords to prevent fraud. Most are from families with minor heirs that owned sufficient possessions to be worth dividing. As "minor heirs" included grandchildren, nephews and nieces as well as children, inventories survive from all adult age groups, different household types, and different phases of the life cycle, so long as they had a basic level of property.[20] Female testators made up 48 percent of the sample, and roughly three quarters were married and a fifth were widowed. Single women make up only 7 percent of the sample. About two-thirds of male deceased were married, but only 14 percent were widowers and 19 percent were single. Estate inventories include detailed evidence on debts, including medical

[18] Van Zanden (1985).

[19] Mortimer (2009); Wallis & Pirohakul (2014).

[20] Schuurman (1989) 50; Wijsenbeek-Olthuis (1987) 103-111.

expenditures, and for this reason they are the type of inventory used here. However, unlike inventories in England, they usually lack valuations for the possessions listed.

Probate inventories were based on estate inventories, with the addition of valuations for the deceased's possessions that allowed the calculation of the portion due to each heir. Unfortunately, they often group possessions by category and value them collectively, and give summary totals for debts and credits. This obscures details such as medical expenditures, and we were unable to use them here. Urban authorities nominally required the registration of both types of inventories where heirs were fully orphaned. When one parent, either father or mother, survived, the composition of an estate inventory was required, but its registration was not mandatory. In such cases, registration often happened long after death, sometimes at the instigation of an heir or tutor claiming their portion. When a surviving partner remarried, however, registration was required in order to protect the interests of minors against their stepfamilies.[21] In such cases, orphans' tutors were asked to produce probate accounts containing annual summaries of their management of the estate. Dutch archives hold many more estate inventories than probate inventories or accounts, suggesting that the eventual division of the inheritance was usually handled within the family without any recourse to external authorities.

One of the limitations of estate inventories is their lack of valuations for possessions. This means that we cannot use the deceased's wealth to distinguish between different socio-economic groups. Instead, we divide the sample using the occupation of the deceased.[22] Occupations were reported in 74 and 81 percent of inland-region inventories from 1650-1799 and 1800-1900 respectively, and 63 and 71 per cent of inventories from the maritime region. The property listed in the inventories without occupations indicate that they mainly belonged to the middling social groups not the local elites. The occupations were then codified using the international HISCO- and HISCLASS schemes, and regrouped into four classes: high status occupations, such as mayors, aldermen, judges, priests and medical practitioners; non-manual middling occupations, such as merchants, retailers, shipowners and innkeepers; manual middling craftsmen, such as bakers, carpenters, and shoemakers; and manual middling agricultural occupations. [23] Few inventories survive from

[21] Kamermans (1999) 38-47. The sample includes 79% of inventories drawn up after death; 9% on the request of heirs or tutors, and 11% at the remarriage of a surviving spouse.

[22] Where inventories report multiple occupations, we use the first mentioned occupation, and if possible, check this was the function of the head of household.

[23] Van Leeuwen, Maas, and Miles (2002); van Leeuwen and Maas (2011) 11-27. Although these schemes were initially developed to frame nineteenth and twentieth-century research, the authors are convinced that the

individuals employed in lower status occupations, such as fishermen and weavers, or labourers, and these are treated as a residual group in the analysis. This upward social bias to the middling and elite sections of society is unfortunate, but is a well-known and unavoidable limitation imposed by these sources.

INSERT TABLE 2 (location & social class) NEAR HERE

Estate inventories frequently include information on the deceased's use of commercial medical care, albeit in the particular circumstances of the period that led up to their death. Of course, not all persons inventoried died from a disease, or necessarily felt sick if they did. On the other hand, it is likely that some who were sick did not seek medical support for some reason – such as underestimating the severity of their condition, lacking the means to pay, or simply preferring that nature take its course. In that sense, the inventories offer a cross-section of society with an expected overestimation of severe sickness. One of the key assumptions we make when using them longitudinally, as we do here, is that throughout the period individuals in the sample shared a broadly constant risk of being conscious of sickness, and so having a reason to seek medical care, in the period before death. This seems reasonably plausible, although the rise in life expectancy that occurred during the nineteenth century may have led to the sample containing an older age group with a higher level of general morbidity (unrelated to their cause of death) – and thus a higher propensity to seek medical assistance - in that period.[24]

The other methodological issue that needs to be raised is the assumption we make, at least at the outset, that the propensity to record medical debts in inventories is constant over time. This has some intuitive logic: because all "patients" were "under treatment" when they died, their accounts with practitioners were still open and so should be registered as debts. However, there are two elements of this assumption which are questionable, and we build our argument in part on its instability. The first question is a basic uncertainty about the completeness of debt recording in inventories. As snapshots of estates, often compiled retrospectively, inventories may omit debts if

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schemes hold up for earlier centuries in the Netherlands as well, since those were characterised by a modern economic growth.

[24] Life expectancy in the Netherlands rose from 32.2 in 1800-9 to 49.9 in 1900: Livi-Bacci, *Concise History of World Population*, 2nd edn, p. 121.

they were not yet received, paid out of cash, or simply forgotten. Here, we address this by restricting our analysis of consumption over space and time to a sub-set of 'detailed' inventories that include a record of funeral expenditure, on the grounds that this was a similarly sized debt that would be faced by all households and would be presented to the executors around the same time. As table 3 shows, this limits our analysis of these questions to around half of the original sample of inventories.[25]

INSERT TABLE 3 NEAR HERE: inventories with funeral details.

The second question is more difficult to resolve: it is about the stability of credit as a mode of payment for healthcare. As far as we can discern, even when households were able to pay for medical services in cash, payment still generally happened at the end of treatment. However, as we will see, the Dutch economy did become increasingly monetised over this period. There is some reason to suspect that payment practices moved from credit towards cash, as we discuss below. We suggest that the share of consumption that we observe increasingly understates actual consumption, and this, along with insurance and welfare developments, explains some of the developments we see in the nineteenth century.

