On the use of willingness-to-pay studies in health

Zweifel, P.
On the use of willingness-to-pay studies in health

Abstract

Health policy makers know that their decisions affect the chances of well-being and survival of individuals and that they implicitly are valuing human lives. Evidence with regard to willingness-to-pay (WTP) informs about the value individuals themselves put on these chances; it thus holds the promise of contributing to consistent decisions that lead to an improved benefit-cost ratio of health services for (potential) patients. However, such improvement is more likely if information about WTP is used by competing health insurers rather than the government.
On the use of willingness-to-pay studies in health

Peter Zweifel*

1. INTRODUCTION

Willingness-to-pay (WTP) studies occupy a particularly important place in health care. Policy makers, knowing that their decisions affect the chances of well-being and survival of many individuals, sense that they ultimately are valuing human lives. However, putting a value on human life is such a contentious issue that actual health policy is formulated without reference to it. This has the unfortunate consequence that questions such as, "Is it worthwhile to include this new drug in the country’s health insurance benefit package?", or "Should public resources be spent on subsidizing hospitals rather than on schools?" cannot be answered in a consistent way.

Evidence with regard to WTP holds the promise of remedying this situation in at least three ways. First, being rooted in marginal analysis, it puts emphasis squarely on marginal variations of survival probabilities, which is far more acceptable than the "live or die" formulations often propagated by the health professions. Second, WTP is designed to elicit the preferences of consumers and voters, serving to increase the degree of rationality in policy decisions of e.g. insurers and politicians. Third, to the extent that consumers’ and voters’ preferences are reasonably consistent and stable over time, insurers and politicians, who take decisions in accordance with WTP evidence, have some assurance that their own chances of survival in the (political) market are intact.

The objective of this paper therefore is to show how WTP studies can be used to map the preferences of individuals with regard to health and health care. This makes evidence with regard to WTP a tool in the hands of policy makers. However, the paper also intends to advance the proposition that this tool is more likely to be used in the consumers’ interest if put in the hands of competing insurers rather than other so-called complementary agents in health, in particular the government.

Accordingly, this contribution is structured as follows. The next section contains an exposition of the theoretical basis of WTP as applied to health, as well as the derivation of the optimal allocation in terms of probability of good health vs consumption from the individual’s point of view. This is followed by a discussion of the reasons why individuals as prospective patients frequently fail to achieve their optimum in a physician-patient relationship. This failure creates a market for so-called complementary agents, who pro-

* Professor at the Socioeconomic Institute of the University of Zurich, Switzerland. This text is a revised version of a paper presented to the workshop on “Quality of life measurement”, La Neuveville, June 2000. The author wishes to thank H. Telser (University of Zurich) for able research assistance and an anonymous referee for helpful suggestions.
mise to patch up the physician-patient relationship, typically by taking over fee negotia-
tions. The third section is devoted to an assessment of the use made of WTP information
by the two polar types of complementary agents, viz. health insurers under the pressure
of competition and the government. At a given point in time, competing insurers are
more likely to heed the preferences of their clients as expressed by evidence with regard
to WTP. The analysis is broadened to encompass changes that shift the consumer’s opti-
mum, such as technological change in medicine. Here, the finding is that insurers will
adapt their products more quickly. However, government may use WTP information
for benchmarking in the spirit of New Public Management. In this way, WTP studies
may permit the government to improve its efficiency. The paper ends with a summary
and a few concluding remarks.

2. THE THEORETICAL BASIS OF WTP AS APPLIED TO HEALTH

The crucial feature of health is that it does not constitute a tangible stock that can be held,
controlled, and traded (see, however, the stock formulation by Grossman, 1972).
Rather, what individuals can influence is their probability to be in good health in some
future period. For simplicity, let \( \pi \) denote the probability of being ill (state s) during a
short period (a week, say). Accordingly, the probability of being in good health (\( 1 - \pi \);
state h) constitutes one of the two goods to be contemplated, the other being consump-
tion services \( C \). Let the individual maximize expected utility \( EU \). Then, an indifference
curve in \((1 - \pi), C\)-space is given by

\[
\begin{align*}
\frac{dEU}{d(1 - \pi)} &= U_h[C_h] - U_s[C_s] + \frac{\partial U_s}{\partial C_s} dC_s + (1 - \pi) \frac{\partial U_h}{\partial C_h} dC_h + (-d\pi)U_h[C_h] .
\end{align*}
\]

