ECONOMICS & Sociology

Krot, K., Rudawska, I. (2017), Patients' Trust in Physiciants as an Antecedent of Satisfaction with Medical Servcies, *Economics and Sociology*, Vol. 10, No. 2, pp. 207-216. **DOI: 10.14254/2071-789X.2017/10-2/15**

PATIENTS' TRUST IN PHYSICIANTS AS AN ANTECEDENT OF SATISFACTION WITH MEDICAL SERVCIES

Katarzyna Krot,
Bialystok University of Technology, Bialystok, Poland,
E-mail: katarzynakrot@gmail.pl

Iga Rudawska,
University of Szczecin, Szczecin, Poland,
E-mail: igita@wneiz.pl

Received: December, 2016
1st Revision: April, 2017
Accepted: June, 2017

DOI: 10.14254/2071-789X.2017/10-2/15

ABSTRACT. Trust in the patient-physician relationship represents the power to shape behaviors of both sides. It may have also the value of being the precondition of patient satisfaction with medical services. Therefore, the purpose of this paper is to investigate the role of trust as an antecedent of patient satisfaction, based on the nationwide, representative sample. The multiple regression analysis has been applied. The study shows that all three identified dimensions of trust are important and statistically significant determinants of patient satisfaction with medical services. However, it is strongly dependent on confidence in the competence of physicians than the belief in their honesty and kindness. The research contribution is both of cognitive and utilitarian value. It helps to understand pitfalls of the satisfaction's erosion in the studied relationship and to effectively counteract them.

JEL Classification: I12

Keywords: patient-physician relationship, satisfaction, trust dimensions, medical services, Poland.

Introduction

Medical services are commonly treated as one of the fundamental services, that contribute to the building of human capital. Their role is mainly instrumental, as they aim at improving and maintaining good health of people. Medical services belong to a group of professional services. The term is used to define complex services that require maximum matching to individual clients' needs and ones that need to be provided in constant stream of transactions (Lovelock, 1984). The complexity of medical services, characteristic for the entire group of professional services, results from a multitude of complex stages that are to be realized during a meeting of service provision. However, what differentiates medical services from other types of professional services is the significance of consequences that a patient may suffer in case of a failed result of the service process (disability, injury to health and decrease in the quality of life or even its loss).

Furthermore, the nature of medical services is a strongly interpersonal one, and a patient-physician relationship is accompanied by information asymmetry and a principal-agent relationship. These phenomena were investigated by many researchers on a number of occasions, starting with Arrow (1979), through Sloan (2001), to Polish authors (Krot, Rudawska, 2010, 2016).

On the other hand, research related to the fundamental construct of the relation, i.e. trust with the phenomenon of client satisfaction, was the focus of studies of the authors researching service sector (Doney, Cannon, 1997; Lovelock, Wirtz, 2004). They, however, less frequently referred directly to the health care sector (Hall *et al.*, 2001; Thom, 2001). Studies that refer to the trust in doctors as a key component while shaping patents' satisfaction with healthcare remain in their infancy in Polish health sector. Decision makers and health politicians are just beginning to comprehend the true complexity of the process of building satisfaction in a doctor-patient relationship and its meaning for quality improvements. As public understanding of this complexity and its interrelationship with trust develops, studies dedicated to the structure of trust will gain more attention. Enhancing the specificity of such research is a crucial element in translating the scientific potential of trust-related studies into real value in improving patient care in mainstream clinical practice. Therefore, the objective of the paper is to analyse the role of trust in physicians in the process of building patient satisfaction, while the trust is analysed in three dimensions: physicians' competence, honesty and kindness. Research results presented in this paper concern health care system in Poland and they are of a representative nature.

1. Literature overview

An illness and a resultant health care need usually have random and difficult to foresee character (except for deliberate exposure to risk factors and a genetic susceptibility detectable in tests). Uncertainty, apart from the health need itself, also concerns the required forms of therapy and their availability as well as – typically probabilistic – results of such therapy. Once a health need arises, the situation a patient finds himself/herself in is completely different from the ones, in which the patient assesses alternative market offerors as a customer. Considering objective diversification of medical services, one needs to conclude that the above observations chiefly refer to prevention of the second and third stage, thus to such patient's health situations that require medical intervention or rehabilitation on account of an already commenced disease process. The more complex the patient's medical problem is, the higher the probability of an informational gap existing between the parties to a service process.

