Physician Perceptions of Step Therapy Prescribing Requirements

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ABSTRACT

BACKGROUND: Step therapy policies that require prescribers to follow an ordered protocol for drug choices are widely used by public and private insurers to manage medication costs; however, the perceptions of prescribing physicians regarding these policies have not been studied.

OBJECTIVE: To determine physician attitudes toward step therapy policies and the correlation of these beliefs with physician characteristics.

METHODS: A sample of clinically active physicians specializing in internal medicine, cardiology, or endocrinology received a survey administered online or via mail. Five-point Likert scale questions assessed physicians' opinions of clinical, economic, and implementation elements of prior authorization policies; physician demographic characteristics; and the extent of their interactions with the pharmaceutical industry.

RESULTS: 686 physicians (48%) responded to the survey, which was evenly divided among primary care physicians, endocrinologists, and cardiologists. Many respondents (70%) had interactions with industry, including receipt of meals or gifts and use of medication samples. Physicians reported that step therapy policies could improve the affordability of medication use (55% agree vs. 26% disagree) and its clinical appropriateness (59% agree vs. 19% disagree). By similar margins, however, physicians stated that step therapy policies were implemented inefficiently and inflexibly and often did not incorporate relevant patient-specific information. Physicians in subspecialties, especially endocrinology, and those who had interactions with the pharmaceutical industry were more likely to hold negative views of step therapy policies.

CONCLUSIONS: Most physicians recognize the potential of step therapy to improve the quality and cost-effectiveness of prescribing, although interactions with industry may affect these opinions. Physician perception of ineffective implementation of these policies, however, undermines their acceptability.

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What is already known about this subject

- Step therapy policies are commonly used by public and private insurers to control medication use and cost.
- The effectiveness of step therapy policies depends on prescriber willingness to provide information to payers.

What this study adds

- Most physicians agree that step therapy can help improve medication use and cost.
- Physicians identify significant problems with the implementation of step therapy policies that are associated with much less favorable opinions of these policies.
- Specialist physicians and those with industry contacts have less favorable views of step therapy policies.

I ncreasing prescription drug costs impose economic burdens on patients and payers and contribute to substantial increases in insurance premiums for individuals and employers, as well as budget stresses for public programs.^{1,2} One widely used approach to control prescription costs is “step therapy,” which requires patients to try a less expensive—but clinically equivalent—drug for a given condition before a more expensive option can be approved.³ Authorization of the second-line agent may require attestation, often in the form of documentation in the medical chart or paperwork signed by the physician, that the patient took the initial medication and had adverse effects or inadequate clinical benefit.

Although studies have shown that step therapy can help reduce unnecessary use of expensive drugs, as well as patients' out-of-pocket costs and overall health care spending,⁴⁻⁸ step therapy requirements have been criticized by some patient advocacy groups, citing the experiences of individual patients whose prescriptions were not covered due to these policies.⁹ Lobbying by patient and pharmaceutical industry groups has led several state legislatures to pass laws limiting the ability of health insurers to require step therapy.

In recent years, the U.S. Food and Drug Administration has approved growing numbers of medications, nearly all of which are sold at high prices whether or not they are better than currently available options.¹ Step therapy may therefore grow in prominence among insurers seeking to rein in pharmaceutical spending.¹⁰ Since implementation of step therapy requires action by prescribing physicians, how physicians view step therapy policies, and whether such opinions differ across physician characteristics, will affect the eventual effect of step therapy and will indirectly affect the way that patients perceive these measures. We conducted a survey of a national sample of practicing physicians to explore these opinions.