This can be solved for the slope of the indifference curve (setting \( dC_s = dC_h = dC \)),

\[
\frac{dC}{d(1 - \pi)} = \frac{U_h[C_h] - U_s[C_s]}{\pi \frac{\partial U_s}{\partial C_s} + (1 - \pi) \frac{\partial U_h}{\partial C_h}} .
\]

Without further justification, assume the marginal rate of substitution between the two
goods to be decreasing as usual, resulting in the graph shown in figure 1. Now, to relate
the graph more closely to a policy-making context, consider a sequence of \( T \) periods, in
each of which there is a probability of \((1 - \pi)\) of being in the healthy state. It follows
from the binary distribution that the expected number of periods in the healthy state
(before a change to the sick state occurs) is given by \( ET_h = 1/\pi \). Since this is a mon-
tononic transformation, the preference field can be drawn in a \((C, ET_h)\)-space without
loss of generality. In the following, the argument will be couched in terms of consump-
tion \( (C) \) and expected number of healthy periods \((ET_h)\).
Up to this point, the existence of a marginal rate of substitution between consumption and "health" (more precisely, the expected number of healthy periods over a future comprising $T$ periods, with $T \geq ET_h$) has been established. But this marginal rate of substitution is nothing but the individual's marginal willingness-to-pay (MWTP) for more time in good health because it indicates how much in terms of consumption he or she is prepared to give up for an additional period in good health. According to the model presented here, MWTP is predicted (1) to depend on the initial endowment in terms of consumption and expected number of healthy periods (originally chances for good health $(1 - \pi)$); (2) to decrease when $ET_h$ approaches its maximum value of $T$; (3) to increase but at a decreasing rate when a larger gain in $ET_h$ is being considered. It can also be shown that (4) MWTP increases with initial consumption (or equivalently, wealth; see ZWEIFEL and BREYER, 1997, ch. 2.3 for details).

Now, members of the medical profession and many laymen would doubt the existence of a stable preference field as displayed in figure 1. Indeed, human behavior often is decried as, "Not giving a dime for health as long as one is healthy, but willing to spend one's entire fortune once one is sick". This seems to be evidence in favor of unstable preferences, with MWTP strongly state-dependent. If true, the argument would severely limit the usefulness of evidence with regard to WTP for policy purposes. However, it can be shown that the state-dependence of observed MWTP may follow from a state-dependence of the feasible set.

Figure 1 also contains a transformation curve; to prepare for state-dependence, it is assumed to hold for a current period in good health. From the origin, the curve starts with a positive slope because when $(1 - \pi)$ increases, the expected number of healthy periods $ET_h$ increases as well, providing for healthy time that serves either to generate labor income (which can be used to finance consumption goods) or leisure time (which can be used to produce consumption services). Thus, for small values, healthy time has the character of an investment good, helping to increase consumption services as well. The transformation curve reaches its maximum where the additional resources spent on increasing the chances of being in good health (and hence, expected healthy time) result in an equivalent gain in resources in terms of time available for work and investment in health (see ZWEIFEL and BREYER, 1997, ch. 3.3 for details). As is evident from figure 1, at the optimum (symbolized by $Q^*$), health has turned into a consumption good, implying that more time spent in good health entails a sacrifice in terms of consumption.
In figure 2 a second transformation curve is shown, depicting the feasible set given for an individual in bad health during the current period. This means that his or her productivity both in the labor market and in household production is reduced for at least part of the planning period $T$. Accordingly, this transformation curve runs lower and reaches its maximum value $ET_h$ sooner than its counterpart which holds in the case of good current health. In order to demonstrate that this difference rather than an instability in preference may be the source of observed state-dependence of MWTP, two assumptions are made:

(a) preferences are homothetic;
(b) sickness in the current period affects the individual as a producer of future healthy time more strongly than as a producer of future consumption.
Assumption (a) is often introduced as a matter of course. Yet, at least in the domain of household consumption expenditure, work based on flexible utility functions (such as the translog) has come to the conclusion that homotheticity of preferences is confirmed by the evidence (Manser and McDonald, 1984). No econometric evidence with a bearing on assumption (b) seems to exist. However, to the extent that social health insurance provides a replacement income in the event of ill health, the flow of consumption goods is little affected by health status, while the probability of being healthy is reduced to zero by definition as long as the sickness extends into future periods. By necessity, this lowers the expected number of future healthy periods.