Medical debts offer a unique view on individuals' use of different types of practitioners and their cost. The sources are relatively terse, however. They only mention the total debt to each medical practitioner, and give few details on the disease, or the duration and nature of treatment. Typical debt entries say little more than 'to the apothecary Wolter Jansen, for medicines supplied', 'to the surgeon J.H. Löchner te Deil, for services and medicines', or even just 'to doctor ten Bosche'.[26] Some types of care appear rarely, such as midwifery or nursing, probably in part because debts for such services are not as identifiable by the occupational title of the creditor. Some forms of care – from family and friends – are by their nature invisible: we explore individuals' connections to commercial providers, not to medical care per se. Naturally, we must be careful when generalising results based on inventories alone. Future research will need to confront these findings with other

[25] Inventories without funeral details record medical expenditures in 14% of cases, compared to 51% of those with funeral details.

[26] 'van de apotheker Wolter jansen, geleverde medicijnen' (Doesburg 1768); 'schuld wegens gedane diensten en medicamenten aan de Heelmeester J.H. Löchner te Deil'(Geldermalsen 1841); 'aan dokter ten Bosche' (Lichtenvoorde 1772). *Boedelbank Database,* items no. 545392, 537218, 484815.

sources, such as household journals and diaries, insurance accounts and poor relief accounts, that give more information on context, decision making and – particularly – responses to morbidity among other social and demographic groups. With all these limitations in mind, we should not lose sight of the distinctive potential of these inventories: they provide the only way to explore the engagement with healthcare of a large number of individuals across a broad geographical and socio-economic swathe of Dutch society during three centuries that saw major changes in medicine, economy and society.

Medical consumption in the Netherlands, 1650-1800

The overall pattern in medical consumption in the Netherlands suggested by the inventories is presented in table 4. As this shows, the percentage of deceased with any kind of medical debts in inventories grew substantially between 1650 and 1800. The frequency of medical debts rose from a relatively low level - often around a third of households in the second half of the seventeenth century - to between two-thirds and three quarters of households in the second half of the eighteenth century in five of the six locations for which we have evidence. The size of medical indebtedness rose in parallel. In most of the small towns and villages of the Netherlands, a major expansion in medical consumption occurred from the later seventeenth century onwards. From 1800, the trajectory changes sharply: records of debts become less frequent (although the size of medical debts continued to grow), which we identify with a shift to direct payments and insurance based healthcare; we discuss this in the next section.

INSERT table 4A-B NEAR HERE (% households with medical expenses & median debts)

Although these locations were in many ways comparable, the level of consumption of medical care varied substantially. Communities in the maritime region engaged actively in medical consumption in the eighteenth century. Inland, Doesburg saw fairly comparable levels of medical consumption, but Lichtenvoorde lagged behind severely, even when compared to the village of Maasland. The amount that households spent on medical expenses differed considerably. Households in the maritime region generally had higher expenditure on medical care than those inland until 1800. In the nineteenth century, the situation reversed: the inland region had, if

anything, a somewhat higher level of medical consumption than its maritime counterpart, and households there now spent roughly the same amounts as maritime households on medical care.

Behind these regional and local differences lay different economic structures. There are, no doubt, numerous channels that connected economic conditions and medical consumption in this period. But two of the most significant were: household income, which constrained the range of consumption choices; and the degree of monetisation and commercialisation in the local economy, which affecting the levels of market exchange in different communities. More generally, we could think of the latter as in part reflecting differing degrees of willingness to "consume" through the market. The effect of these conditions was visible across a range of types of household consumption. The similarities that were visible between regional developments in medical and non-medical consumption offer strong support for emphasising the importance of these general factors on household choices about health care. Although sickness can appear to be a special form of consumption – perhaps more pressing, perhaps less about status display – in practice, the growth of medical consumption in the Netherland was closely related to trends in consumption in general.

Let us take income first. Unfortunately, the incomes of individual households in our sample cannot be reconstructed. However, indicative figures are available at a regional level that give some sense of their likely earnings. In the western, more commercialised maritime region of the Republic, master craftsmen were paid 28 stivers a day or 420 guilders a year around 1650.[27] Their eastern inland counterparts received only 20 stivers a day or 300 guilders a year. Unskilled labourers took home much less: 270 and 180 guilders respectively. Remarkably, Dutch wages were frozen at these levels until the third quarter of the nineteenth century. Information about salaried income for non-manual workers, such as town secretaries, is very fragmentary. In Holland salaries were around 500 guilders a year in the seventeenth century. Unlike wages, between 1660 and 1800 salaries increased by 26% to approximately 630 guilders.[28] Obviously, one key omission here is any sense of the incomes of small agricultural households, and in the inland region in particular, these were an impoverished group.[29]

The large income gap of 30% between workers in the maritime and inland regions provides one major explanatory factor for the differing amounts spent on medical services. The comparison of

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[27] For annual income, we assume an average of 300 working days a year.

[28] De Vries and van der Woude (1996) 607-632.

[29] See: Van Zanden (1985); Schuurman (1989).

medical expenses with wages is telling in this regard. The median sum of money owed for medical services between 1650 and 1800 was 19 guilders in the maritime region and just 11 in the inland region before 1800. These equate to similar amounts of working time and earnings in each region. For a master craftsman in the maritime region, the median sum spent was 13.5 days' wages, for his inland counterpart it was 11 days' wages. Among labourers in the inland region, earning this median sum took 18 days work, and in the maritime region, 21 days' work. If we focus on specific types of expenditure, we find that spending on doctors and apothecaries before 1800 closely shadowed the wage differential: maritime households spent 36 percent more on doctors and 19 percent more on apothecaries than inland households.[30] Even if they possessed some savings, illness could imply a major financial setback, even for a household belonging to the social middling groups.

The different degrees of monetisation of the two regions supply a second channel through which economic and social variations influenced medical consumption across the country. During the second half of the seventeenth century, 55% of all maritime households registered cash money in their inventories, with a median amount of 232 guilders. They worked and lived in a highly commercialized area in which money circulated quickly and goods were commonly exchanged in the marketplace. Monetisation continued to increase over the next centuries, as table 5 shows, although the median sums held fell after 1800: the share of maritime households registering cash rose to 77% (with a median of 117 guilders) in 1800-50 and 88**%** (with a median of 229 guilders) in 1850-1900. The inland households, living in a region dominated by more self-sufficient, autarchic peasant farmers, were poorly monetised, by contrast. The majority of inventoried households there earned just enough money from market transactions to pay their taxes and rent. The share of inventories registering cash fluctuated between 22 and 25 percent until the end of the eighteenth century and the sums held were a fraction of those held by maritime households: the median inland household had no cash money at hand.