The consequence of a relative patient's incompetence in matters of their own health is their need to rely an opinion of a service provider (represented by medical personnel), which significantly limits decision-making sovereignty with regard to the purchase of a given service, its type and structure. As a result of the informational asymmetry, the patient does not appear in the health care system with clearly formulated preferences regarding the technical side of a service, but cedes the decision-making as to its characteristics to a service provider. In such circumstances, the belief in physician's skills becomes patient's surrogate of direct observations, allowing them to assess service quality (Arrow, 1979). Faced with imperfect market information on health services (their parameters, efficiency), it is natural for a patient to seek its substitutes. Apart from other patients' experience, it is the reputation of a service provider that, by becoming public information, can effectively act as a safeguard against quality erosion (Hass-Wilson, 2001). What is more, the situation in which a patient is unable to assess the (technical) quality of a product of exchange before, during, or even after the act of consumption, is further compounded by the high rank of health in the hierarchy of values, and it leads to a situation in which service providers are in a way socially obliged to render the highest possible level of service quality. This social entanglement, as health sector researchers call the situation (Moore *et al.*, 2012; Kang, James, 2004), gives institutional trust crucial significance.

Therefore, both in interpersonal space (a personal patient-physician relationship) as well as in the public sphere (a patient's relation to the health system as a whole) the issue of

trust comes to the fore as the binding material of the relation. If a patient places trust in a physician, it means that the patient accepts the activities undertaken by the service provider for the client. The acceptance is based on patient's expectations regarding the physician's positive intentions and his/her expected conduct marked by kindness, honesty and professional competences (Hall, 2006).

The multitude of studies documenting the relation between the presence of trust in service relationships and client satisfaction from services is invaluable. Most of those studies focus on examining the correlation between trust and satisfaction as an element increasing the value for the client (Reinartz, Kumar, 2000; Reinartz, Kumar, 2002), trust as a foundation for building long-term relations, satisfactory to the client (Doney, Cannon, 1997; Lovelock, Wirtz, 2004), as well as the ability of a relation based on trust to lower costs and to increase service quality (Chowdhury, 2005). Similar results, documenting the relation between the level of trust and patient satisfaction (Hall *et al.*, 2001; Thom, 2001), the level of trust and communication quality in a patient-physician relationship (Boehm, 2003) and between the perceived care quality and trust (Pearson, Raeke, 2000), are further provided by the literature directly concerning relationships in the health care sector.

As demonstrated by the researchers of health care systems, founding a patient-physician relationship on trust brings many benefits. Firstly, patient's conduct becomes more predictable in such circumstances, and treatment results improve (which can be linked to patient's acceptance of treatment regime and his/her tendency to react more promptly to any morbid symptoms (Thom *et al.*, 2002). Moreover, trust helps patients to lower the level of their uncertainty and increase the sense of being in control of a situation they found themselves in. Therefore, it influences the sense of being in charge and the assessment of one's own effectiveness in a therapeutic process (Lee, Lin, 2009). Thus, if patient's auto-perception of being a patient is fortified, they are better prepared to adapt to the role, usually declaring a higher health status (Hall, 2005). A trust-based patient-physician relation also facilitates improved communication between the parties to the service process, it increases the effectiveness of the efforts made for health prophylaxis and promotion and it lowers transaction costs (Mainous *et al.*, 2004).

A literature review dedicated to the relations between categories such as trust, quality, satisfaction and a meeting of service provision in medical services enables a schematic presentation of the relationships occurring between them (*Figure 1*).

