

Heidi Deneweth and [Patrick Wallis](#)

Households, consumption and the development of medical care in the Netherlands, 1650-1900

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Heidi Deneweth

Patrick Wallis

**Households, consumption and the development of medical care
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Authors

Deneweth: Vrije Universiteit Brussel Email: Heidi.Deneweth@vub.ac.be

Wallis: Department of Economic History, London School of Economics, Houghton Street,
London, WC2A 2AE; p.h.wallis@lse.ac.uk

Abstract:

This article examines the development of the Dutch medical marketplace between 1650 and 1900 from a household's perspective. Using debts for medical care recorded in probate inventories, we construct the first quantitative analysis of levels of demand for medical care and the types of medical provision in small towns and villages across the Netherlands – locations much more representative of most of Europe than its better-studied cities. We reveal substantial growth in the sick's reliance on commercial medical practitioners between 1650 and 1800, measured by both the frequency and size of debts to practitioners. We also find large differences between the commercialised maritime areas of the Netherlands and the more autarchic inland regions, where households were particularly unlikely to have used medical practitioners circa 1650. These differences extended to the types of practitioner involved: surgeons were most prominent in the maritime region; apothecaries in the inland region. Patterns of medical consumption converged during the nineteenth century, as did the types of practitioner used, anticipating laws restricting professional activity in medicine. As we show, differences in households' uses of medical care within and between regions reflected their income, level of monetisation and engagement in commercial activities and other forms of non-essential consumption. We conclude that the profound growth in commercial medicine experienced in the early modern Netherlands was linked closely to wider trends in consumer behaviour.

Keywords: Medical market; Household economics; Consumption; Consumer Revolution; Medicine; The Netherlands; 17th-19th centuries

Corresponding author:

The history of the patient in the Netherlands is still largely unwritten. Although much excellent work has explored the concept of the “medical marketplace”, its main focus has been on the varieties of medical provision, particularly the complementarity between commercialized medical care and popular and religious healing. This sheds some light on the agency of patients – who in the end decided what kind of medical care they preferred. Yet 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 – indeed, these are questions that are only now being examined across Europe more generally.¹ The little we do know about the demand for medical care in the Netherlands has largely been imputed from the increasing abundance of medical practitioners and the foundation of surgeons’ guilds and colleges of physicians in large towns and cities.² The narrative this suggests is of early and rapid growth – even “medicalization” – coinciding with Holland’s Golden Age. However, the existence of a well-developed and diversified body of medical practitioners in a few major cities tells us little about conditions elsewhere. More importantly, it indicates little 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. Using evidence from probate inventories, we locate demand for commercial medical care within households, asking how their use of medical services was influenced by their wealth, socioeconomic status and location. In this, we take seriously one of the basic issues in the history of the patient which Roy Porter raised, but which has largely been ignored subsequently: “the need to gauge who could afford which kinds of treatment from which kind of practitioner”.³ The approach and method we employ is similar to that taken by Mortimer and by Pirohakul and Wallis for seventeenth and eighteenth century England.⁴ 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, yet in the inland provinces 75% of the country's population continued to live in the countryside.⁵ The sheer size of large cities allowed a level of economic specialization that may have stimulated commercial medical consumption earlier than in smaller towns or rural areas; certainly, they generally had a more extensive set of medical institutions.

In contrast, the smaller towns we study were mostly service centers for rural hinterlands spread across several provinces of the Netherlands. Each harbored 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.⁶ The potential importance of these 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 with a vocational training, who were limited to the province where they had been examined. Urban surgeons (*stadsheelmeesters*) were 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.⁷ 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 demand and supply 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 they employed.

Sources and Sample

The *Inventories Database* of the Meertens Institute⁸ 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 analyzing material culture, it includes all available inventories listing and describing the possessions of individuals and households, whether made after death, before marriage, on dividing

inheritances, or at the instigation of creditors laying a claim on property.⁹ 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: 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.¹⁰ Unfortunately, few locations have continuous series for the entire period.

<INSERT FIGURE 1 NEAR HERE>

All the towns and villages we study were secondary centres with populations mostly ranging between 2,000 and 5,000 inhabitants. While Geldermalsen, Rosmalen and Maasland were smaller with 600, 1,100 and 1,500 inhabitants in 1795 respectively, their populations increased to 2,000 in 1859 and 2,500 to 3,000 around 1900. All acted mainly as service centers to rural hinterlands, although several contained concentrations of industrial activity as well.¹¹ Their inhabitants included some *binnenboeren*, farmers who lived in the town while farming the surrounding countryside. Medemblik and Maassluis were flourishing trade and fishery centers, around which agriculture, as practiced in Maasland, was already heavily commercialized by 1650. Their economies, however, stagnated during the second half of the eighteenth century.¹² Their inland counterparts, Lichtenvoorde and Geldermalsen, were surrounded by rural hinterlands characterized by a peasant economy until the eighteenth century.¹³ Lichtenvoorde profited from a (re)conversion to cattle breeding and meat exports during the nineteenth century.¹⁴ Weesp and Doesburg were both textile centers, 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 centers 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, Groenlo/Lichtenvoorde and Rosmalen. The two regions experienced divergent trajectories of economic development.¹⁵ As the Dutch economy expanded between 1580 and 1650, the most spectacular growth was concentrated in the maritime region, particularly the province of Holland. There, urbanization and highly commercialized agriculture and fisheries led to high levels of labor specialization. The inland region offered a stark contrast. It was less urbanized and grew less rapidly. Inland agriculture had limited commercialization or labor specialization. Inland urban 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.¹⁶

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.¹⁷

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.¹⁸ In the Netherlands three different types of after-death inventory existed: estate inventories (*boedelinventarissen*), probate inventories (*staten van goed*) and probate accounts (*rekeningen*). 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.¹⁹ Female testators make 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, 14 percent were widowers and 19 percent were single. The balanced gender ratio in the Netherlands suggests that the estate of every individual leaving minor heirs - whatever his gender or marital state – was inventoried, whereas most English inventories used by Mortimer and Pirohakul and Wallis relate to the (usually male) head of household.²⁰ Estate inventories include detailed evidence on debts, including medical expenditures, which are usually summarized in probate inventories, leading to a loss of information. For this reason estate inventories are the type of source used here. Fortunately,

Dutch archives hold many more estate inventories than probate inventories or accounts, most of which were never registered with the authorities since they were handled within the family. However, unlike inventories in England, they usually lack valuations for the possessions listed.