INSERT TABLE 5 (Monetisation of Households) NEAR HERE

It is important to distinguish between the effects of income and monetisation on the demand for commercial medical services, particularly in an early modern economy that thrived on credit. A low level of monetisation does not, in itself, prevent households from obtaining commercial services in the way that poverty can, although it makes transactions more costly. As well as credit, practitioners could be paid in kind, a practice that continued in the Dutch countryside until well after

[30] Based on median expenditure, 1650-1799, see table 11. Surgeons are not discussed as there are only 3 observations before 1800 in inland inventories.

World War II. Both credit and payments in kind should, of course, increase the likelihood that debts persist to appear in inventories. But monetisation is closely linked to the engagement of households and individuals in markets. If this is the case here, low monetisation may indicate that households were less inclined to purchase commercial medical services even if they were able to afford them.

The inventories give us good reason to believe that the different levels and rates of growth in the consumption of medical services that we observe in these locations form part of a general pattern of differences in consumption across the regions of the Netherlands (table 6). So, if we look at the funeral expenditures reported in inventories, we see similar variations in expenditure to that apparent in medical expenditures: households in the inland region registered lower and, until 1850, falling funeral expenditure, that was, on average, only half the amount spent in the maritime region. A consistent pattern of regional differences in consumption is equally clear from household expenditure on 'conspicuous consumption', indicated by the possession of indicator goods such as mirrors and paintings .[31] The large majority of maritime households owned at least some of these luxury products, whereas fewer than half of inland households did before the nineteenth century. Moreover, maritime households with luxury goods usually owned more of them than their inland counterparts. Again, in the inland region, Doesburg was similar to maritime towns, but Lichtenvoorde had particularly low levels of ownership of luxury goods, in line with its level of medical consumption. As with medical consumption, inland households converged with maritime consumption patterns in luxury goods during the nineteenth century.

INSERT TABLE 6 NEAR HERE (Table 6, luxury)

If our argument is correct that much of the variation we see in medical consumption across the Netherlands can be explained by the basic characteristics of its regional economies, then we would expect these differences to hold particularly strongly for peasants and farmers. Other work on consumption and investment has shown that farmers had different priorities to those in other occupational groups. Even in the western part of the country, they engaged much less in conspicuous consumption than most, and few owned much in the way of luxury products.[32] Does this also apply to medical consumption?

INSERT **Table 7 Social class and medical consumption near here**

[31] For this approach, see: Weatherill 1988; Shammas 1990; Sneath 2008.

[32] Kamermans (1999) 198-203.

In table 7, we divide the households according to social groups based on occupational criteria. Because towns differed substantially in their share of the population that fell into each group, we aggregate the period before and after 1800 to avoid our sample sizes shrinking too far. Two observations stand out. First, the differences in medical consumption between locations persist at this level; the variations apparent in table 4 are not due to sample composition. Second, farming households in both regions do generally show a lower propensity to purchase medical assistance before 1800, as we would expect if they were more separated from markets. Such a low inclination to call for a doctor could also have been a cultural phenomenon of course. Perhaps this group – working close to nature – had more trust in homemade medicines than others, or perhaps they preferred to wait for nature to take its course without the 'entertainment' of physicians?[33] Even as late as 1895, a medical commission emphasised that the misery of the peasantry in some regions of the Netherlands limited the viability of establishing medical practices there. For those doctors who tried, they warned that the poverty of their patients would drag them down.[34]

All households are not equal, of course. The Boedelbank inventories are distinctive in the range of household types and mix of gender they represent among the deceased when compared to work on English probate evidence. Mortimer has suggested that English women were more likely than men to depend on commercial nursing care when sick, while men were more often able to rely on care from within the household, but there were few differences in their willingness to purchase medical care.[35] We have too little information on nursing to explore the first part of Mortimer's analysis, but as table 8, shows, there are hints of a gender division of labour in the Netherlands. Female deceased were somewhat more likely to have debts to medical practitioners recorded in inventories, and this was particularly the case if they were unmarried or widowed before 1800. However, as in southern England, there were relatively modest differences between women and men in different household types, especially before 1800. It would seem that individuals were not being pushed into (or barred from) using commercial medicine through the attenuated state of their household.

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[33] Voltaire: l'Art de la médecine consiste à distraire le malade pendant que la nature le guérit.

[34] Rutten (1985) 157, citing T. Haakma Tresling e.a. 'Rapport van de commissie ter onderzoek naar de behoefte aan geneeskundige hulp ten platten lande', *Nederlandsch Tijdschrift voor Geneeskunde* 50 (1896) 996-1036, there 1011. Compare with Deneweth and Ryckbosch (2012).

[35] Mortimer (2009) 24-27, 141-3

That patterns of medical and non-medical consumption were closely related to each other suggests that both forms of consumption were highly influenced by wealth and commercialisation, and these in turn reflected the different economic structures and fortunes of each location. Wealthier households and those with higher levels of non-medical consumption before 1800 generally engaged more intensively with medical services. Lichtenvoorde offers the counter example of a location rooted in a slower moving and more autarchic economy where households earned less and consumed somewhat less through the market, until they experienced profound change over the nineteenth century. As the agricultural sector there developed, income, monetisation, commercialisation and medical and non-medical consumption grew together. [36]

Medical consumption in the Netherlands, 1800-1900

After 1800, patterns of medical consumption in the Netherlands changed profoundly. First, the inland region caught up with the maritime region, as we saw in table 4. This was underpinned by developments in the agricultural sector in this region, which evolved from a peasant to a market economy with concomitant effects on labour specialisation and monetisation. One result of this was the very striking increase in medical consumption among agricultural households, which now behaved much like any other group in the region, as can be seen in table 7. Second, we find decreasing medical consumption in the locations in the maritime region for which we have continuous series; only the sources for Lichtenvoorde cross this threshold among the inland locations, but there consumption rises, albeit from a low and laggardly beginning. Perversely, table 7 suggests that medical consumption declined most heavily among the wealthier groups in the maritime region: higher status, non-manual middling and craft-sector households all saw a fall.