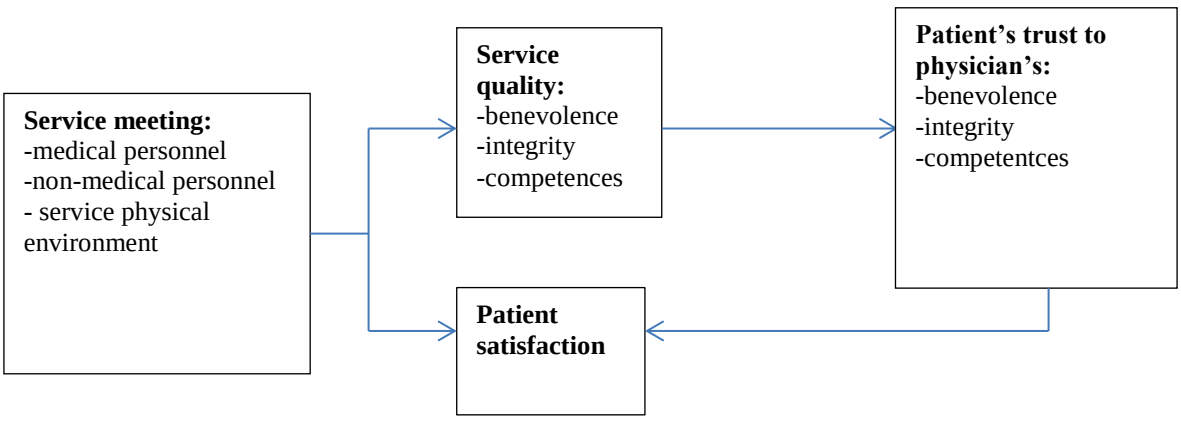

Figure 1. Conceptual model – relations among key studied categories in the patient-physician relationship

Source: own work base on the literature (Mandlik *et al.*, 2014; Lee, Lin, 2011; Chang *et al.*, 2013; Chu-Weininger, Balkrishman, 2006).

Satisfaction resulting from a patient's meeting with a physician is without a doubt a desirable status, since it generates a series of additional benefits for both parties of the relationship, and even for the entire health care system (Elleuch, 2008). As research results demonstrate, one of the factors affecting the level of satisfaction is trust in physicians (Bigne, Blesa, 2003). However, trust, including trust in physicians, is a multi-dimensional construct and it ought to be examined as such (Svensson, 2005). Yet, so far, the influence of individual aspects of trust has not been sufficiently studied and presented in literature (Leisen, Hyman, 2004).

Therefore, the objective of the paper was to define the impact of trust in the scope of competences, kindness and honesty on patients' satisfaction. On account of the fact that patient's trust and satisfaction are rather complex attitudes, depending also on socio-demographic variables of, inter alia, health condition, level of education, gender or age (Mechanic, 1998), it was decided to additionally include these variables in the research model.

2. Research methodology

The results of the study indicated, that one of the factors affecting the level of patient satisfaction is trust in doctors (Bigne, Blesa, 2003). Hence, the purpose of this paper was to determine the effect of competence, benevolence and integrity trust on the level of patient satisfaction. The patient satisfaction and trust in doctors are quite complex attitudes, additionally dependent also on the socio-demographic variables such as: health status, education level, gender or age (Mechanic, 1998). Due to this fact we decided to include these variables in the research model (*Figure 1*). Variables such as three dimensions of trust in doctors and patient's satisfaction were presented to respondents on a five-point Likert scale.

The study was carried out in 2015 with a CAWI method on an all-Poland, representative sample of 982 respondents, who declared that they had used health care within the previous six months. The characteristics of the research sample are presented in *Tables 1* and *2*.

Table 1. Research sample structure

Income			Gender		
	Number	Percentage		Number	Percentage
from 1000 PLN	84	8.6	female	572	58.2
1001 PLN to 1400 PLN	95	9.6	male	411	41.8
1401 PLN to 1800 PLN	108	11.0	Age		
1801 PLN to 2000 PLN	113	11.5	18-24	103	10.5
2001 PLN to 2500 PLN	76	7.7	25-34	182	18.5
2501 PLN to 3000 PLN	120	12.2	35-44	163	16.6
3001 PLN to 5000 PLN	139	14.1	45-59	252	25.7
over 5000 PLN	118	12.0	over 60	283	28.8
Hard to say	49	5.0			
Place of residence			Level of education		
countryside	356	36,2	primary	148	15.0
up to 100 thou.	335	34,1	vocational	213	21.7
100 – 499 thou.	164	16,7	secondary	345	35.2
500+ thou.	127	13,0	higher	276	28.1

Source: own work on the basis of research results.