Estate inventories frequently include information on the deceased's use of commercial medical care – by which we mean care for which they paid individuals labeled in the inventory as engaged in one or another medical occupation – 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.²¹

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 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 1 shows, this limits our analysis of these questions to around half of the original sample of inventories, but it increases the comparability with Pirohakul and Wallis’s paper on England, where similar criteria were applied.²²

The second question is more difficult to resolve: it is about the stability of credit as a mode of payment for medical care. 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 monetized 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.

<INSERT TABLE 1 NEAR HERE (Number of detailed inventories by location & period)>

Estate inventories lack valuations for possessions, which 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.²³ Occupations were reported in 74 and 81

percent of inland-region inventories from 1650-1799 and 1800-1899 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 coded 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.²⁴ Few inventories survive from individuals employed in lower status occupations, such as fishermen and weavers, or laborers, and these are treated as a residual group in the analysis. This upward social bias is unfortunate, but is a well-known and unavoidable limitation imposed by these sources. Still, this bias is less severe than in the data used for England by Pirohakul and Wallis, which relate to much wealthier persons.²⁵ More important, however, is that the local coherence of the sources makes it easier to investigate the impact of divergent regional transformations on medical consumption in the Dutch context.

<INSERT TABLE 2 NEAR HERE: Social Class of Deceased >

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. They give few details on the disease, or the duration and nature of treatment. Typical entries say little more than "to the apothecary Wolter Jansen, for medicines supplied", "to the surgeon J.H. Löchner in 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 – nursing from family and friends, or free institutional medical relief – are by their nature invisible in inventories. We only explore individuals’ connections to medical practitioners operating in a commercial mode, in which their services are normally priced in monetary terms. This is not the entirety of medical care. Naturally, we must be careful when generalizing results based on inventories alone. Future research will need to confront these findings with other 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 engagement with medical care 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 and household budgets

The overall pattern in medical consumption in the Netherlands suggested by the inventories is presented in table 3. As this shows, the percentage of deceased with any kind of medical debts in their inventories grew substantially between 1650 and 1800. The frequency of medical debts rose from a relatively low level – often found in around a third of inventories in the second half of the seventeenth century – to between two-thirds and three quarters of inventories 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 after the later seventeenth century. 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 3A-B NEAR HERE (level of medical consumption)>

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, the garrison and market town of Doesburg saw similar levels of medical consumption, but rural 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 and evolutions. There are, no doubt, numerous channels that connected economic conditions and medical consumption in this period.²⁷ But two of the most significant were: household income, which constrained the range of consumption choices; and the degree of monetization and commercialization in the local economy, which affected the levels of market exchange in different communities. More generally, we could think of the latter as in part reflecting

differing degrees of access to the market and willingness to “consume” through it. 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 emphasizing the importance of these general factors on household choices about medical care. Although such care 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 commercialized maritime region of the Republic, master craftsmen were paid 28 stivers a day or 420 guilders a year around 1650.²⁸ Their eastern inland counterparts received only 20 stivers a day or 300 guilders a year. Remarkably, Dutch nominal wages were frozen at these levels until the third quarter of the nineteenth century, which led real wages to decline by a third between the late 18th century and the 1860s. Information about salaried income for non-manual workers is very fragmentary. In Holland, town secretaries’ 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.²⁹ 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 until the nineteenth century.³⁰

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 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. 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.³¹ As this also indicates, 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 monetization 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. Monetization continued to increase over the next centuries, 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 monetized, 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. It would take until the second half of the nineteenth century before two thirds of the inland households held a median amount of 14 guilders at home.³²

It is important to distinguish between the effects of income and monetization on the demand for commercial medical services, particularly in an early modern economy that thrived on credit. A low level of monetization does not, in itself, prevent households from obtaining commercial services in the way that poverty can, although it makes transactions more costly.³³ As well as credit, practitioners could be paid in kind, a practice that continued in the Dutch countryside until well after World War II. Both credit and payments in kind should, of course, increase the likelihood that debts persist to appear in inventories. But monetization is closely linked to the engagement of households and individuals in markets. If this is the case here, low monetization 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 (figure 1). So, if we look at the funeral expenditures reported in inventories, we see similar variations in expenditure to that apparent in medical expenditures: in the inland region, household spending on funerals was, on average, only half that seen 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.³⁴ 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.³⁵ 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.³⁶

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.³⁷ Does this also apply to medical consumption?

<INSERT TABLE 4 NEAR HERE (Levels of medical consumption by social class)>

In table 4, 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 3 are not due to sample composition. Second, as we would anticipate if consumption patterns for other goods hold for medicine, farming households in both regions do generally show a lower propensity to purchase medical assistance before 1800. Indeed, the lowest rate of medical consumption we observe, with just one in five inventories recording debts to medical practitioners, is found among the peasant farmers of inland Lichtenvoorde. The difference was less acute in the maritime region, where agriculture was already more market-oriented. In the nineteenth century, for the most part farmers in either region no longer appear to behave differently to

members of other groups. Peasant communities in Rosmalen, in the sandy Campine region, however, remained extremely poor – and unlikely to use medical practitioners. Even as late as 1895, a medical commission emphasized 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.³⁸

Gender is also frequently implicated in differences in consumption patterns.³⁹ In England, women were much more likely than men to hire nursing care when sick, and in wealthier households women were also generally more reliant than men on external medical care.⁴⁰ There are signs of a similar gendering of medical consumption in the Netherlands. Female deceased were somewhat more likely to have debts to medical practitioners recorded in inventories. Before 1800, this was particularly the case, among unmarried or widowed women, who were around 25 percent more likely to have a debt to a doctor.