How can this unexpected apparent decline in medical consumption be explained? It seems likely that what we see in the maritime sector is not indicative of a real decline in medical expenditure. Rather, it reflects changes in the mode of payment that lowered the likelihood that medical care would be registered as a debt. Two shifts may have been important in this regard. First, during the nineteenth century workers were paid more regularly, reducing the importance of credit and enabling them to pay some expenses immediately.[37] One sign of this is the falling amounts of

[36] Van Zanden (1985).

[37] Lucassen (2007) 221-263, here 234.

cash registered in inventories seen in table 5: as people paid debts at shorter intervals they no longer needed hoards of money. As a consequence, medical practitioners may have no longer been paid exclusively at the end of treatment, although there is, as yet, no direct evidence of such a change in the frequency of medical payments.

The second change that weakened the connection between household debt and medical consumption after 1800 was the growth of medical insurance. During the early modern period, the mutual funds ("bussen") that guilds organised for craftsmen and journeymen assisted with income lost "during sick leave", but did not cover medical expenses.[38] From the second half of the eighteenth century, however, guild funds opened up to non-guild members and new funds were established by different occupational groups, industrial sectors, trade unions, commercial insurance companies and philanthropic institutions such as the *Maatschappij tot Nut van 't Algemeen*. These funds started to pay for medical expenses. Fund membership remained mostly limited to urban middling groups, and in 1895 only 10% of the population was covered, mainly in the highly urbanised maritime region. [39] This urban, middling and maritime group is over-represented in our sample of inventories, and the apparent decline in medical consumption in Maassluis and Medemblik households may well reflect the shift from using credit to cash or insurance to pay medical expenses. Evidence on funds is limited, but in the maritime region Medemblik, Weesp and Maassluis all had medical funds in the second half of the nineteenth century; in the inland region, only Doesburg had one. Geldermalsen and Lichtenvoorde lacked medical funds, as did the maritime village of Maasland.[40]

Thus far we have emphasised the connection between the economy and medical consumption. Yet, if economic conditions form a necessary part of explanations for the engagement of Dutch households with commercial medical services, they are far from sufficient. Economic growth alone was not enough to stimulate medical demand. As we will see, practitioners themselves shaped the marketplaces they operated in: the growth we see in the later seventeenth and

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[38] Bos (1998) 1-50.

[39] Van der Valk (1996) 185; De Swaan (1990); Van Genabeek (1999); Van Leeuwen (2000) 167-184; Deneweth, Gelderblom and Jonker (forthcoming).

[40] Kenniscentrum Historie Zorgverzekeraars; aantal fondsen in 1908 (based on the report ordered by Abraham Kuyper in 1908): http://www.kenniscentrumhistoriezorgverzekeraars.nl/bronarchief/erfgoed/Aantallenfondsen1908.html (consulted on January 17, 2014). Groenlo which supplied some of the inventories for Lichtenvoorde did have medical funds.

eighteenth centuries also reflects changes in the opportunities medical practitioners faced in larger, central places pushing them to move to new markets.

Medical consumption and medical provision

The timing and scale of the growth in medical consumption that we observe in the small towns and villages of the maritime and inland regions of the Netherlands is markedly different from that implied by institutional developments and practitioner density in the country's major cities. The high population density of the major cities of the Netherlands had facilitated a high degree of labour specialisation from the late middle ages onwards, including the emergence of concentrations of specialised medical practitioners. Although no directly comparable figures for medical consumption are available, the expansion in the numbers of practitioners in Dutch cities from the sixteenth century suggests there was a substantial demand for medical care. Among urban practitioners, surgeons were numerically the most important group. Early guilds of surgeons were established in Leiden (1441), Rotterdam (1467), Amsterdam (1486), Dordrecht (1526), Alkmaar (1552) and several cities oriented towards the Southern Netherlands, such as Zierikzee (1425) and Middelburg (1501).[41] The number of surgeons in these larger cities appears to have grown until the mid-seventeenth century, with around 1 surgeon per 800 to 1,000 inhabitants.[42] Whether this reflected stagnant demand or institutional moves is unclear, however. In Groningen, for example, the urban authorities responded to economic slowdown by stipulating a *numerus fixus* for the guild of surgeons in 1655, which raised a barrier against outsiders becoming members and bolstered the incomes of existing surgeons.[43]

Even in these larger cities, physicians were not organised in the same way as surgeons, since theirs was a free profession ('*vrij beroep*'). As long as they were admitted by the urban authorities, they could practice wherever they liked. In principle, physicians "advised" their patients on the nature of their diseases, their prognosis and therapy, and referred them to apothecaries and

[41] Database Dutch Craft Guilds, http://hdl.handle.net/10411/10101 V1 [consulted 4 September 2013]

[42] Amsterdam: Nieuwenhuis (1993) 63-71: the number of surgeons rose from 1 for every 1,542 inhabitants around 1600 to 1 per 823 in 1688 and was kept at that level until 1800; Groningen: Huisman (1996a) 79: on average 1 surgeon for every 1,000 inhabitants.