Given these assumptions, the two optima $Q^*$ (good current health) and $Q^{**}$ (bad current health) can be compared as follows. When moving towards the origin on the ray $0Q^*$, the slope of the indifference curve remains the same according to assumption (a). However, the slope of the transformation curve must become steeper on average for assumption (b) to be satisfied. This means that the optimum $Q^{**}$ cannot possibly lie on the ray through the origin; indeed, it must lie above that ray, where the slope of the indifference curve is greater (in absolute value). However, this also implies that at $Q^{**}$, the mar-
original rates of transformation and substitution must be larger than at $Q^*$. In other words, the revealed MWTP for additional healthy time is greater if the current period is one of bad health than if it is one of good health. The observed MWTP thus turns out to be state-dependent not because of any instability of preferences but because of the dependence of productive capabilities on current health status, which seems a very natural assumption.

**Conclusion 1:** The observed instability of revealed marginal willingness-to-pay for health (low when healthy, high when ill) need not be caused by an instability of underlying preferences but may well be caused by the dependence of the individual’s productive capabilities on the current state of health.

Thus, the argument that individuals’ preferences with regard to health and health care are too fickle to provide a basis for policy making need not be accepted. This is not to say that measuring true MWTP for health is without problems, quite to the contrary. While in principle, it is possible to infer the individual’s MWTP from the equality between the marginal rate of substitution and the marginal rate of transformation (and hence actual behavior) at the optimum points $Q^*$ and $Q^{**}$, there are at least two reasons for important deviations. First, the rate of transformation is biased because of insurance coverage. With a coinsurance rate of 10 percent (as applies to out-patient medical care in Swiss social health insurance), the sacrifice of one Swiss franc’s worth of consumption in effect buys ten times as much medical care as without insurance coverage. Thus, the transformation curve looks ten times flatter than in figure 1 to an insured individual who considers using out-patient medical care. The second reason is that as soon as individuals rely on medical care, they are not very likely to reach the optimum $Q^{**}$ (bad current health). This is due to a failure of the physician-patient relationship, to be expounded in the next section.

### 3. FAILURE OF THE PHYSICIAN-PATIENT RELATIONSHIP AND THE MARKET FOR COMPLEMENTARY AGENTS IN HEALTH

In decision situations characterized by a marked lack of information, individuals often rely on the expertise of a specialized agent. This of course raises the issue of how to ensure that the agent, while pursuing his or her own objectives, can be made to also advance the interests of the uninformed principal. The generic solution to this problem (known as the principal-agent relationship) is for the principal to devise a payment scheme that provides the appropriate incentives to the agent (HOLMSTRÖM, 1979, LEVINTHAL, 1988). Basically, the payment function has the following structure,
ON THE USE OF WILLINGNESS-TO-PAY STUDIES IN HEALTH

\[
\frac{u'[\theta - p^*(\theta)]}{u'[p^*(\theta)\theta]} = \lambda + \mu \cdot \frac{\partial f(\theta | a*)}{\partial a} = \lambda + \mu \cdot E,
\]

with \( E := \frac{\partial f(\theta | a*)}{f(\theta | a*)} \).

Its left hand side (LHS) is a ratio of two marginal utilities, which are both decreasing in wealth if risk aversion is assumed. The one in the numerator is the principal's marginal utility, evaluated at the value of his residual claim: out of the outcome \( \theta \) achieved thanks to the contract with the agent, the principal must pay the agent to the tune of \( p^* \theta \). In the present context, the principal is the uninformed patient, and the outcome is the resulting state of health, valued in financial terms. Now, given that there exists a MWTP for additional healthy time, this MWTP can be extrapolated to indicate the MWTP for being in some better health status (see ZWEIFEL and BREYER, 1997, ch. 2.3 for details). Thus the requirement of expressing \( \theta \) in monetary terms does not pose insurmountable problems, at least at the conceptual level.