Table 2. Respondents' place of residence by voivodeships

Name	Number	Percentage
the Lower Silesian voivodeship	73	7.4
the Kuyavian-Pomeranian voivodeship	47	4.8
the Lublin voivodeship	51	5.2
the Lubusz voivodeship	27	2.8
the Łódź voivodeship	68	6.9
the Lesser Poland voivodeship	76	7.8
the Mazovian voivodeship	143	14.6
the Opole voivodeship	27	2.7
the Subcarpathian voivodeship	58	5.9
the Podlaskie voivodeship	34	3.5
the Pomeranian voivodeship	61	6.2
the Silesian voivodeship	132	13.4
the Świętokrzyskie voivodeship	31	3.1
the Warmian-Masurian voivodeship	30	3.0
the Greater Poland voivodeship	80	8.2
the West Pomeranian voivodeship	43	4.4
Total	982	100.0

Source: own work on the basis of research results.

In order to analyse the empirical data, the multiple regression analysis has been applied. It is a method that is used to establish relationship between the dependent variable and two or more independent variables. This method allow to specify the extent and type of the impact of one variable on another, and the variability of one variable using a variation of other variables (Stanisz, 2007).

3. Research results

As previously mentioned, trust in physicians is a multi-dimensional construct. Therefore, three dimensions of trusts in physicians most frequently put forward by authors were presented in this paper: trust in competence, integrity and benevolence (Svensson, 2005).

The results show that respondents declare limited trust in physicians, placing the highest trust in physicians' competence (an average of 2.94), and the lowest integrity trust (an average of 2.908).

Table 3. Descriptive statistics of variables

	N valid	Average	Minimum	Maximum	Standard deviation
competence trust	987	2.94	1.00	4.00	0.72
benevolence trust	987	2.91	1.00	4.00	0.77
integrity trust	976	2.91	1.00	4.00	0.75
satisfaction	992	3.09	1.00	4.00	0.76

Source: own work on the basis of research results.

Over 80% of the subjects rather trusts or definitely trusts in physicians' competences, nearly 75% of subjects are convinced of physicians' benevolence and the same percentage believes in their integrity (*Table 4*).

Table 4. Degree of trust in physicians

	competence trust		benevolence trust		integrity trust	
	Number	Percentage	Number	Percentage	Number	Percentage
I definitely disagree	45	4.56	47	4.76	44	4.51
I rather disagree	149	15.10	200	20.26	191	19.57
I rather agree	613	62.11	532	53.90	552	56.56
I definitely agree	180	18.24	208	21.07	189	19.36

Source: own work on the basis of research results.

It occurred that the subjects also show moderate satisfaction from medical care (an average of 3.1). Nearly 30% of subjects are definitely satisfied with the care provided by physicians, 52.8% are rather satisfied and 17.4% re rather and definitely dissatisfied (*Table 5*).

Table 5. Degree of patient satisfaction

Satisfaction	Number	Percentage
I definitely disagree	37	3.7
I rather disagree	136	13.7
I rather agree	524	52.8
I definitely agree	295	29.7

Source: own work on the basis of research results.

The chief objective of the study was to determine to what degree individual dimensions of trust in physicians affect patient satisfaction. A multiple regression model was used in the study. "Satisfaction" was a dependent variable in the research model, while three dimensions of trust (competence, integrity and benevolence) were used as independent variables along with socio-demographic variables, i.e. age, gender and health condition. In the first stage it occurred that some factors are statistically insignificant (gender), on account of which an attempt was made at improving the model. Eventually, the model contains three dimensions of trust (trust in competences, integrity and benevolence), age and health conditions. The determination coefficient equals R2=0.34 and p=0.00. Detailed model parameters are presented in *Table 6*.