[43] Huisman (1996a) 79-83.

surgeons for drugs and manual treatment; in practice, their role was often broader. From the seventeenth century, physicians' built on their academic credentials to obtain a more prominent role in urban administration, advising city governments about public health and medical relief for the poor. In the same period, this alliance with local government allowed physicians to establish new institutions, *collegia medica*, that gave them both self-regulation within the city and a measure of control over the other medical occupations, surgeons, midwives and apothecaries, who they now generally examined or monitored. Amsterdam was the first city to establish a *collegium medicum* in 1638, followed by Delft (1682), Haarlem (1692) and other major cities in the eighteenth century.[44] The *collegia* bolstered physicians' professional ambitions and status among the medical occupations.[45] One result was that during the eighteenth century, the sick increasingly preferred to be treated by physicians rather than surgeons or apothecaries.[46] While the number of surgeons remained broadly stable, physicians became more numerous. By the late eighteenth century, there was roughly one physician to every three surgeons in cities such as Amsterdam, compared to a ratio of one to five a hundred years earlier.[47]

The low levels of medical consumption during the second half of the seventeenth century that we observe in the smaller Dutch towns and villages for which we have inventories indicates that the growth of medical consumption outside these large cities followed a different and slower trajectory. Indeed, medical consumption in these provincial locations started to increase just in the period that the number of surgeons in major cities stabilized and physicians started to control and regulate their medical markets. This suggests that supply-side developments may have been a factor in growing consumption in smaller towns: institutional restrictions and rising competition in big cities could have pushed practitioners to explore new markets elsewhere. Unfortunately, exact numbers of practitioners are not available for smaller towns, so we cannot test this hypothesis directly. However, it is striking that the two towns in our sample that ever established surgeons' guilds, Medemblik and Weesp (both secondary towns to Amsterdam), did so in 1661 and 1670 respectively. The most common guilds (weavers, coopers, shoemakers) had been present since the sixteenth century.[48]

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[44] Database Dutch Craft Guilds", http://hdl.handle.net/10411/10101 V1 [consulted 4 September 2013]

[45] For a useful framework for professionalisation, see: Frijhoff (1983) 381.

[46] Huisman (1993b) 121-124; Frijhoff (1983) 397; Huisman (1996a) 84.

[47] Nieuwenhuis (1993) 63-71. See also: Frijhoff (1981), pp. 230-237.

[48] Database Dutch Craft Guilds", http://hdl.handle.net/10411/10101 V1 [consulted 4 September 2013]

Plausibly, as practitioner numbers grew they were able to establish guilds in these emerging markets. None of the towns in the inland region established surgical guilds in the same period.

Our previous discussion argued that the levels of both medical and non-medical consumption were related to the economic structures of the respective regions and that growth in medical consumption reflected economic development. This implies that the medical market was to a large extent demand driven. If so, the viability of practitioners' dispersion from major cities into secondary centres depended on the wealth and consumption patterns of the local population. However, given the wide variation we observe in the intensity and volume of medical consumption across the different communities before 1800, we might also anticipate that the forms of medical provision might also vary substantially. This provides us with the question that we explore next: to what extent did the Netherlands have regional patterns of medical provision? Moreover, do we observe a convergence in *how* the Dutch obtain medical care in the nineteenth century, when we see a convergence in the likelihood that they seek care commercially?

We approach the form and variation in medical supply by considering the relative shares and combinations of medical services provided by the three major groups of practitioners, physicians, surgeons and apothecaries. When analysing the composition of medical services, we examine all inventories that contained medical debts, not just those with funeral details. Among these, 89 percent of the 1,214 'medical' entries provided information such as "visits and drugs delivered by (doctor) X" or "medicines delivered by (apothecary) Y" that allow us to classify the creditors as either physicians, surgeons or apothecaries. The remaining 124 entries lacked sufficient detail for this. Each household could combine different types of care, since patients had complete freedom of consultation.[49] Unfortunately, the entries do not mention the number of visits or the quantity and kind of drugs practitioners delivered.

INSERT TABLE 10 NEAR HERE

It was not just the level of medical consumption that differed between different locations. The types and combinations of practitioners used by the sick were profoundly different as well, and they followed quite different trajectories between the seventeenth and nineteenth centuries. In

[49] Huisman (1993a) 37, 44-46, (1993b) 118.

table 9, we compare the shares of households using each type of medical practitioner in the maritime and inland region. From the late seventeenth century to 1800, surgeons were the most common type of practitioner used by the sick in the maritime region. In Maasland, for example, the surgeon Nicolaas Montenaake had treated 14 of the 21 individuals who died owing medical debts between 1775 and 1799. Physicians played a substantial, but lesser, role, and apothecaries appeared in around a quarter of inventories. Surgeons were the first point of resort for the sick in the maritime region until 1800: most people reporting debts to a single type of practitioner used surgeons.[50]

Inland, however, surgeons played a very minor role, as they would in the nineteenth century. In Doesburg, where we have the most evidence, the dominant type of practitioner was the apothecary, such as Joan van Onderberg, who appeared in a third of inventories in which medical debts were reported between 1760 and 1783, although doctors were more prominent in Lichtenvoorde. Many apothecaries provided their clients with medical advice and delivered medical services, which were performed in the maritime region by surgeons. This practice continued until Thorbecke's laws of 1865 forbid apothecaries to perform medical acts.[51] The striking contrast between the buoyancy of surgeons in maritime Netherlands and their near-invisibility inland implies that the maritime economy, and the possibilities for training and employment for surgeons within the naval and shipping sectors, generated quite different supplies of medical practitioners.

Both regions converge toward a similar mix of practitioners in the nineteenth century. Doctors became the largest source of medical services. Inland, apothecaries were now responsible for only 26 percent of those who used just one type of practitioner. Differences persist in the prominence of surgeons, even though from the early nineteenth century the distinction between doctors and surgeons weakens. Following the abolition of Dutch guilds in 1798 and the increasing engagement of physicians in surgical practice they increasingly merged into one group of practitioners.

INSERT TABLE 10 NEAR HERE

[50] Surgeons made up 65% of debts in maritime inventories with just one type of practitioner reported (n = 112) and 3% of inland inventories (n =33).

[51] Huisman, 1996b, 288.

The sick were also much more likely to use multiple types of practitioner in the maritime region than inland. Combinations of more than one type of practitioner appear in 55 percent of maritime region inventories throughout the period. Inland, most deceased (61 percent before 1799, 70 percent after 1800) only saw one type of practitioner. In table 10, we compare which types of practitioners they saw when they did use multiple practitioners. The leading role of the surgeon as general practitioner in the maritime region is apparent in the large share of inventories reporting debts to both surgeons and doctors before 1800. But the traditional pairing of physician and apothecary was also strong. For example, the physician Martin Langer and the widow Metternach, an apothecary entered joint bills in Maassluis on four occasions in the early eighteenth century, while Dr Jacob Koole and the apothecary Cornelis van der Horst appear together in four Maassluis inventories in the later eighteenth century. On the occasions in inland Doesburg and Lichtenvoorde when we see a combination of practitioners it was nearly always apothecaries and doctors. By the late nineteenth century, this more traditional pairing of physician and apothecary had become the main form of combined practice in towns in the maritime region, although we cannot easily identify if they worked together in this later period.