The denominator on the LHS contains the agent's marginal utility, which by assumption only depends on the payment received. In the present context, the agent is the treating physician. In sum, the ratio on the LHS of equation (3) takes on a high value when the physician's marginal utility is small, implying that he gets the lion's share of the outcome \( \theta \). What circumstances make it in the patient's best interest to let the physician have the lion's share of the benefits that originate from the transaction?

The answer to this question is given by the parameters on the right hand side (RHS) of equation (3), which describe the properties of the optimal payment function. Its first component is a fixed sum, indicated by \( \lambda \), a Lagrangean multiplier that emanates from the so-called participation constraint characterizing the principal's decision-making problem. For, payment must be sufficient to induce the agent to sign up with the principal. For example, a physician who has lucrative alternative uses of his time will have a high value of \( \lambda \).

The second component of payment consists of two parts. The Lagrangean multiplier \( \mu \) reflects the importance of the so-called incentive compatibility constraint: Payment must honor costly marginal effort undertaken by the agent. In the case of a surgeon e.g., \( \mu \) takes on a large value because failure to exert sufficient effort can be a life-or-death issue for the patient. However, \( \mu \) interacts with \( E \), which symbolizes the stochastic analog of marginal productivity. In fact, \( E \) indicates how much probability mass in the density function of outcomes is shifted towards more favorable outcomes in response to a marginal increase of physician effort, \( da \), relative to the existing probability mass (see figure 1 again). In the case of a surgeon, \( E \) typically takes on a high value in that one hour more of his effort may increase the likelihood of patient survival by as much as 50 or even 100 percent.

In sum, it is optimal for a prospective patient to pay the physician (or more generally, the provider of health care) very well if (1) violation of the participation constraint has a
marked impact on the patient’s welfare, or (2) violation of the incentive compatibility constraint has a marked impact on welfare and/or (3) marginal variations of physician effort have a substantial impact on the likelihood of a favorable treatment outcome.

However, estimating the parameters that determine the optimal payment function is a very difficult task for the prospective patient. In particular, condition (3) involves the estimation of $E$, the stochastic marginal effectiveness of a health care provider. While individuals with a chronic condition may be able to gauge $E$, few are capable of this in the case of unfamiliar diseases or rare interventions. During full anesthesia e.g., the patient cannot observe the surgeon’s effort at all! Even under less incapacitating circumstances, the patient usually has difficulty inferring actual physician effort, which importantly amounts to a judicious choice of treatment alternatives rather than observable activities such as giving a shot or prescribing a drug. Thus, the asymmetry of information frequently is too severe to permit the uninformed patient to identify the optimal payment function. However, failure to do so results in suboptimal treatment outcomes since the optimality condition (3) is violated.

In terms of figure 1, deviations from condition (3) cause both the indifference curves and the feasible set in the sick state to be misrepresented since the patient does not know the true probability $(1 - \pi)$ with which he will be back in the healthy state. This means that his or her indifference curve exhibits a biased slope; since perceived $(1 - \hat{\pi})$ is lower than true $(1 - \pi)$, it runs too steep (see equation 2). At the same time, the perceived expected number of future healthy periods $ET_h$ falls short of the feasible quantity $ET_h$ as well, resulting in a feasible set with too low a maximum value of $ET_h$. In the relevant neighborhood of the true optimum $Q^{**}$, the transformation curve therefore has too great a slope, too. Evidently, one cannot generally predict whether the chosen value of $(1 - \pi)$ and $ET_h$ and hence the amount of health care demanded will exceed or fall short of the true optimum.

**Conclusion 2:** Frequently, the prospective patient’s attempt to control the behavior of the physician through incentive-compatible payment fails due to the impossibility of identifying the optimal payment function. As a consequence, the true optimum in the sick state cannot be reached.

