

## Adherence and Utilisation

## Factors associated with the accuracy of physicians' predictions of patient adherence

L. Alison Phillips<sup>a,\*</sup>, Elaine A. Leventhal<sup>b</sup>, Howard Leventhal<sup>a</sup><sup>a</sup> Institute for Health, Health Care Policy, and Aging Research, Rutgers University, New Brunswick, USA<sup>b</sup> UMDNJ Robert Wood Johnson Medical School, Piscataway, USA

## ARTICLE INFO

## Article history:

Received 3 November 2010

Received in revised form 7 March 2011

Accepted 13 March 2011

## Keywords:

Patient adherence  
 Physician predictions  
 Patient beliefs  
 Perceived agreement

## ABSTRACT

**Objective:** Physicians are inaccurate in predicting non-adherence in patients, a problem that interferes with physicians': (1) appropriate prescribing decisions and (2) effective prevention/intervention of non-adherence. The purpose of the current study is to investigate potential reasons for the poor accuracy of physicians' adherence-predictions and conditions under which their predictions may be more accurate.

**Methods:** After the medical encounter, predictions of patient-adherence and other ratings from primary-care physicians ( $n = 24$ ) regarding patient-factors that may have influenced their predictions were collected. Patients ( $n = 288$ ) rated their agreement regarding the prescribed treatment after the encounter and reported adherence 1 month later.

**Results:** Several factors were related to physicians' adherence-predictions, including physicians' perceptions of patient-agreement regarding treatment. However, some factors were not related to adherence and agreement-perceptions were inaccurate overall, potentially contributing to the poor accuracy of adherence-predictions. The degree to which physicians discussed treatment-specifics with the patient moderated agreement-perception accuracy but not adherence-prediction accuracy.

**Conclusions:** Training providers to discuss certain treatment-specifics with patients may improve their ability to perceive patient-agreement regarding treatment and may directly improve patient-adherence.

**Practice implications:** Discussing treatment-specifics with patients may directly improve adherence, but providers should not rely on these discussions to give them accurate estimates of the patients' likely adherence.

© 2011 Elsevier Ireland Ltd. All rights reserved.

## 1. Introduction

It has been well documented that physicians are inaccurate estimators of adherence and are "no better than chance" at judging which patients are adherent and which are not [1,2]. When estimating the degree of adherence for any particular patient, physicians have been shown to be accurate only 10–40% of the time, for both medication and other treatments [3–5]. Improving non-adherence detection by physicians has the potential to directly increase patients' treatment adherence and improve patients' health outcomes for the reasons outlined below.

Accurate detection of patient non-adherence is important for determining which patients may require intervention—a determination that physicians are uniquely positioned to make for the following reasons: treatment adherence is initiated in the medical encounter and has been defined as "the extent to which a patient's

behavior (in terms of taking medication, following a diet, modifying habits, or attending clinics) coincides with medical or health advice" [6]. Initial patient attitudes regarding the treatment and its efficacy are formed in the medical visit, and treatment utility attitudes are key predictors of intentions to adhere [7]. If physicians were able to accurately predict that a patient would be nonadherent to a treatment, then they could address the potential issues initially, avoiding poor outcomes, repeat office visits, and patient frustration. Furthermore, targeting interventions given only to those who are "high-risk" is the most efficient, effective, and economical method of ameliorating a problem [8].

Accurate detection of patient non-adherence is also important for making appropriate prescription decisions. Physicians may withhold a treatment if they think a patient is or is likely to be non-adherent for illnesses that may become drug-resistant in the general population if patients are non-adherent (e.g., antiretroviral medications, hemophilia medications, an antibiotics) [9–11].

Physicians have reported using biological markers, such as blood-levels of a medication to predict patients' adherence to the medication [12–15]. However, these biological markers may be unreliable estimates of adherence [16]. For example, some

\* Corresponding author at: 112 Paterson Street, New Brunswick, NJ 08901, USA.  
 Tel.: +1 848 932 5229; fax: +1 732 932 1945.

E-mail address: [lphillips@ifh.rutgers.edu](mailto:lphillips@ifh.rutgers.edu) (L.A. Phillips).

biological indicators are affected by individualized metabolic pathways or by patients' anxiety ("white coat syndrome"; [17]) and require ambulatory monitoring that is expensive in order to demonstrate and use as adherence-estimators.

Whether physicians use characteristics of the individual patient, such as directly observable information or information from medical records such as gender, race/ethnicity, age, and chronic illness diagnoses, has not been widely assessed with research, although one scenario-based experiment found that physicians were more likely to judge African-American men as less adherent to their antiretroviral medications [14]. Patient gender and race have been studied as influences on providers' prescribing behaviors [18,19]. After controlling for medically relevant information regarding cardiovascular catheterization, researchers have found that physicians were less likely to prescribe treatment to women and to African-Americans, compared to men and Caucasian-Americans, respectively [18] and that physicians rated men as more likely to benefit from cardiac catheterization than women [19]. Since factors such as race and gender influence prescribing behaviors in some medical situations, it is plausible that they would also affect providers' predictions for patient adherence to the prescribed treatment. Demographics such as race or socioeconomic status have not been found to predict adherence [2,14]. If physicians' predictions are associated with the above characteristics, then this might be one reason why their adherence predictions have poor accuracy.

