

Research papers

Acceptability of the electronic health insurance card to practising physicians

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ABSTRACT

Background Cost containment in the transition countries of Central and Eastern Europe is a key issue in healthcare reforms. The electronic health insurance card is a potential method for controlling financial flow in a healthcare system. The Slovene National Insurance Institute has launched a project to introduce health insurance cards.

Aim Analysis of the acceptability of health insurance cards to practising physicians, and the differences between primary and secondary care physicians' opinions about the health insurance card.

Method The survey was carried out using the computer-assisted method of telephone interviewing (CATI). The interviews were collected from a random sample of practising physicians in Slovenia, in September 2000.

Results Forty-seven percent of the interviews were carried out successfully. More than half of the interviewees (57.4%) reported positive experiences with the use of the patient health insurance card

and with the use of the professional insurance card. In comparison with secondary care physicians, primary care physicians evaluated their own experiences more positively ($P < 0.001$), and 51.1% also said that the health insurance card made their job easier ($P < 0.001$). The professionals assessed the security of the card to be high and they favoured new technology over the old health booklet system. The professionals believed that the health insurance card would evolve into a comprehensive health card, and over three-quarters believed that better financial discipline would result from the new technology.

Conclusions The health insurance card was acceptable to healthcare providers, and in particular to primary care physicians.

Keywords: delivery of healthcare, Eastern Europe, health insurance reimbursement, information system, insurance

Introduction

Slovenia, in common with other transition countries, has faced dramatic political and economic changes in the past ten years. The changes are also seen in the organisation of healthcare services. Since 1992, the Slovene healthcare system, as in other Central and East European countries, has been transforming from the state-run socialist 'cost-free' system towards a decentralised market model.^{1,2} The present national healthcare system in Slovenia can be described as a combination of the socialist and market models.³ The liberalisation of the system is evident in the diversity of health insurance options. Mandatory insurance is collected by the National Health Insurance Institute

(NHII) from employees and employers and disbursed through contractual mechanisms to public and private contractors.³ The Ministry of Health has retained a co-ordinating role in annual contract negotiations between NHII and healthcare providers who are split into several public healthcare centres and private providers. An annual plan of service provision and the level of payment are agreed among the parties and a contract signed.^{1,3} The task of controlling the healthcare budget in Slovenia is left to the NHII. The main source of the NHII budget consists of compulsory health insurance. Residents of Slovenia are insured through their employment status or, if unemployed, covered by local communities. Compulsory health insurance covers around 80% of all healthcare costs. Through the purchase of

a voluntary insurance for co-payment, the remaining healthcare costs and additional services above the basic level can be assured through other insurance companies.

The NHII employs several measures and projects to contain costs, although the use of waiting lists to restrict patients' free choice and timely use of several specialist services, can be a potential threat to quality of care.⁴ The most important has been the introduction of a gate-keeping role for the family physician, associated with keeping lists of patients in primary care.^{1,5,6} The next step was universal computerisation of healthcare providers, and mandatory computerised data exchange partly supported by the NHII. The most recent project was the introduction of the health insurance card. This is a new electronic identification document of insured persons and it ensures smoother communication between the health insurance information system and the information systems of healthcare providers.^{7,8} The card stores the insured person's identification details, i.e. name, surname, permanent address, date of birth, compulsory insurance status, voluntary insurance status and identification of the family physician with whom the patient is registered. To access patients' data, physicians and nurses use their professional health insurance card which authorises them to see different sets of data.⁸

Besides cost-containment, improved quality of care was one of the most important goals of the recent healthcare reforms.^{1,3,9} We have demonstrated high patient satisfaction with primary healthcare providers and the healthcare system as a whole.^{10,11} The physicians who took the opportunity to become independent contractors reported that the doctor-patient relationship had improved and they were able to improve aspects of care. The expectations of private contractors were met.¹²

The NHII launched the smart card technology to control the accuracy of insurees' payments and enable easy communication between the NHII's and providers' databases. Each insuree received his/her own health insurance card which holds insurance data and has the potential to hold selected healthcare data. Health professionals received individual professional cards which enabled them to access defined sets of data depending on their position in the healthcare system (nurse, personal GP – primary care doctors, clinical consultant – secondary care doctors). This study was designed to measure the acceptability of the health insurance card to provider physicians and their satisfaction with the NHII project. We put particular emphasis on the differences between primary and secondary care providers as they have different responsibilities in the use of the professional health insurance card.