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 commercialization, and these in turn reflected the different economic structures and fortunes of each location. Wealthier households and those with higher levels of luxury 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 less through the market, until they experienced profound change over the nineteenth century. As the agricultural sector there developed, income, monetization, commercialization and medical and non-medical consumption grew together.⁴¹

Medical consumption, insurance and medical relief

After 1800, patterns of medical consumption in the Netherlands changed profoundly. The inland region caught up with the maritime region. More surprisingly, we find decreasing medical consumption in the locations in the maritime region for which we have continuous series. Even the wealthier groups in the maritime region - higher status, non-manual middling and craft-sector households - saw a fall in medical consumption.

How can this unexpected apparent decline be explained, especially during a century in which the state of medical knowledge improved and political decisions supported the development of health care?⁴² Falling incomes are unlikely to be the cause, as living standards among the middling groups we are examining did not decline greatly. 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.⁴³ One sign of this is the falling amounts of cash registered in inventories: 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 disappearance of consumer credit from maritime inventories seems to corroborate the shortening of credit lines.⁴⁴

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 organized for craftsmen and journeymen assisted with income lost “during sick leave”, but did not cover medical expenses.⁴⁵ 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, of which the largest part lived in the highly urbanized maritime region.⁴⁶ Although we cannot see insurance directly in our sources, 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. 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.⁴⁷

Thus far we have emphasized 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, a focus on the demand side alone is far from sufficient. The development of the medical marketplace was both demand and supply driven. Practitioners themselves shaped the marketplaces they operated in: the growth we see in the later seventeenth and eighteenth centuries also reflects changes in the opportunities medical practitioners faced in larger, central places pushing them to move to new markets where demand was starting to grow, whereas a better distribution of doctors during the nineteenth century was a result of government intervention as well.

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. This suggests the question that we explore next: to what extent did the Netherlands have different 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 sought care commercially?

The major cities of the Netherlands had concentrations of specialized medical practitioners from the late middle ages onwards. The expansion in the numbers of practitioners and medical guilds in these cities from the sixteenth century implies 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).⁴⁸ 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 and then stabilized.⁴⁹ 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 1655.⁵⁰

Even in these larger cities, physicians were not organized 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 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.⁵¹ The *collegia* bolstered physicians' professional ambitions and status.⁵² One result was that during the eighteenth century, the sick increasingly preferred to be treated by physicians rather than surgeons or apothecaries.⁵³ 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.⁵⁴

The low levels of medical consumption we observe in smaller Dutch towns and villages during the second half of the seventeenth century suggests a different and slower trajectory applied outside these large cities. Indeed, provincial medical consumption started to increase just at the point that the number of surgeons in major cities stabilized and physicians started to control and regulate urban medical markets. This suggests that supply-side developments may have been a further factor behind growing consumption in smaller towns: institutional restrictions and rising competition in big cities may have been pushing practitioners to explore these new markets. It is striking that the only 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.⁵⁵ None of the towns in the inland region established surgical guilds in the same period.

Although we lack information on the numbers of practitioners active in the small towns we are studying, we can explore developments 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. Here, we examine all inventories that contained medical debts, not just those with funeral details.⁵⁶ Among these, 94 percent of the 1,205 “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. Each household could combine different types of care, since patients had complete freedom of consultation.⁵⁷

<INSERT Figure 2 NEAR HERE (type of practitioners)>

There was no single “small town” form of medical provision that can be contrasted to that of the big cities. The types and combinations of practitioners used by the sick were profoundly different between regions, and they followed quite different trajectories between the seventeenth and nineteenth centuries. In table 5, 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.⁵⁸

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 among the few debts for medical care 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 banned apothecaries from performing medical acts.⁵⁹ 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. This was similar to the pattern in England, where surgeons dominated in maritime East Kent, while the sick living inland relied heavily on apothecaries and rarely saw surgeons.⁶⁰

Both regions converged 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 the distinction between doctors and surgeons weakens from the early nineteenth century. 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.

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. 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 also 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 assisted by the regulatory powers they acquired through the *collegia medica*. As Huisman has shown for the city of Groningen, in the eighteenth century medical colleges sought to limit any cross-boundary activities by apothecaries. While apothecaries were being banned from medical practice in these cities, physicians and surgeons continued to be able join the guild of apothecaries.⁶¹

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 nineteenth century. Inland, they were noted in fewer than half of inventories with medical debts before the

nineteenth century. Additionally, there are no indications that institutional tensions played out in these secondary towns and villages. Physicians did eventually come to achieve practical dominance outside the cities, but the timing and mechanism of their rise was very different.

Competition between different types of practitioner was still fundamental to the developments we see in these locations. The small size of secondary towns made high levels of specialization 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.⁶² This threatened the viability of local pharmacies, especially in the inland region. As Frijhoff pointed out, albeit for the nineteenth century, physicians and surgeons did not buy their drugs from local apothecaries, but directly contacted chemists and wholesalers in Amsterdam and Rotterdam.⁶³ 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.⁶⁴ In larger cities, specialized apothecaries continued to prosper, and were also able to extend their businesses into other related services and goods.⁶⁵ As a result, pharmacy appears to have become increasingly concentrated in larger cities and market towns as communications and commercial networks continued to improve. From 1865, when Thorbecke's laws created a national ban on apothecaries providing medical advice, government policy confirmed a shift that was already well advanced.