Physicians may also estimate characteristics of the patient that are not directly observable or available in medical charts to assess whether the patient will adhere to their prescribed treatment. One such characteristic, the focus of the current investigation, is the degree to which the patient agrees with the physician regarding the illness and treatment specifics (e.g., what the cause of the illness/problem is, how the treatment will address the illness, how long it will take for the treatment to work, how the patient will know if the treatment is working). This characteristic is the focus of our investigation, because patients' beliefs regarding the illness and treatment, including treatment efficacy beliefs [7] and their illness representations (the causes, control/treatment, duration/timeline, consequences, and symptom-recognition of an illness; [8,20]), have been shown to be highly predictive of patient adherence (e.g., [21,22]). Therefore, theoretically, if physicians can accurately perceive the patients' agreement on the treatment and illness, they should have more accurate predictions of adherence. Poor adherence prediction may potentially be due to one of two possible cases regarding this issue: (1) physicians' adherence-predictions are not associated with their perceptions of agreement with the patient or (2) physicians' adherence-predictions are associated with their perceptions of agreement with the patient but their perceptions of agreement are inaccurate. This distinction would inform interventions to improve physicians' accuracy in predicting patient-adherence.

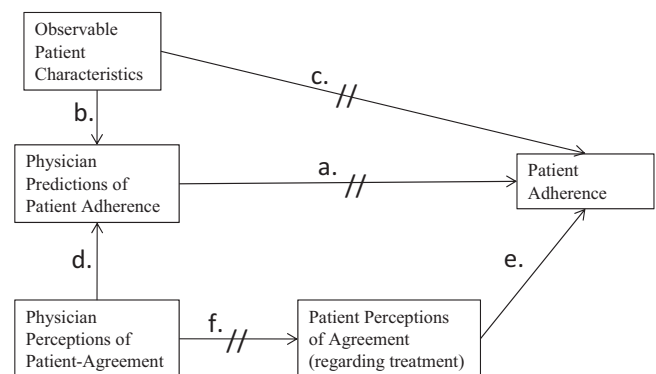
The purpose of the current study is to investigate possible sources of information that physicians use to predict adherence and to investigate potential reasons for physicians' poor prediction-accuracy, including the observable patient characteristics and patient-agreement regarding the illness- and treatment-specifics introduced above. Lastly, the current investigation tests a potential moderator of the accuracy of physicians' perceptions of agreement with the patient (i.e., a moderator of the association between physicians' perceptions of agreement and patients' perceptions of agreement) and the accuracy of their predictions of patient-adherence (i.e., a moderator of the association between physicians' predictions of patient adherence and patients' actual adherence) that may also inform future interventions to improve physicians' predictions of adherence. We propose that if the physician discusses the treatment and illness specifics with the patient,

then their perceptions of agreement and also their predictions of adherence will be more accurate. Holding discussions means more information is shared and physicians should have a better sense of patient agreement regarding the illness and treatment specifics (the patients' illness representations). Other researchers have proposed that discussions between physicians and patients regarding patient preferences and lifestyle may improve physicians' ability to predict non-adherence [10], but no one has assessed whether discussions regarding the patients' illness- and treatment-specific beliefs can improve this ability.

The specific hypotheses of the current investigation are illustrated in Fig. 1 and are the following: (1) physicians' predictions of patient adherence will have poor accuracy, defined for the current study as any correlation less than .30 (a small/weak correlation on Cohen's scale, which is equivalent to approximately 10% of the variance in actual adherence being explained by physicians' predictions of adherence—an estimate reported in a review of relevant studies [10]; relationship a in Fig. 1); (2a) physicians' predictions of patient adherence will be associated with information about the patient that is directly observable and/or evident from medical records (relationship b); (2b) these observable/medical-record characteristics will not be related to actual patient adherence (relationship c); (3a) physicians' predictions of patient adherence will be associated with physicians' perceptions of patient-agreement regarding the illness and prescribed treatment (relationship d); (3b) patients' perceptions of agreement with the physician regarding the illness and prescribed treatment will predict their adherence (relationship e); (3c) physicians' perceptions of agreement will have poor accuracy (i.e., physicians' perceptions will not match patients' perceptions of agreement; relationship f); (4) the accuracy of physicians' perceptions of agreement will depend on (be moderated by) the degree to which they discuss treatment specifics with the patient during the medical encounter (discussions will moderate relationship f); (5) the accuracy of physicians' predictions of patient adherence will depend on (be moderated by) the degree to which they discuss treatment specifics with the patient during the encounter (discussions will moderate relationship a).

## 2. Methods

The data analyzed for this study are from a larger dataset, which was collected in order to study the overall processes of patients' illness-representation formation and change, as well as patient



**Fig. 1.** The study hypotheses are illustrated in this figure. Double line markings through a path indicate that the relationship between the two variables connected by the path is hypothesized to be non-significant. References to "agreement" are agreement regarding the illness- and treatment-specifics, such as likely illness and treatment duration, time until treatment works, and likely efficacy of treatment. Note that the paths in the figure are hypothesized relationships and are not meant to depict strict causal relationships or imply that the current data are more than correlational.

Download English Version:

<https://daneshyari.com/en/article/6153856>

Download Persian Version:

<https://daneshyari.com/article/6153856>

[Daneshyari.com](https://daneshyari.com)