The standard medical historiography states that physicians supplanted surgeons institutionally as the dominant medical profession in the Netherlands from the second half of the seventeenth century onwards, a process reflected in the regulatory powers they acquired through the *collegia medica* and their growing numerical presence in cities, as we discussed earlier. This chronology does not fit well outside those major cities. Physicians were not the dominant source of medical care in small towns and villages until the mid-eighteenth century, a lag of some decades. Inland, physicians were noted in fewer than half of inventories with medical debts before the nineteenth century.

Physicians did eventually come to achieve practical dominance outside the cities. But the timing and mechanism of their rise was very different. In the cities, the rise of physicians is linked to one of the main concerns of city *collegia medica*: to stop apothecaries from engaging in general practice, and particularly internal medicine. [52] Huisman, in particular, has shown how the medical college of Groningen established in the beginning of the eighteenth century sought to limit any cross-boundary activities by apothecaries. There are no indications that similar institutional tensions played out in these secondary towns and villages. However, it seems likely that competition from

[52] Huisman (1996a) 85.

physicians and surgeons was still fundamental to the developments we see in the types of practitioners active in these locations.

The small size of these secondary towns made high levels of specialisation difficult to sustain and encouraged practitioners to encroach on each other's specialties. General practice by all varieties of practitioner is strongly implied by the large share of inventories that report only using one practitioner. Both physicians and surgeons are often recorded supplying their patients with medicines.[53] In bigger cities, such invasions into the apothecary's terrain were obscured by the potential for physicians and surgeons to join the guild of apothecaries, as multiple guild memberships were possible. But these larger cities with more diverse markets still offered better prospects to specialised apothecaries, who were also able to extend their businesses into other related services and goods.[54] As a result, pharmacy appears to have become increasingly concentrated in larger cities as communications and commercial networks continued to improve. As Frijhoff pointed out, during the nineteenth century, physicians and surgeons did not buy their drugs from local apothecaries, but directly contacted chemists and wholesalers in Amsterdam and Rotterdam.[55] In the smaller places that we concentrate on here, the effect was to squeeze apothecaries' businesses and to reduce their numbers in the longer term.[56]

Signs of this process are visible in the fee levels associated with each type of practitioner, shown in table 11. Note that the medians are more useful than the means, which are affected by large outliers in some cases. The median fees for each type of practitioner are remarkably close in the first period. However, the expansion in the role played by physicians was paralleled by a rise in their median fee level that was much greater than the increase in fee achieved by apothecaries over this period. In the inland region, where the apothecaries' role was most substantially reduced, their fees grew by the smallest amount over this 250 year period, whereas the physicians' fees grew the most.

Further evidence of the marginalisation of apothecaries can be found in nineteenth century censuses. The first occupational census for the Netherlands from 1849 shows how apothecaries had

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[53] Surgeons supply medicines in 8% of detailed inventories, physicians in 7%, or roughly 16% and 14% of detailed inventories with medical expenses. Compare with Van Lieburg (1985) 150, 157.

[54] Huisman (1996b) 287; Wallis (2008) 26-53.

[55] Frijhoff (1985) 103-104.

[56] This was arguably the reverse of the outcome in England: Loudon 1986; Wallis and Pirohakul 2014.

become concentrated in the larger cities by then. The ratio of physicians to apothecaries across the four provinces discussed here was 0.9:1 in major and medium-sized cities (>5,000 inhabitants) and 7.6:1 in secondary towns (< 5,000 inhabitants). In Guelders, where Doesburg and Lichtenvoorde were situated, the ratio was even higher, 15.8:1.[57] The decline in the significance of apothecaries in medical consumption in the inland region that we see in table 8 was clearly matched by a decline in supply. The occupational census of 1889 shows a similar tendency (the absolute ratios cannot be directly compared): the ratio of physicians to apothecaries was 0.8:1 in major cities (>20,000 inhabitants), 0.9:1 in medium sized cities (5-20,000 inhabitants) and 2.4:1 in smaller towns.[58]

Conclusion

In this paper, we provide the first quantitative analysis of demand for medical care across the Netherlands over the seventeenth to the nineteenth centuries. Our findings offer a substantial contrast to the dense and ordered medical world that appears to have been present in the Netherland's chief cities by the early seventeenth century. In the small towns and villages that made up the majority of the country, the likelihood of consumption and the scale of expenditure on medical care and services was low in the later seventeenth century. Consumption rose quickly, especially in the wealthier maritime provinces of the Netherlands. But in the poorer inland regions, households remained much less likely to seek commercial medical assistance. Our account shows much regional variation, long lags in development, and what amounts to medical impoverishment in some poor locations. Significantly, the differences we observe in people's usage of medicine bears considerable similarity to their income, level of monetisation and engagement in other forms of non-essential consumption. Both medical and non-medical consumption increased with the income and wealth levels of the population.

Medicine did not remain stable over this period. In the nineteenth century, the mode of consumption in maritime towns moved towards an insurance-based system, and debts reported in inventories dipped. We might reasonably see this as a consequence of the expansion of the previous century. The combinations of practitioners used by the sick also shifted: where maritime and inland

[57] http://www.volkstelling.nl/nl/volkstelling/jaarview/1849/index.html (consulted on 11 September 2013 for the provinces of North- and South-Holland, North-Brabant and Guelders).

[58] http://www.volkstelling.nl/nl/volkstelling/jaarview/1889/index.html (consulted on 11 September 2013 for the provinces of North- and South-Holland, North-Brabant and Guelders.

communities used different types and combinations of medical practitioner in the seventeenth and eighteenth centuries, they converged to rely largely on doctors in the nineteenth. Apothecaries' freedom to practise medicine legitimately was lost in 1865 with the introduction of Thorbecke's laws that barred them from giving advice to patients.[59] However, this transition to using doctors predated these legal changes.