<INSERT TABLE 5 NEAR HERE (fee levels by practitioner)>

Signs of this process are visible in the fee levels associated with each type of practitioner, shown in table 6. 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 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 marginalization of apothecaries can be found in nineteenth century censuses. The first occupational census for the Netherlands from 1849 shows how apothecaries had become concentrated in the larger cities before Thorbecke's laws.⁶⁶ 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, 15.8:1.⁶⁷ The decline in the significance of apothecaries in medical consumption in the inland region that we see in table 5 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.⁶⁸

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 Netherlands' 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 were 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 locations. Significantly, the differences we observe in people's usage of medicine bears considerable similarity to their market participation, their income, level of monetization 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 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 practice medicine legitimately was lost in 1865 with the introduction of Thorbecke's laws that barred them from giving advice to patients.⁶⁹ 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 neighbors 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 rationalization or secularization leading to a rejection of magical or spiritual healing.⁷⁰ Rather, the growth of commercial medicine can be placed firmly in the midst of the wider development of consumer behavior that occurred in the households of the early modern Netherlands.

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Figure 1 **Locations in inventory sample**



Figure 2

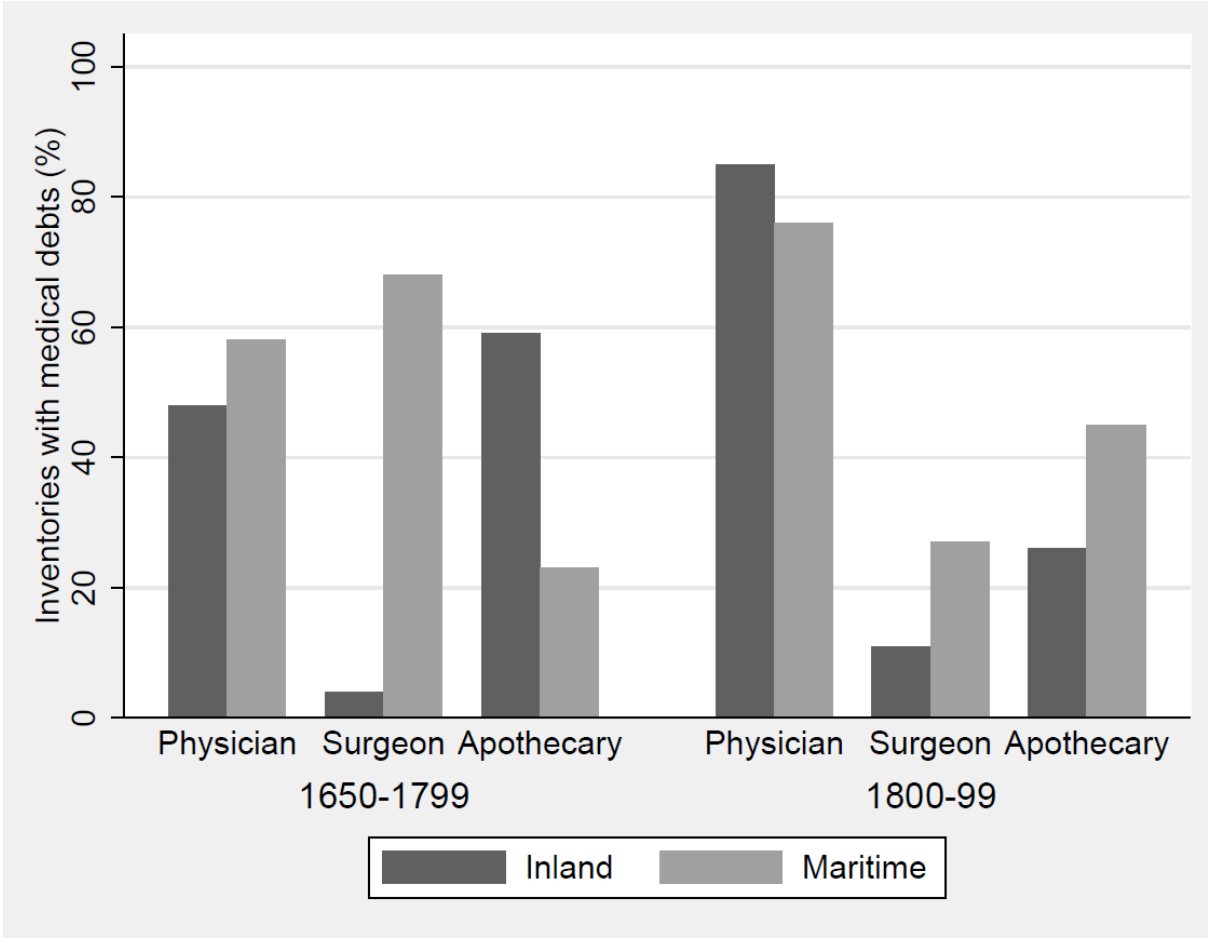


Table 1 Number of detailed inventories by location and period

	Location	1650-99	1700-49	1750-99	1800-49	1850-99	Total	% of all inventories
Maritime	Maasland		14	48	4		66	86
	Maassluis	27	37	60	24	54	202	55
	Medemblik	1	19	54	92	152	318	64
	Weesp	8	27	72			107	38
	Sub-total	36	97	234	120	206	653	54
Inland	Doesburg	11	7	28			46	33
	Geldermalsen				20	1	21	33
	Lichtenvoorde/Groenlo	1	19	22	32	199	273	41
	Rosmalen				19		19	32
	Sub-total	12	26	50	71	200	359	39
Total	48	123	284	191	406	1,052	49	

Source: see text. The final column reports the share of all surviving inventories for each town which were detailed (i.e. report funeral expenses).