Methods

Interviews were collected from a sample of practising physicians in Slovenia from 18 September to 26 September 2000. A random sample of 685 physicians was drawn from a mandatory national physicians' list of 5500 physicians.

The survey was carried out by the communication research agency 'Pristop' using semi-structured computer assisted telephone interviewing (CATI). CATI was undertaken by telephone interviewers from one centre. The questionnaire was developed and prepared for the direct entry of data into SPSS software while interviewing. The following questions were put to the participants by the interviewers on the telephone:

- what are your experiences with the patient health insurance card?
- what are your experiences with the professional health insurance card?
- have you faced any problems with the health insurance card?
- is your job now any easier while using the health insurance card?
- how often do you use your professional health insurance card?
- are data on the professional health insurance card secure enough?
- have you ever used your nurse's professional health insurance card?
- has your nurse ever used your professional health insurance card?
- has the professional health insurance card made administrative procedures easier for you?
- does the patients' health insurance card provide enough protection to grant confidentiality of patient data?
- would you prefer to have patient medical data on the health insurance card?
- would you prefer to have prescription data on the health insurance card?
- has the health insurance card brought more financial transparency into the healthcare field?

For each of the following professional groups: NHII employees, employees of other insurance companies, pharmacists, nurses, employers, patients and physicians, the interviewees were asked who would benefit from the introduction of the health insurance card.

Responses to the questions were categorised into predetermined groups. Data were entered into the computer and analysed using the SPSS statistical package. Pearson chi-square (χ^2) was calculated and a significance level of 0.05 applied.

Results

Sample description

Of 685 interviewees approached, 324 (47%) responded, 123 (18%) were unavailable at the time of the interview, 144 (21%) were excluded, because it was not possible to match the telephone list and physicians' list, 75 (11%) phones were not answered and 21 (3%) interviewees refused to participate.

Of the respondents, 178 (54.9%) were female and 146 (45.1%) male. They had been in practice from 1 to 40 years with a median of 20 years. Two-hundred-and-four (63.0%) were employees in public services and 120 (37.0%) were private contractors. Two-hundred-and-thirty-one (71.3%) respondents were primary care physicians and 93 (28.7%) secondary and tertiary care physicians. They had been using patient and professional health insurance cards from 1 to 30 months with a median time of 6 months. The majority of the physicians (277; 85.5%) agreed that the project to introduce the health insurance card had been undertaken correctly.

There was a significant difference in the frequency of use of the professional health insurance card between primary and secondary care providers ($\chi^2 = 53.116$, $P > 0.001$; see Table 1).

Experiences with the health insurance card

More than half (186; 57.4%) reported positive experiences with the use of the patient health insurance card, 66 (20.4%) reported some negative experiences and 72 (22.2%) reported neither negative nor positive experiences. The differences between primary and secondary care providers were not significant. Two-hundred (61.7%) respondents reported positive experiences with the use of the professional health insurance card, only 14 (4.4%) reported having negative experiences, but the remainder reported that they still did not use the

professional card. There was a significant difference in the type of experience between primary and secondary care physicians ($\chi^2 = 55.006$; $P < 0.001$).

Only 107 (33.0%) used the professional insurance card regularly, 95 (29.3%) occasionally and 117 (36.1%) reported that they had not yet used their professional card. Only 26 (8.0%) of interviewees reported having any problems using either the patient or professional health insurance card. Sixty-seven (21.1%) respondents disagreed with the statement that the patient health insurance card made their job easier. A greater proportion of primary care physicians agreed with this statement ($\chi^2 = 18.496$; $P < 0.001$; see Table 2).

Confidentiality issues

Only 32 (9.9%) of the interviewees said that data protection with the professional health insurance card was inadequate. An individual professional card is meant to allow the cardholder to access only the data to which he/she is authorised. Use of somebody else's card can be a possible threat to confidentiality. The physicians had used a nurse's professional health insurance card in only 22 (6.9%) cases, but nurses had used the physician's card in 148 (46.1%) cases. There was a significant difference in this practice between primary and secondary care. Nurses used the physician's professional health insurance card in 139 (60.2%) cases in primary care and only in nine (9.8%) cases in secondary care ($\chi^2 = 68.475$; $P < 0.001$).

Views about patient confidentiality are listed in Table 3. Primary care physicians were more likely to agree that patient data confidentiality remained the same as it had been before the introduction of the card ($\chi^2 = 13.118$; $P < 0.001$).