This specter of market failure creates a market for what shall be called complementary agents. Complementary agents (CA) can offer to remedy the physician-patient relationship by (a) providing the information necessary to estimate stochastic productivity $E$, or (b) negotiating the payment function on behalf of the prospective patient. More generally, this task includes selecting those providers of health care who are willing to conclude contracts containing the incentives that are optimal for a particular type of insured person. For reasons described more fully in Zwiefel, Lehmann and Steinmann (2000), solution (b) dominates. In the following, discussion will be limited to the two polar types of CA, viz. competitive health insurers and the government. Other CA include medical associations, employers, and national health insurance.
4. COMPLEMENTARY AGENTS AND THEIR USE OF WTP INFORMATION

Competitive health insurers and governments will make quite different use of WTP information, with differing implications for efficiency. In the following, it is assumed that health insurers may engage in product competition. In view of the theory of the preceding section, this includes the development of contracts that give providers of health care services the incentives that are optimal for a given type of insured person. Insurers and governments as users of WTP information are compared in a one-period in this section, with comparison in a dynamic context to follow below.

To negotiate optimal contracts, insurers must have the right to engage in selective contracting (this is generally possible for private health insurers but also for Health Maintenance Organizations and Preferred Provider Organizations in the United States, as well as for Swiss sick funds in the domain of complementary coverage). Thus, they want to include certain physicians, hospitals, and pharmaceutical suppliers while excluding others. Again due to the pressure of competition, the criteria for selection must be those that the insured individuals would apply if they had the necessary information. Eligible providers of service must therefore exhibit a favorable benefit-cost ratio (expressed by insured individuals’ WTP), which they achieve only if willing to operate under the appropriate incentives defined in equation (3) above.

Only insurers whose benefits package contains those service providers and medical technologies for which there is a high rather than low or zero WTP on the part of the plan’s (marginal) enrollees will be successful in the marketplace. Competitive health insurers therefore have an incentive to establish their clients’ WTP for existing and new providers and medical technologies. In this way, information regarding WTP is a marketing instrument for health insurers. It is efficiency-enhancing because it permits them to structure contracts in a way that helps insured individuals to get closer to their optimum in the sick state (point $Q^{**}$ in figure 3).

Turning to the government as the CA, one notes that it usually tries to keep its outlay on health care at a fixed percentage of its budget, which translates into a fixed percentage of the GDP as long as the public sector grows in step with the economy. This becomes most evident in the United Kingdom, where the cabinet fixes the share of the budget devoted to the National Health Service. In Germany, the quest for a stable ratio of public health care expenditure to labor incomes has a long tradition. It is combined with budgeting for the major components of the health care bill, such as out-patient care, hospital care, and drugs (Henke, 1992). But even the government of the United States is concerned about the share of its budget that goes to covering the deficit of its public programs in health, viz. Medicare and Medicaid.
Figure 3: True and perceived production possibilities for health in the sick state

To the extent that politicians can pursue their own objectives at least between elections, there is no guarantee that the government's optimum \((Q''\) in figure 3) coincides with the representative consumer's optimum \((Q^{**}\)). Indeed, this discrepancy is the consequence of the government's ignoring any existing evidence concerning the MWTP of consumers. Allocating fixed shares to the different types of care also is unlikely to reflect the relative MWTP for these services in the population.

Moreover, the government as the negotiating CA is subject to at least two additional influences that cause departures from the optima of the representative consumer as shown in figure 2. Both effects have been discussed at some length in the public choice literature (Downs, 1957). First, when entering negotiations a democratic government must keep an eye on its chance of re-election. This is an important consideration when dealing with physicians, who can muster considerable popular support in their favor. Physicians see many patients, the majority of whom are of advanced age and therefore particularly likely to participate in elections. Thus, they are able to create a pressure group at low cost (Zweifel and Eichenberger, 1992). In view of this fact, the government as the negotiating CA must satisfy medical demands to a greater extent than do competitive insurers (see Zweifel, Lehmann and Steinmann, 2000, for a formal...
ON THE USE OF WILLINGNESS-TO-PAY STUDIES IN HEALTH

model). It is therefore less likely to either gather or use information with regard to WTP in an attempt to come up with contracts that are optimal in the sense of equation (3).