Table 2 Social Class of Deceased (%)

		HSO	NMMG	Craft	Farm	Other	N		Without occupation
Maritime	Maasland	4.9	9.8	14.6	63.4	7.3	41		37.9
	Maassluis	11.3	44.4	17.2	3.3	23.8	151		25.2
	Medemblik	16.4	31.5	28.3	13.2	10.5	219		31.1
	Weesp	19.4	8.1	12.9	50.0	9.7	62		42.1
Inland	Doesburg	15.4	38.5	35.9	0.0	10.3	39		15.2
	Geldermalsen	20.0	60.0	0.0	20.0	0.0	10		52.4
	Lichtenvoorde/Groenlo	2.8	7.4	12.4	73.7	3.7	217		20.5
	Rosmalen	0.0	0.0	7.1	92.9	0.0	14		26.3
	All	10.8	24.2	19.1	35.3	10.6	753		28.4

HSO (High Status Occupations), NMMG (Non Manual Middling Groups), Craft (Manual Middling Groups, Craftguilds), Farm (Manual Middling Groups, Farmers), Other (Lower Status Occupations), N (total number of known occupations).

Percentages in columns HSO-Other are calculated on the total number (N) of known occupations; % in the last column is calculated on the total number of detailed inventories.

Table 3 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	(100)	38	33	27		0		25	31
1700-49	64	78	42	59	64	71		16		31	57
1750-99	75	73	54	68	68	61		14		40	63
1800-49	50	46	34		37		60	50	32	48	41
1850-99		39	35		36		0	59		58	47
Total	71	56	38	64	51	54	57	51	32	51	51

B. Median medical debt in inventories with medical debts.

1650-99		24.0	(318.0) ¹	22.1	24.0	7.2				7.2	22.6
1700-49	32.1	15.9	10.9	36.7	16.5	4.8		1.0		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		33.0		41.0	27.5	14.3	32.9	33.0
1850-99		50.5	18.6		20.8		109.6	13.1	29.8	14.9	16.8
All	34.0	30.1	19.8	27.0	24.5	17.2	41.7	15.6	20.4	18.4	22.0

Note: based on 'detailed' inventories. Median medical expenditure in constant 1800 guilders (based on purchasing power of 1795-1804 guilder using Allen's Amsterdam CPI series). ¹Medemblik has a single account in the 1650-99 period. Number of observations is listed in Table 1.

Table 4: Levels of medical consumption by social class

		1650-1799					1800-1899				
		HSO	NMMG	Craft	Farm	Other	HSO	NMMG	Craft	Farm	Other
		%	%	%	%	%	%	%	%	%	%
Maastricht	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
Limburg	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	

HSO (High Status Occupations), NMMG (Non Manual Middling Groups), Craft (Manual Middling Groups, Craftguilds), Farm (Manual Middling Groups, Farmers), Other (Lower Status Occupations), N (total number of known occupations).

The table reports the percentage of inventories from each socio-economic grouping containing medical debts.

Table 5: Fee levels by practitioner

		Physician		Surgeon		Apothecary	
		Inland	Maritime	Inland	Maritime	Inland	Maritime
1650-1799							
	Median	8.3	11.5	6.1	8.9	8.8	11.3
	N	21	88	2	86	35	64
1800-99							
	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.

Endnotes

1. For a survey of the “medical market” literature: Mark S.R. Jenner and Patrick Wallis, *Medicine and the Market in England and Its Colonies, c. 1450-c. 1850* (New York, 2007). International: Chris Vandenbroeke, “De Medische Konsumptie sinds de 16e Eeuw,” *Handelingen der Maatschappij voor Geschiedenis en Oudheidkunde te Gent* 34 (1980): 143-165; Roy Porter, *Patients and Practitioners. Lay Perceptions in Pre-industrial Society* (Cambridge, 1985), Jenner and Wallis, *Medicine and the Market*; Ian Mortimer, *The Dying and the Doctors. The Medical Revolution in Seventeenth-Century England* (Woodbridge, 2009); The Netherlands: Willem Frijhoff, “Non Satis Dignitatis... Over de Maatschappelijke Status van Geneeskundigen tijdens de Republiek,” *Tijdschrift voor Geschiedenis* 96 (1983): 379-406; Frank Huisman, “Itinerant Medical Practitioners in the Dutch Republic. The Case of Groningen,” *Tractrix* 1 (1989): 63-83; Willem de Blécourt, Willem Frijhoff and Marijke Gijswijt-Hofstra, *Grenzen van Genezing. Gezondheid, Ziekte en Genezen in Nederland, Zestiende tot Begin Twintigste Eeuw* (Hilversum, 1993); Gerrit van Vegchel, “De Medische Markt en de Historiografische Heroriëntatie in de Medische Geschiedschrijving,” *Focaal* 21 (1993): 9-42; Jacoba Steendijk-Kuypers, *Volksgezondheid in de 16e en 17e Eeuw te Hoorn. Een Bijdrage tot de Beeldvorming van Sociaal-Geneskundige Structuren in een Stedelijke Samenleving* (Rotterdam, 1994); Marijke Gijswijt-Hofstra, *Op Zoek naar Genezing. Medische Geschiedenis van Nederland vanaf de Zestiende Eeuw* (Amsterdam, 1995); a survey of previous medical historiography in the Netherlands: Johanna A. Kossmann-Putto, “Armen- en Ziekenzorg in de Middeleeuwen: Verschillen tussen Oost en West,” *Overijsselse Historische Bijdragen. Verslagen en Mededelingen van de Vereeniging tot Beoefening van Overijsselsch Regt en Geschiedenis* 100 (1985): 7-22; Van Vegchel, *De Medische Markt*, 9-42.