The willingness and ability of the sick to seek assistance from commercial medical providers – to turn, in this case, to physicians, surgeons and apothecaries for help in a period of fatal illness – provides a fundamental measure of the penetration of market relations into one of the most intimate and serious moments in the life of a household. Implicitly, the importance of the household and neighbours in managing periods of serious sickness seems likely to have declined as a result, affecting the texture and density of communal mutuality, although we should not assume there is a simple replacement of domestic by commercial care. For medical practitioners, in turn, demand sets a basic boundary on the scale and significance of the sector that they were engaged in, and through this helps define the incentives to create health insurance systems or develop new pharmaceuticals or other therapeutic techniques. The rising interest and engagement in commercial medicine we observe seems not, at least to the extent we can see here, to be a process reliant on rationalisation or secularisation leading to a rejection of magical or spiritual healing.[60] Rather, the growth of commercial medicine can be placed firmly in the midst of the wider development of consumer behaviour that occured in the households of the early modern Netherlands.

[59] Huisman 1996b, 280-95. We lack sufficient information on the role practitioners performed to test the impact of Thorbecke's law formally, but there is no common trend in the frequency with which apothecaries appear in inventories before and after 1865: they appear more often in Medemblik and Lichtenvoorde and slightly less often in Maassluis..

[60] Porter and Porter (1989) 53-69; Huisman (1996a) 85.There was, of course, still competition between orthodox and religious healers and other irregular practitioners: De Waardt (1993) 88-114; Huisman (1993b) 113-154

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Tables & Figures

Map 1 Locations in inventory sample

Table 1 Number of inventories by location and period

Location	1650-99	1700-49	1750-99	1800-49	1850-99	All
Maritime						
Maasland	1	18	53	5		77
Maassluis	80	65	112	34	75	366
Medemblik	8	51	70	130	240	499
Weesp	63	84	131			278
Sub-total	152	218	366	169	315	1,220
Inland						
Doesburg	27	17	92	2		138
Geldermalsen				58	5	63
Lichtenvoorde/Groenlo	2	61	127	167	311	668
Rosmalen				51	9	60
Sub-total	29	78	219	278	325	929
All	181	296	585	447	640	2,149

TABLE 2 Social Class of Inventories, by Location

	Maritime				Inland				
	Maasland (%)	Maassluis (%)	Medemblik (%)	Weesp (%)	Doesburg (%)	Geldermalsen (%)	Lichtenvoorde / Groenlo(%)	Rosmalen (%)	All (%)
HSO	8.2	13.2	16.9	17.8	13.5	28.2	3.7	9.4	11.2
NMMG	12.2	39.9	33.2	12.3	31.9	23.1	6.5	11.3	21.5
Craft	14.3	19.6	25.7	15.1	30.3	12.8	12.9	11.3	18.3
Farm	59.2	4.6	16	41.1	10.1	35.9	72.9	64.2	39
Other	6.1	22.8	8.1	13.7	14.3	0	4	3.8	10
N	49	281	307	146	119	39	521	53	1,515
Without occupation (%)	36.4	23.2	38.5	47.5	13.8	38.1	22	11.7	29.5

Note: See text for source and for categories used to classify socio-economic class. The final row reports the percentage of inventories that lack occupational information for each location.

TABLE 3: Share of inventories containing details of funeral expenses

Location	1650-1799 (%)	1800-99 (%)
Doesburg	34	0
Geldermalsen		33
Lichtenvoorde/Groenlo	22	48
Maasland	86	80
Maassluis	48	72
Medemblik	57	66
Rosmalen		32
Weesp	38	
Total	43	55
N	1,062	1,087

Source: see text.

Table4: Levels of Medical consumption

A. Share of inventories containing medical debts.

	Maritime					Inland					
	Maasland	Maassluis	Medemblik	Weesp	Maritime (all)	Doesburg	Geldermalsen	Lichtenvoorde/Groenlo	Rosmalen	Inland (all)	All
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1650-99		30 (27)	100 (1)	38 (8)	33 (36)	27 (11)		0 (1)		25 (12)	31 (48)
1700-49	64 (14)	78 (37)	42 (19)	59 (27)	64 (97)	71 (7)		16 (19)		31 (26)	57 (123)
1750-99	75 (48)	73 (60)	54 (54)	68 (72)	68 (234)	61 (28)		14 (22)		40 (50)	63 (284)
1800-49	50 (4)	46 (24)	34 (92)		37 (120)		60 (20)	50 (32)	32 (19)	48 (71)	41 (191)
1850-99		39 (54)	35 (152)		36 (206)		0 (1)	59 (199)		58 (200)	47 (406)
Total	71 (66)	56 (202)	38 (318)	64 (107)	51 (693)	54 (46)	57 (21)	51 (273)	32 (19)	51 (359)	51 (1052)

B: Median medical debt in inventories with medical debts.

1650-99		24	318[1]	22.1	24	7.2				7.2	22.6
1700-49	32.1	15.9	10.9	36.7	16.5	4.8		1		1.4	15.4
1750-99	43.9	33.1	12.2	27.8	27.8	19.4		3.4		17.7	24.8
1800-49	24.9	36.1	31.6		33		41	27.5	14.3	32.9	33
1850-		50.5	18.6		20.8		109.6	13.1	29.8	14.9	16.8

99											
All	34	30.1	19.8	27	24.5	17.2	41.7	15.6	20.4	18.4	22

Note: based on 'detailed' inventories. Median medical expenditure in 1800 guilders (based on purchasing power of 1795-1804 guilder using Allen's Amsterdam CPI series). [1]Medemblik has a single account in the 1650-99 period. Panel A reports number of observations in parentheses below percentage.