The second departure from the consumer's optimum derives from the fact that the government usually delegates actual negotiations to an agency. However, agencies are not subject to a re-election constraint, which permits their directors to pursue their personal objectives in the guise of power, prestige, and pay (NISKANEN, 1971). Now, for power and prestige it is preferable for such a director to have nationwide negotiations on a uniform fee schedule and a uniform benefits package. Again, this implies little interest in gathering and using evidence on WTP, which usually takes on different values depending on the parameters discussed in the theoretical section. On the other hand, figure 1 as well as equation (3) make it clear that optimal solutions depend on the type of prospective patient (as well as on the individual situation of a service provider). Uniform contracts therefore harm the interests of many prospective patients, quite likely the majority. In all, these considerations lead up to

Conclusion 3: Within a given period, evidence with regard to WTP is more likely to contribute to efficiency in health care if used by competing health insurers than by the government.

To complement the analysis, focus is now shifted to dynamic considerations. Let us assume an advance in medical technology. As shown in figure 3, this serves to enlarge the feasible set of individuals if the current period is one of bad health. Without further proof, it is assumed that the shift of the transformation curve in the direction of a higher expected number of periods in good health \( (E_{Th}) \) is more marked than in the direction of consumption services \( (C) \). This entails a transition to a new optimal point such as \( Q^{***} \), which typically contains more health (and health care services since their productivity relative to preventive effort on the part of the individual has increased).

Competitive insurers will note that they must adjust the payment function because the technological advance has increased physicians' stochastic efficiency (parameter \( E \) in equation (3)). Specifically, they have to pay more in the best interest of their enrollees, especially by reinforcing the incentive component \( (\mu \cdot E) \). Moreover, competition for enrollees will cause them to include the new treatment alternative in their benefits package without much delay, permitting consumers to shift to the new optimum \( Q^{***} \) in the state of bad health.

By way of contrast, the government will try to maintain the share of health in its budget and the GDP at the value it deems optimal. This value typically changes as a function of relative lobbying power rather than as a function of technological change in medicine. As shown above, this value is lower than that of the representative consumer as a rule, implying that technological change results in a discrepancy between the optima that increases over time (see \( Q^{**} \) vs. \( Q^{"} \) and \( Q^{***} \) vs. \( Q^{"'} \) in figure 3).

However, the ex ante fixing of budgets can also have an efficiency-enhancing effect. Budgeting is known as a way to increase the efficiency of public agencies (SCHEDLER and PROELLER, 2000). Service providers in the National Health Service may have a
strenthened incentive to keep within their budget, which is efficiency-enhancing as long as the quality of their services can be monitored. Now technological change usually makes it easier for public agencies to meet their targets. To the extent that this also holds true of health care, the effective production point \( Q'' \) may be closer to the true transformation curve than the one before the technological change \( Q'' \). All in all, technological change in medicine entails two opposite efficiency effects with the government as the negotiating CA. On the one hand, it tends to boost the gap between the optima on the efficiency frontier. On the other hand, it tends to reduce the gap between actual and technologically efficient production.

*Conclusion 4:* Competitive health insurers are constrained to adjust their negotiations to the modified WTP of their members in the wake of technological change in medicine. The government is not subject to such a constraint but may profit from the fact that it becomes easier for the providers in health care to meet the specified targets.

5. SUMMARY AND CONCLUSION

This special issue is evidence of the fact that considerable progress in the measurement of (marginal) willingness-to-pay for health and health care has been made during the past few years. This development gives rise to the questions, Who will use this information, and What are the chances that it will contribute to efficiency in the health care sector? The present paper seeks to provide answers to these questions. First, it shows that the often-decried behavior, “Do not spend a dime on health as long as healthy, but spend your entire fortune when sick” need not be the expression of unstable preferences. Rather, this may be the consequence of a state-dependent feasible set when the individual is seen as a producer of his or her probability of being in good health in the future on the one hand and consumption services on the other (Conclusion 1).

However, in the sick state individuals rely on a health care provider as a rule. The physician-patient relationship in particular can be cast in a principal-agent framework, where the uninformed principal controls the unobservable effort of the agent through the judicious choice of a payment function. It is argued that this solution usually breaks down when it comes to medical care because the informational asymmetry is so marked as to prevent identification of the optimal payment function by the prospective patient (Conclusion 2). This threat of a market failure calls for complementary agents, who typically negotiate a payment function on behalf of the consumer.