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2. For instance: Amsterdam: Tom Nieuwenhuis, “De Teloorgang van een Beroepsgroep. De Amsterdamse Heelmeesters in de Achttiende Eeuw,” *Focaal* 21 (1993): 43-89; Groningen: Frank Huisman, “Civic Roles and Academic Definitions: the Changing Relationship between Surgeons and Urban Government in Groningen, 1550-1800,” in: Hilary Marland and Margaret Pellings (eds.), *The Task of Healing. Medicine, Religion and Gender in England and the Netherlands, 1450-1800* (Rotterdam, 1996) 69-100.
 3. Porter, *Patients and Practitioners*.
 4. Mortimer, *The Dying and the Doctors*; Teerapa Pirohakul and Patrick Wallis, “Medical Revolutions? The Growth of Medicine in England, 1660-1800,” *Journal of Social History* XX (2016): XX-XX.
 5. Jan de Vries and Ad van der Woude, *The First Modern Economy. Success, Failure, and Perseverance of the Dutch Economy, 1500-1815* (Cambridge, 1997) 58-9. These smaller towns contained 26.9% of the urban population.
 6. de Vries and van der Woude, *The First Modern Economy* (1997); Lee Soltow and Jan Luiten van Zanden, *Income and Wealth Inequality in the Netherlands, 16th-20th Century* (Amsterdam, 1998).
 7. 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. Leonardus H. Verwey, *De Geneeskundige Wetgeving in 1865 tot Stand Gebragt door Mr. J.R. Thorbecke* (Rotterdam, 1866).
 8. *Endnote removed for anonymous review*

9. The Inventories Database has been used in several publications on material culture: Hans Van Koolbergen, “De Materiële Cultuur van Weesp en Weesperkarspel in de Zeventiende en Achttiende Eeuw,” in: Anton Schuurman, Jan de Vries and Ad van der Woude (eds.), *Aards Geluk: de Nederlanders en hun Spullen van 1550 tot 1850* (Amsterdam, 1997) 121-159; Hester C. Dibbits, *Vertrouwd Bezit: Materiële Cultuur in Doesburg en Maassluis, 1650-1800* (Nijmegen, 2001); Hester C. Dibbits and Eveline Doelman, “Slapen op het Platteland. Boedelbeschrijvingen uit Maassluis (1665-1900) en Maasland (1730-1900),” *Volkskundig Bulletin* 19 (1993): 330-349; Hester C. Dibbits and Aart Noordzij (2000), “Keramiëk in Boedelinventarissen uit Doesburg en Lichtenvoorde, 1650-1850,” in: *Handel und Wandel zwischen IJssel und Berkel / Handel en Wandel tussen IJssel en Berkel* (Borcken, 2000).

10. 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 had published his research on peasant communities in Friesland: Jan de Vries, “Peasant Demand Patterns and Economic Development: Friesland 1550-1750,” in: W.N. Parker and E.L. Jones (eds.), *European Peasants and their Markets. Essays in Agrarian Economic History* (Princeton, 1975) 205-266; Anton Schuurman was working on probate inventories of Groningen (among other regions): Anton J. Schuurman, *Materiële Cultuur en Levensstijl. Een Onderzoek naar de Taal der Dingen op het Nederlandse Platteland in de 19e Eeuw: de Zaanstreek, Oost-Groningen, Oost-Brabant* (Wageningen, 1989).

11. Detailed studies of Weesp and Doesburg have been carried out: Weesp: Aukje J. Zondergeld-Hamer, *De Geschiedenis van Weesp: van Prehistorie tot de Moderne Tijd*

(Weesp, 1990) 11-12, 167-169, 218-221; Van Koolbergen, *De Materiële Cultuur van Weesp en Weesperkarspel*, 121-123; Doesburg: Dibbits, *Vertrouwd bezit*, 55-58, 69; Griet Vermeesch, *Oorlog, Steden en Staatsvorming. De Grenssteden Gorinchem en Doesburg tijdens de Geboorte-eeuw van de Republiek (1570-1680)* (Amsterdam, 2006) 35-40, 107-114.

12. Population figures: CBS, Volkstellingen 1795-1971, <http://www.volkstellingen.nl/nl>;

Medemblik: de Vries and van der Woude, *The First Modern Economy*, 64, 510-513;

Maassluis and Maasland: Dirk Jaap Noordam, *Leven in Maasland. Een Hoogontwikkelde Plattelandssamenleving in de Achttiende en Begin van de Negentiende Eeuw* (Hilversum, 1986); Dibbits, *Vertrouwd Bezit*.

13. Jan Luiten van Zanden, *De Economische Ontwikkeling van de Nederlandse Landbouw in de Negentiende Eeuw, 1800-1914* (Wageningen, 1985) (A.A.G. Bijdragen 25) 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 labor-intensive “cash crop” or engagement in proto-industrialization 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.

14. Lichtenvoorde: Van Zanden, *De Economische Ontwikkeling van de Nederlandse Landbouw* (1985), Aart (G.A.) Noordzij, *Wonen tussen Woeste Grond. Lichtenvoorde, 1750-1850* (Amsterdam, 2000) (Unpublished PhD).

15. See for instance de Vries and van der Woude, *The First Modern Economy* or Soltow and van Zanden, *Income and Wealth Inequality in the Netherlands*.

16. de Vries and van der Woude, *The First Modern Economy*, 615.