Table 6. Factors affecting patient satisfaction

	b*	Standard deviation - with b*	b	Standard deviation - with b	t(941)	p
constant			0.67	0.14	4.67	0.00
integrity trust	0.20	0.04	0.21	0.04	5.36	0.00
competence trust	0.25	0.03	0.26	0.03	7.31	0.00
benevolence trust	0.19	0.04	0.19	0.03	5.29	0.00
health condition	0.11	0.03	0.13	0.03	3.72	0.00
age	0.06	0.03	0.03	0.01	2.07	0.03

Source: own work on the basis of research results.

The data analysis demonstrates that all the trust dimensions are statistically valid and significant determinants of the level of satisfaction from medical care (*Figure 2*).

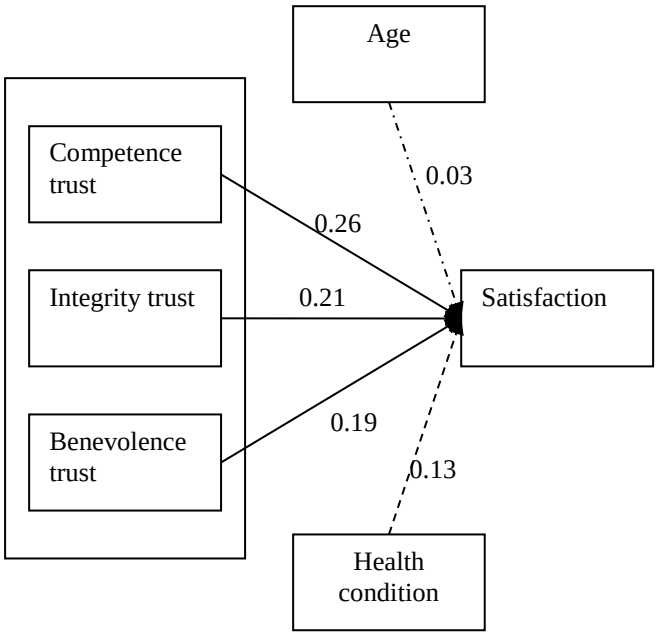

Figure 2. Empirical model of the influence of trust on patient satisfaction
Source: own work on the basis of research results.

The study shows that satisfaction is more strongly dependent on trust in physicians' competence (b=0.26; p=0.00), than on integrity trust (b=0.21; p=0.00), or benevolence (b=0.19; p=0.00). Socio-demographic variables, i.t. health condition self-assessment and age have a lower impact on the level of subjects' satisfaction. The subjects' health condition has a stronger bearing on the level of satisfaction than an age category does.

Discussion and conclusions

Previous studies on the relations between trust and satisfaction were of rather general nature, without specifying a particular sector or product category (Doney, Cannon, 1997; Reinartz, Kumar, 2000; Reinartz, Kumar, 2002). There were decidedly fewer publication concerning medical services (Pearson, Raeke, 2000; Hall *et al.*, 2001; Thom, 2001), where additionally trust was treated as a one-dimensional construct. However, studies on satisfaction

clearly demonstrate that it is a complex phenomenon that requires a deeper research approach. Hence, in this paper three dimensions of institutional trust in physicians were taken into account in the analysis: trust in competence, integrity and benevolence. Simultaneously, it was assumed that the impact of individual dimensions of trust in a physician on the level of patient satisfaction is not balanced. The study results confirmed that assumption, demonstrating that the most important dimension determining patient satisfaction is trust in physician's competences, whereas the least significant dimension determining patient satisfaction is the belief in physician's integrity and benevolence. Using medical services usually involves a high degree of uncertainty, and frequently also anxiety. Trust, especially trust in competences, can reduce such anxiety and uncertainty.

The perception and assessment of competences can be based on clinical parameters, such as: patient's health condition, treatment results or the degree of control over risk factors (Robb, Greenhalgh, 2006). However, owing to patients' low level of medical knowledge, a majority of them are unable to make a realistic and direct assessment of physicians' competences, thus using only indirect, perceivable indicators, and thereby ones that can be assessed, and not the actual indicators of physician's effectiveness. Those include: the manner of informing about the health condition, efficiency in using medical equipment, physician's reputation and status indicators as well as the rituals performed during medical consultations (Robb, Greenhalgh, 2006).