The two cases of complementary agents considered here are competitive health insurers and the government. Now, under the pressure of competition for enrollees, insurers want to use information about willingness-to-pay to structure their benefit packages, excluding providers and treatments for which there is little or no willingness-to-pay. Information about this quantity in the hands of insurers thus serves to increase efficiency in health care. By way of contrast, a democratic government, constrained to
gain pivotal votes, has to take physicians' interests into due account, implying that the outcome of fee negotiations cannot only reflect consumers' willingness to pay for health and health care regardless of the amount of information gathered (Conclusion 3).

Finally, the comparison between competitive health insurers and the government can be extended to cover the speed of adjustment of negotiations to e.g. an advance in medical technology. This results in a modification of both the individuals' preference fields (caused by a changed probability of being healthy in the future) and their feasibility sets (due to the concomitant increase in the expected number of healthy future periods). These modifications affect the optimal payment function and the demand for medical care. While competitive insurers must take this change into account, the government, attempting to keep the cost of fulfilling its promises in terms of health down, often does not want to increase payments for health care. It thus tends to disregard information about willingness to pay in this context but may still use it as a New Public Management tool to improve the principal-agent relationship between its agencies and the providers of health care. However, a more efficient provision of health care allows individuals to move closer to the true frontiers of their feasible sets (Conclusion 4). Thus, information about willingness-to-pay for health and health care in combination with technological change in medicine may in fact help governments to catch up with competitive insurers as complementary agents in health.

In sum, therefore, information about willingness-to-pay is crucial in patching up the deficiencies in the physician-patient relationship. Its contribution to improving efficiency has been found to be greater if competitive insurers are in charge, serving as complementary agents. However, the importance of competitive conditions in the markets for health insurance must be emphasized. In the absence of competitive pressure, health insurers have little incentive to seek out the payment functions that are optimal for certain types of their enrollees in their contacts with certain types of health care providers. For, identifying these functions – and even more so negotiating their implementation – constitutes an arduous task. Until the new Law on Health Insurance of 1994 came into force, social health insurers in Switzerland were not exposed to competition. Even under the new law, any physician who is prepared to apply the negotiated fee schedule, must be accepted by social health insurance (any-willing-provider clause). Moreover, federal regulation continues to impose uniformity of hospital fees within a given canton and to encourage national uniformity of fee schedules for physicians, overlooking the fact that the way the providers of health care are paid is an important dimension of competition between insurers. The situation is no different in the Netherlands, a country hailed for its pro-competitive reform in the financing of health care (Van de Ven, 1991).

With regard to private health insurance, Swiss companies operated a cartel that was lifted only recently, before the conclusion of the insurance agreement with the European Union in 1992. This lack of competition has prevented them from developing fee schedules in the interest of their enrollees; rather, they have been limiting themselves to simply paying whatever the billing. This seems to be the standard in other countries as well; in Germany e.g., private health insurers simply pay a multiple of the fees negotiated by
their social counterparts. The theoretical findings of this paper therefore must await the advent of more full-blown competition in both social and private health insurance to be confronted with the empirical evidence.

REFERENCES

SUMMARY

Health policy makers know that their decisions affect the chances of well-being and survival of individuals and that they implicitly are valuing human lives. Evidence with regard to willingness-to-pay (WTP) informs about the value individuals themselves put on these chances; it thus holds the promise of contributing to consistent decisions that lead to an improved benefit-cost ratio of health services for (potential) patients. However, such improvement is more likely if information about WTP is used by competing health insurers rather than the government.

ZUSAMMENFASSUNG


RESUME

Les décideurs en matière de santé publique savent que leurs décisions affectent les chances de bien-être et de survie des individus et qu'implicitement ils donnent un prix à la vie humaine. Les données relatives à la disposition à payer fournissent des indications quant à la valeur que les individus eux-mêmes attribuent à ces chances. Elles contribuent ainsi à ce que soient prises des décisions cohérentes et qui améliorent le ratio coûts-bénéfices des services de santé à disposition des patients potentiels. Une telle amélioration est cependant plus probable si les données relatives à la disposition à payer sont utilisées par des assureurs-maladie dans un marché concurrentiel plutôt que par le gouvernement.