TABLE 5: The Monetisation of Households

Location		1650-99	1700-49	1750-99	1800-49	1850-99
Maritime						
Maasland	%	1	18	53	5	
	median	1182	170	487	1206	
Maassluis	%	55	63	88	85	86
	median	196	181	352	153	285
Medemblik	%	8	51	70	130	240
	median	348	751	262	103	60
Weesp	%	63	84	131		
	median	232	200	398		
Inland						
Doesburg	%	22	29	41		
	median	118	47	95		
Geldermalsen	%				58	5
	median				89	98
Lichtenvoorde /Groenlo	%	50	19	13	29	67
	median	9	43	50	30	40
Rosmalen	%				21	66
	median				51	249
Total	%	49	62	64	54	77
	median	196	206	291	80	62

Note: For sources see text. The table reports the percentage of all inventories in each location recording cash money and the median sum held in guilders. The sample size is given in table 1. For figures for DETAILED inventories, see working paper.

TABLE 6: Patterns of luxury consumption

	Maritime				Inland				
	Maasland	Maassluis	Medemblik	Weesp	Doesburg	Geldermalsen	Lichtenvoorde/ Groenlo	Rosmalen	All
1650-1799									
Paintings (%)	59	83	81	61	71		7		66
mirrors (%)	91	89	91	88	67		28		82
Funeral (avg.)	115	121	112	123	73		16		101
N	62	124	74	107	46		42		455
1800-99									
Paintings (%)	50	91	90			71	66	10	77
mirrors (%)	100	92	92			81	83	42	86
Funeral (avg)	158	100	93			60	54	48	75
N	4	78	244			21	231	19	597

Note: for sources see text. Sample is 'detailed' inventories. Table gives percentage of inventories with paintings and mirrors present and the median expenditure on funeral in guilders.

TABLE 7: Levels of medical consumption by social class

	1650-1799					1800-99				
Maritime	HSO	NMMG	Craft	Farm	Other	HSO	NMMG	Craft	Farm	Other
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Maasland	100	100	83	43	100				33	
Maassluis	50	59	71		68	40	38	36	50	60
Medemblik	65	67	31	25	100	47	27	33	36	50
Weesp	58	40	75	65	83					
sub-total	60	61	61	53	74	46	30	33	38	53
Inland										
Doesburg	33	60	57		75					
Geldermalsen						50	50		50	
Lichtenvoorde /Groenlo	0			20		75	56	60	56	50
Rosmalen								0	38	
sub-total	25	60	50	20	75	67	55	58	54	50
All	55	61	58	43	56	50	35	41	51	45

Note: For sources and explanation of socio-economic groups see text. The table reports the percentage of inventories from each socio-economic grouping containing medical debts.

Table 8 Gender and levels of medical consumption

		All		Maritime		Inland	
		F	M	F	M	F	M
1650-1799							
married	%	60	55	69	64	35	31
	N	141	127	104	95	37	32
unmarried	%	60	50	68	51	0	25
	N	25	66	22	62	3	4
widowed	%	66	55	64	58	75	25
	N	56	38	48	34	8	4
1800-99							
married	%	46	45	37	38	56	52
	N	227	235	113	125	114	110
unmarried	%	60	47	50	41	100	58
	N	5	36	4	24	1	12
widowed	%	34	40	21	25	69	60
	N	46	44	33	24	13	20

Note: For sources see text. Table reports percentage of 'detailed' inventories containing medical debts, by gender and marital status.

TABLE 9: Types of practitioners used by the deceased

		N	Physician (%)	Surgeon (%)	Apothecary (%)
1650-1799					
Maritime	Maasland	46	52	85	11
	Maassluis	90	60	62	17
	Medemblik	38	53	58	42
	Weesp	71	62	69	28
	Sub-total	*245*	*58*	*68*	*23*
Inland	Doesburg	42	43	2	71
	Lichtenvoorde / Groenlo	12	67	8	17
	Sub-total	*54*	*48*	*4*	*59*
1800-99					
Maritime	Maasland	2	0	100	0
	Maassluis	44	80	43	71
	Medemblik	105	75	19	35
	Sub-total	*151*	*76*	*27*	*45*
Inland	Geldermalsen	31	74	32	16
	Lichtenvoorde / Groenlo	189	89	5	29
	Rosmalen	12	58	50	8
	Sub-total	*232*	*85*	*11*	*26*
	All	682	70	34	32

Note: Each cell reports the proportion of detailed inventories with at least one debt to a practitioner of this type. The count of apothecaries in this table only includes explicit references to apothecaries; it excludes those deliveries of medicines that are probably from apothecaries.

TABLE 10: Combinations of practitioners used by the deceased

		N	Physician & Surgeon (%)	Physician & Apothecary (%)	Apothecary & Surgeon (%)
1650-1799					
Maritime	Maasland	21	91	19	14
	Maassluis	41	73	34	22
	Medemblik	18	50	50	33
	Weesp	40	68	40	15
	Sub-total	*120*	*71*	*36*	*20*
Inland	Doesburg	13	0	85	8
	Lichtenvoorde	1	0	100	0
	Sub-total	*14*	*0*	*86*	*7*
1800-99					
Maritime	Maasland	2	0	0	0
	Maassluis	33	36	85	39
	Medemblik	41	15	76	12
	Sub-total	*74*	*24*	*80*	*24*
Inland	Geldermalsen	8	50	38	25
	Lichtenvoorde	50	6	92	4
	Romsalen	2	100	50	50
	Sub-total	*60*	*15*	*83*	*8*
	All	642	26	8	19

Note: sources see text. The table reports the percentage of 'detailed' inventories reporting each combination of types of practitioner. The sample is restricted to inventories reporting more than one type of practitioner.

Table 10: Fee levels by practitioner

		Physician		Surgeon		Apothecary	
		Inland	Maritime	Inland	Maritime	Inland	Maritime
1650-1799							
	Mean	70.5	18.6	6.1	30.2	28.3	23.5
	Median	8.3	11.5	6.1	8.9	8.8	11.3
	N	21	88	2	86	35	64
1800-99							
	Mean	40.6	40.2	59.0	33.9	23.0	50.8
	Median	21.5	21.6	28.4	18.9	11.6	17
	N	145	89	16	37	58	71

Note: Sums reported in nominal prices in guilders with no correction for inflation.