It is worth noting that the significance of individual dimensions of trust in creating satisfaction from medical services can change over time along with the development of interaction and the transformations in the entire health care system. Ganesan, Hess (1997) suggest that trust based on competences, i.e. trust relying on rational premises, is particularly important at initial stages of building a relationship with a physician (Kayaniyil *et al.*, 2009).

Therefore, the conducted study offers the advantage of empirical verification of the impact of individual components of trust on building patient satisfaction with medical services. The obtained results provide both cognitive and utilitarian value. The first one can be described as defining the significance of three dimensions of trust, and second one: as identification of sources of satisfaction pitfalls in a patient-physician relationship in the health care system in Poland.

This study has argued that better understanding of the dimensions of the trust in doctor-patient relationship offers the potential to improve the effectiveness of treatment through better doctor adherence and medical compliance. However, it is crucial to recognise that the benefits coming from such an approach will be realised if all stakeholders in the health system get engaged and adopt to the new findings.

This paper provides the meaningful explanations for the trust-related factors that shape patients' satisfaction with the medical services, but it has also limitations. It would be beneficial to monitor and measure trust levels and differences among 16 Polish regions, and look beyond classical interpersonal relationship. That calls for the study dedicated to public trust. More work could also be done to perfect existing trust measures. It refers especially to the validity of the measures and reliability assessment. More attention should be paid to the qualitative methods and pilot-testing scales.

In general, research on trust in doctors in Polish health care is still in its infancy. In this study the concept of trust was explored by linking it with the patient satisfaction. Our work provides empirical evidence that satisfaction is associated with doctor-related features. We have managed to develop a framework for understanding trust in an institutional context as a contributor to the effective health care relationship. Therefore, this paper makes a significant contribution by stressing the importance of patient trust and its multidimensional structure.

Conflict of interest and funding

The authors report no conflicts of interest.

Funding acknowledgement

The paper is financed by a research grant from the National Science Centre (grant No. DEC-2011/01/D/HS4/05664).

References

Arrow, K. J. (1979). *Eseje z teorii ryzyka*. PWN, Warszawa.

Bigne, E., Blesa, A. (2003). Market orientation, trust and satisfaction in dyadic relationships: a manufacturer-retailer analysis. *International Journal of Retail & Distribution Management*, *31*(11), 574-590.

Boehm, F. H. (2003). Building trust. *Family Practice News*, *33*, 12-18.

Chang, C-S., Chen, S-Y., Lan, Y-T. (2013). Service quality, trust, and patient satisfaction in interpersonal-based medical service encounters. *BMC Health Service Research*, *33*(22), 13-22.

Chowdhury, S. (2005). The role of affect- and cognition-based trust in complex knowledge sharing. *Journal of Managerial Issues*, *17*, 310-327.

Chu-Weininger, M. Y., Balkrishman, R. (2006). Consumer satisfaction with primary care provider choice and associated trust. *BMC Health Service Research*, *6*(139), 1-13.

Doney, P. M., Cannon, J. P. (1997). An examination of the nature of trust in buyer-seller relationships. *Journal of Marketing*, *61*, 35-51.

Elleuch, A. (2008). Patient satisfaction in Japan. *International Journal of Health Care Quality Assurance*, *21*(7), 692-705.

Ganesan, S., Hess, R. (1997). Dimensions and levels of trust: implications for commitment to a relationship. *Marketing Letters*, *8*(4), 439-448.

Hall, M. A., Dugan, E., Zheng, B. Y., Mishra, A. K. (2001). Trust in physicians and medical institutions: what is it, can it be measured, and does it matter? *Milbank Quarterly*, *79*, 613-639.

Hall, M. A. (2005). The importance of trust for ethics, law, and public policy. Cambridge quarterly of healthcare ethics: CQ. *International Journal of Healthcare Ethics Committees*, *14*, 156-67.

Hall, M. A. (2006). Researching medical trust in the United States. *Journal of Health Organization Management*, *20*, 456-461.