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17. van Zanden, *De Economische Ontwikkeling van de Nederlandse Landbouw*.
18. Mortimer, *The Dying and the Doctors*; Pirohakul and Wallis, “Medical Revolutions?”
19. Schuurman, *Materiële Cultuur en Levensstijl*, 50; Thera Wijsenbeek-Olthuis, *Achter de Gevels van Delft. Bezit en Bestaan van Rijk en Arm in een Periode van Achteruitgang, 1700-1800* (Hilversum, 1987) (Amsterdamse Historische Reeks, Grote Serie, 3) 103-111.
20. Johan André Kamermans, *Materiële Cultuur in de Krimpenerwaard in de Zeventiende en Achttiende eeuw: Ontwikkeling en Diversiteit* (Wageningen, 1999) (A.A.G. Bijdragen, 39) 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.
21. Life expectancy in the Netherlands rose from 32.2 in 1800-1809 to 49.9 in 1900: Massimo Livi-Bacci, *A Concise History of World Population*, 2nd ed. (Oxford, 1997) 121.
22. Inventories without funeral details record medical expenditures in 14% of cases, compared to 51% of those with funeral details. Our sample holds 1,052 detailed inventories with a total number of 283,212 entries. Variations in the share of inventories containing these details is likely due to local recording practices.
23. Where inventories report multiple occupations, we use the first mentioned occupation, and if possible, check this was the function of the head of household.
24. Marco H.D. van Leeuwen, Ineke Maas and Andrew Miles, *HISCO: Historical International Standard Classification of Occupations* (Leuven, 2002); Marco H.D. van Leeuwen and Ineke Maas, *HISCLASS. A Historical International Social Class Scheme* (Leuven, 2011) 11-27. Although these schemes were initially developed to frame nineteenth and twentieth-century research, the authors are convinced that the schemes hold up for earlier centuries in the Netherlands as well, since those were characterised by a modern economic growth.

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25. Pirohakul and Wallis, “Medical Revolutions?”
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.
27. Jan de Vries, *The Industrious Revolution. Consumer Behaviour and the Household Economy, 1650 to the Present* (Cambridge, 2008) 189-195.
28. For annual income, we assume an average of 300 working days a year.
29. de Vries and van der Woude, *The First Modern Economy*, 607-632.
30. See: van Zanden, *De Economische Ontwikkeling van de Nederlandse Landbouw*; Schuurman, *Materiële Cultuur en Levensstijl*.
31. Based on median expenditure, 1650-1799, see table 5. Surgeons are not discussed as there are only 3 observations before 1800 in inland inventories.
32. For full information ; see working paper :
http://www.cgeh.nl/sites/default/files/WorkingPapers/CGEHWP51_Deneweth%20Wallis_5.pdf
33. Note that general levels of debt did not follow the same trend as medical consumption. Median debt in maritime inventories was 405 guilders c.1650, 342 c.1750 and 620 c.1850, and 742, 250 and 793 guilders in inland inventories.
34. For this approach, see: Lorna Weatherill, *Consumer Behaviour and Material Culture in Britain, 1660-1760* (London, 1988); Carole Shammas, *The Pre-Industrial Consumer in England and America* (Oxford, 1990); Kenneth Sneath, “Consumption, wealth, indebtedness and social structure in early modern England”, (University of Cambridge Ph.D. Thesis, 2008)

35. Share of inventories reporting luxury items before 1800. Paintings: 73% maritime; 41% inland. Mirrors: 90% maritime; 49% inland. After 1800, paintings; 90% maritime; 63% inland. Mirrors: 92% maritime; 80% inland.

36. These patterns are consistent with De Vries's (1975) early observations on the consumption differences between maritime and inland Friesland: de Vries, *Peasant Demand Patterns and Economic Development*; or Schuurman's (1989) comparisons between the Zaanstreek (maritime), Oost-Groningen and Brabant (inland): Schuurman, *Materiële Cultuur en Levensstijl*.

37. Kamermans, *Materiële Cultuur in de Krimpenerwaard*, 198-203.

38. Willibrord J.M.J. Rutten, "Mortaliteit en Medicalisering. Een Regionaal-Differentiële Analyse van de Sterfte zonder Geneeskundige Behandeling in Nederland (ca. 1870-1900)," *Holland. Regionaal-Historisch Tijdschrift*, 17 (1985): 131-161; here 157, citing T. Haakma Tresling e.a., "Rapport van de Commissie ter Onderzoek naar de Behoeftte aan Geneeskundige Hulp ten Platten Lande," *Nederlandsch Tijdschrift voor Geneeskunde*, 50 (1896): 996-1036, there 1011. Compare with Heidi Deneweth and Wouter Ryckbosch, "The Wealth and Poverty of Households. A Micro Perspective on Investment Diversification in Secondary Towns in the Early Modern Low Countries," Paper presented in the Workshop *Asset Management of Households in Europe, 1300-1800* at Utrecht University, January 18, 2012.

39. M. Finn, "Men's Things: Masculine Possession in the Consumer Revolution," *Social History* 25 (2000): 133-155.

40. Mortimer, *The Dying and the Doctors*, 24-27, 141-3; Pirohakul and Wallis, "Medical Revolutions?"

41. van Zanden, *De Economische Ontwikkeling van de Nederlandse Landbouw* (1985).

42. de Vries , *The Industrious Revolution*, 189-195.

43. Jan Lucassen, “Wage Payments and Currency Circulation in the Netherlands from 1200 to 2000,” in: Jan Lucassen (ed.), *Wages and Currency: Global Comparisons from Antiquity to the Twentieth Century* (Bern, 2007) 221-263, here 234.

44. The median amount of consumer credit in the maritime region was 5 guilders during the eighteenth century, and zero during the nineteenth. In the inland region consumer credit rose from 20 to 107 guilders during the same period.

45. Sandra Bos, “*Uyt Liefde tot Malcander*”. *Onderlinge Hulpverlening binnen de Noord-Nederlandse Gilden in Internationaal Perspectief (1570-1820)* (Amsterdam, 1998) 1-50.