Physicians' expectations regarding the health insurance card

A majority of physicians (284; 94.4%) anticipated that in addition to administrative data, at least some

Table 1 Frequency of use of the professional health insurance card

Frequency of use	Primary care		Secondary care		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Never	58	25.4	59	64.8	117	36.7
Occasionally	70	30.7	25	27.5	95	29.8
Regularly	100	43.9	7	7.7	107	33.5
Total	228	100.0	91	100.0	319	100.0

Table 2 Responses to the statement: 'the patient health insurance card made my job easier'

Card made job easier	Primary care		Secondary care		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
No	52	22.7	15	16.9	67	21.1
Yes	117	51.1	28	31.5	145	45.6
Same	60	26.2	46	51.7	106	33.3
Total	229	100.0	89	100.0	318	100.0

Table 3 Patient data confidentiality after the introduction of the smart card

Patient data confidentiality is worse	Primary care		Secondary care		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Yes	14	6.3	15	17.0	29	9.3
No	73	32.7	36	40.9	109	35.0
Same	136	61.0	37	42.0	173	55.6
Total	223	100.0	88	100.0	311	100.0

important medical data would be included on the health insurance card. They were less in favour of using health insurance cards for electronic prescriptions. Only 109 (40.2%) would favour such a possibility. Over three-quarters believed that the introduction of the electronic health insurance card in the system would bring more financial transparency, with primary care physicians being more inclined to that notion than secondary care physicians (81.7% versus 67.5%; $\chi^2 = 14.524$; $P = 0.006$).

Table 4 shows physicians' opinions about who would benefit from the health insurance card.

Discussion

Telephone interviewing has become a widely used method for analysing public opinion. It is easier and cheaper to perform than face-to-face interviewing. Using mailed questionnaires is time-consuming, costly and often biased by low response rates. Telephone interviewing has problems with response rates that are difficult to avoid. Also in our study the major problems were unavailability of the respondents during the interviewing process, and inappropriate candidates being selected after combining

two databases (physician register and telephone address register). However, the physicians in the final sample were representative in terms of age and sex of the national registry of the physicians.

Table 4 The physicians' opinions as to the parties that will benefit from the health insurance card

Who will benefit most?	<i>n</i>	%
NHII employees	170	90.4
Employees of other health insurance companies	137	86.2
Pharmacists	157	74.4
Nurses	217	70.2
Employers	144	64.3
Patients	144	53.7
Physicians*	132	42.0

*There was a significant difference between the opinion of primary and secondary care physicians about the benefits for the physicians, primary care physicians being more reluctant in praising the benefits for the physicians ($\chi^2 = 6.219$; $P = 0.02$)

Evaluation of the benefits of healthcare reform is one of the problems encountered in Central and Eastern European transition states.¹³ In this study, we attempted to involve all parties in the evaluation. We were able to demonstrate that the health insurance card was well accepted. Professionals' assessment of its security was high, favouring new technology over the previous booklet system. One of the threats could be the fact that the personalised professional health insurance card is used by other providers. The designers of the project should take a closer look at why such exchanges occur and redesign the paths in access to databases accordingly to minimise misuse of the professional card.⁸ The views of other relevant groups (patients, NHII employees, health administrators and other health professionals) should be investigated in the near future.

The results deliver an important message – that the professionals believe that the health insurance card should evolve into a health card. This is in line with the development of the smart card elsewhere in the world.¹⁴ They would like to have patients' medical data on it, but they are not in favour of electronic prescriptions or of controlling all issued prescriptions. Over three-quarters of those interviewed anticipated improved financial control as a consequence of the new technology, a fact that can also be seen from the data about which group benefited the most from the introduction of the health insurance card. Interestingly, primary care physicians differed from those in secondary care in their opinion about the benefits for physicians. This result can be explained by the fact that secondary care physicians at the time of the study had hardly ever needed to use their professional health insurance card. Primary care physicians need it for reading the patient's insurance card during home visits, and to put a patient on their personal list. More regular use of the card also led to differences in opinion about improved financial discipline. Primary care physicians were more readily convinced that this would result. There are some obvious merits of a smart card technology: reliable data on the insurance status of the card holder, easier access to the services of the NHII for the insurees, simplified registration processes for the users of healthcare services, less administrative effort for providers, and the potential to store other important data when consensus has been reached.⁸ However, the initial cost for the introduction of the system and the costs of universal computerisation of health service providers should be taken into account when planning smart card technology.

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