Hass-Wilson, D. (2001). Arrow and the information market failure in health care: the changing content and sources of health care information. *Journal of Health Politics, Policy and Law*, *26*(5), 1031-1044.

Kang, G. D., James, J. (2004). Service quality dimensions: an examination of Grönroos's service quality model. *Managing Service Quality*, *14*(4), 266-277.

Kayaniyil, S., Gravely-Witte, S., Stewart, D. E., Higginson, L., Suskin, N., Alter, D., Grace, Sh. L. (2009). Degree and correlates of patient trust in their cardiologist. *Journal of Evaluation in Clinical Practice*, *15*, 634-640.

Krot, K., Rudawska, I. (2010). Obsługa pacjenta w usługach medycznych – podejście relacyjne, In: *Marketing – ujęcie relacyjne*, M. Brzozowska-Woś (ed.), Politechnika Gdańska, 9-26.

Krot, K., Rudawska I. (2016). The role of trust in doctor-patient relationship: qualitative evaluation of online feedback from Polish patients. *Economics & Sociology*, *9*(3), 76-88.

Lee, Y. Y, Lin, J. L. (2009). The effects of trust in physician on self-efficacy, adherence and diabetes outcomes. *Social Science & Medicine, 68*, 1060-1068.

Lee, Y-Y., Lin, J. L. (2011). How much does trust really matter? A study of the longitudinal effects of trust and decision-making preferences on diabetic patient outcomes. *Patient Education and Counseling*, *85*, 406-412.

Leisen, B., Hyman, M. R. (2004). Antecedents and consequences of trust in a service provider. The case of primary care physicians. *Journal of Business Research*, *57*, 990-999.

Lovelock, C., Wirtz, J. (2004). *Services marketing: people, technology, strategy*. Prentice Hall, New Jersey.

Lovelock, C. (1984). *Services marketing.* Prentice-Hall Englewood Cliffs, New Jersey.

Mainous, III A. G., Kern, D., Hainer, B., Kneuper-Hall, R., Stephens, J., Geesey, M. E. (2004). The relationship between continuity of care and trust with stage of cancer at diagnosis. *Family Medicine*, *36*, 35-39.

Mandlik, M. A., Glynn, M., Hyde, K. (2014). Client contribution to professional service delivery: implications for relationship quality. *New Zealand Journal of Applied Business Research*, *12*(1), 19-34.

Mechanic, D. (1998). The functions and limitations of trust in the provision of medical care. *Journal of Health Politics, Policy and Law*, *23*(4), 661-686.

Moore, M. L., Ratneshwar, S., Moore, R. S. (2012). Understanding loyalty bonds and their impact on relationship strength: a service firm perspective. *Journal of Services Marketing*, *26*(4), 253-264.

Pearson, S. D., Raeke, L. H. (2000). Patients' trust in physicians: many theories, few measures, and little data. *Journal of General Internal Medicine, 15*, 509-513.

Reinartz, W. J., Kumar, V. (2000). On the profitability of long-life customers in a no contractual setting: an empirical investigation and implications for marketing. *Journal of Marketing*, *64*, 17-35.

Reinartz, W. J., Kumar, V. (2002). The mismanagement of customer loyalty. *Harvard Business Review*, *80*, 86-94.

Robb, N., Greenhalgh, T. (2006). You have to cover up the words of the doctor. The mediation of trust in interpreted consultations in primary care. *Journal of Health Organization and Management*, *20*(5), 434-455.

Sloan, F. A. (2001). Arrow's concept of the health care consumer: a forty-year retrospective. *Journal of Health Politics, Policy and Law*, *26*(5), 899-912.

Svensson, G. (2005). Mutual and interactive trust in business dyads: condition and process. *European Business Review*, *17*(5), 411-427.

Thom, D. H., Kravitz, R. L., Bell, R. A., Krupat, E., Azari, R. (2002). Patient trust in the physician: relationship to patient requests. *Family Practice*, *19*, 476-83.

Thom, D. H. (2001). Physician behaviors that predict patient trust. *The Journal of Family Practice*, *50*, 323-328.