46. Loes Van der Valk, “Zieken- en Begrafenisfondsen in de Negentiende Eeuw: Traditie en Vernieuwing,” *NEHA Jaarboek*, 59 (1996): 162-210; there 185; Abraham De Swaan, *In Care of the State. Health Care, Education and Welfare in Europe and the USA in the Modern Era* (Cambridge, 1988); Joost Van Genabeek, *Met Vereende Kracht Risico’s Verzacht. De Plaats van Pnderlinge Hulp binnen de Negentiende-Eeuwse Particuliere Regelingen van Sociale Zekerheid* (Amsterdam, 1999); Marco H.D. Van Leeuwen, “De Eenheidsstaat: Onderlinges, Armenzorg en Commerciële Verzekeraars 1800-1900,” in: Jacobus van Gerwen and Marco H.D. van Leeuwen (eds.), *Zoeken naar Zekerheid. Risico’s, Preventie, Verzekeringen en Andere Zekerheidsregelingen in Nederland 1500-2000* (Amsterdam, 2000) Volume 2, 167-184; Heidi Deneweth, Oscar Gelderblom and Joost Jonker, “Microfinance and the Decline of Poverty: Evidence from the Nineteenth-Century Netherlands,” *Journal of Economic Development*, 39 (2014): 1, 79-110.

47. Kenniscentrum Historie Zorgverzekeraars; number of funds in 1908 (based on the report ordered by Abraham Kuyper in 1908):

<http://www.kenniscentrumhistoriezorgverzekeraars.nl/bronarchief/erfgoed/Aantallenfondsen1>

[908.html](#) (consulted on January 17, 2014). Groenlo which supplied some of the inventories for Lichtenvoorde did have medical funds.

48. Database Dutch Craft Guilds, http://hdl.handle.net/10411/10101_V1 [consulted 4 September 2013]

49. Amsterdam: Nieuwenhuis, *De Teloorgang van een Beroepsgroep*, 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: Frank Huisman, *Civic Roles and Academic Definitions*, 79: on average 1 surgeon for every 1,000 inhabitants.

50. Frank Huisman, *Civic Roles and Academic Definitions*, 79-83.

51. Database Dutch Craft Guilds", http://hdl.handle.net/10411/10101_V1 [consulted 4 September 2013]

52. For a useful framework for professionalisation, see: Frijhoff, *Non Satis Dignitatis*, 381.

53. Frank Huisman, "Gevestigden en Buitenstaanders op de Medische Markt. De Marginalisering van Reizende Meesters in Achttiende-Eeuws Groningen," in: de Blécourt, Frijhoff and Gijswijt-Hofstra (eds.), *Grenzen van genezing*, 115-154 ; there 121-124; Frijhoff, *Non satis Dignitatis*, 397; Frank Huisman, *Civic Roles and Academic Definitions*, 84.

54. Nieuwenhuis, *De Teloorgang van een Beroepsgroep*, 63-71; See also: Frijhoff (1981) 230-237.

55. Database Dutch Craft Guilds", http://hdl.handle.net/10411/10101_V1 [consulted 4 September 2013]

56. Full figures on the distribution of all inventories by time and by social group are included in the working paper version

[http://www.cgeh.nl/sites/default/files/WorkingPapers/CGEHWP51_Deneweth%20Wallis_5.p
df](http://www.cgeh.nl/sites/default/files/WorkingPapers/CGEHWP51_Deneweth%20Wallis_5.pdf)

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57. Frank Huisman, *Gezond weer op in Groningen. Gezondheidszorg en Medisch Beroep 1500-1900* (Groningen, 1993) 37, 44-46; Huisman, *Gevestigden en Buitenstaanders op de Medische Markt*, 118.
58. 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).
59. Frank Huisman, "Farmacie, Apothekers en de Geest van Thorbecke. Farmaceutische Disciplinevorming aan het Eind van de Negentiende Eeuw," *Gerwina*, 19 (1996): 280-295; there 288.
60. Mortimer, *The Dying and the Doctors*; Pirohakul and Wallis, "Medical Revolutions?"
61. Huisman, *Civic Roles and Academic Definitions*, 85.
62. Surgeons supply medicines in 8% of detailed inventories, physicians in 7%, or roughly 16% and 14% of detailed inventories with medical expenses. Compare with Marius Jan Van Lieburg, "De Medische Beroepsbevolking ten Plattelande gedurende de 19e Eeuw. Een Onderzoek betreffende het Beneden-Maasgebied (1818-1865), *Tijdschrift voor de Geschiedenis der Geneeskunde, Natuurwetenschappen, Wiskunde en Techniek*, 8 (1985): 123-178; there 150, 157.
63. Willem Frijhoff, "Medische Beroepen en Verzorgingspatroon in de Franse Tijd: een Dwarsdoorsnede," *Tijdschrift voor Geschiedenis van de Geneeskunde, Natuurwetenschappen, Wiskunde en Techniek*, 8 (1985) 3, 92-122; 103-104.
64. This was arguably the reverse of the outcome in England: Irvine Loudon, *Medical Care and the General Practitioner, 1750-1850* (Oxford, 1986); Pirohakul and Wallis, "Medical Revolutions?"

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65. Huisman, *Farmacie, Apothekers en de Geest van Thorbecke*, 287; Patrick Wallis, “Consumption, Retailing, and Medicine in Early Modern London,” *Economic History Review* 61 (2008) 26-53.
66. For a detailed discussion of the development of state policies and intervention in medical practice, see: **Frijhoff 198X [Heidi to complete]**
67. <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).
68. <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).
69. Huisman, *Farmacie, Apothekers en de Geest van Thorbecke*, 280-295. 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.
70. Dorothy Porter and Roy Porter, *Patient’s Progress. Doctors and Doctoring in Eighteenth-Century England* (Cambridge, 1989) 53-69; Huisman, *Civic Roles and Academic Definitions*, 85. There was, of course, still competition between orthodox and religious healers and other irregular practitioners: Hans De Waardt, “Van exorcisten tot doctores medicinae. Geestelijken als gidsen naar genezing in de Republiek, met name in Holland, in de zestiende en de zeventiende eeuw,” in: de Blécourt, Frijhoff, Gijswijt-Hofstra, *Grenzen van Genezing*, 88-114; Huisman, *Gevestigden en Buitenstaanders op de Medische Markt*, 113-154.