Methods

Survey Administration

The American Board of Internal Medicine (ABIM) maintains a list of diplomates with active certification and maintenance of certification.¹¹ The dataset includes physician demographics, medical training, and responses to the ABIM's Practice Characteristics Survey, which we used to compare respondents and nonrespondents. The project was part of a larger survey on physician prescribing practices and was focused primarily on a new medication used to treat elevated lipid levels. In keeping with this clinical focus, the study sample included

500 internists and 1,000 specialists (500 endocrinologists and 500 cardiologists) randomly selected by the ABIM. To qualify for randomization, physicians must have previously reported being clinically active (i.e., $\geq 40\%$ of their time and ≥ 21 hours per month in patient care activities) in nonacute settings (i.e., $\leq 50\%$ of their time in the intensive care unit, emergency department, or cardiac catheterization lab). The project was approved by the Committee for the Protection of Human Subjects at Dartmouth College.^{12,13}

The survey was conducted from May to December 2017. Contact was made via 2 postcards and 4 emails originating from ABIM, indicating that they had been randomly selected for a study to investigate how physicians make prescribing decisions. Questions regarding step therapy accounted for a subsection of the survey. These communications included the sponsoring institutions and lead investigators, a link to the online survey, an opportunity to opt out, and an offer of \$50 upon completion. Nonresponders received a mailed version along with a \$5 bill and an offer of \$45 upon completion. Through this process, we learned that 84 of the 1,500 physicians in our cohort did not have current contact information.

Survey Development

Ten novel questions were developed by 3 of the study authors (MAF, ASK, and JA) to assess physician opinions of step therapy, all implemented as 5-point Likert scales ranging from either “strongly agree” to “strongly disagree” or “always” to “never,” depending on the question. The first question asked whether step therapy requirements could help keep medications affordable for patients and was followed by items asking whether the requirements were typically based on reasonable clinical evidence and implemented appropriately and efficiently. The next question asked physicians whether, setting cost aside, step therapy guidelines are useful in improving the clinical appropriateness of medication use. Five questions assessed elements of step therapy operation in practice settings, including whether the information system accounts for patients’ previous medication use, history of drug intolerance, adverse effects, or previous lack of clinical benefit with a given medication; whether the apparent clinical logic of the step therapy requirement was poor; and whether inflexibility and long delay times were commonly experienced. The final question asked whether physicians supported the enactment of laws to prohibit the use of step therapy. The full text of all 10 questions can be found in the Appendix (available in online article).

We asked physicians for demographic information, years in practice, and specialty. Several survey items asked physicians to describe their interactions with the pharmaceutical industry, including receipt of gifts such as pens or free meals, use of drug samples, participation in programs such as consulting or advisory boards, and receipt of payment for travel costs or meetings.¹²

TABLE 1 Survey Respondent Characteristics (N = 686)

Characteristics	Responses, n (%)
Gender	
Male	385 (56)
Female	273 (40)
Missing	28 (4)
Race	
Black	18 (3)
Hispanic	28 (4)
Asian	223 (32)
White	368 (54)
Other	24 (3)
Missing	25 (4)
Age, years	
< 40	215 (31)
40-54	341 (50)
55+	94 (14)
Missing	36 (5)
Years since residency	
< 10	244 (36)
10-20	266 (39)
> 20	139 (20)
Missing	37 (5)
Practice area	
Primary care	195 (28)
Cardiology	182 (27)
Endocrinology	233 (34)
Other	76 (11)
Items received from industry	
No to all	184 (27)
Yes to any of items below	484 (70)
Missing	18 (3)
Yes to any of	
Food or beverage in workplace	393 (57)
Meal outside of campus/hospital	
Pens, notepads	
Tickets	
Yes to free drug samples	365 (53)
Yes to any of	
Honoraria	66 (10)
Consulting	
Advisory board	
Yes to any of	
Travel costs	102 (15)
Meetings	

Statistical Analysis

For clarity of presentation we collapsed the survey response outcomes to 3 categories, combining somewhat/strongly agree and somewhat/strongly disagree, as well as often/always and rarely/never (5 category responses were retained for presentation in the Appendix). We assessed the rates at which physicians had favorable or unfavorable opinions of step therapy policy in relation to their demographic characteristics and

TABLE 2 Overall Survey Responses to Questions About Step Therapy

	Strongly/Somewhat Disagree (%)	Neither Agree nor Disagree (%)	Somewhat/Strongly Agree (%)
Step therapy requirements can help keep medications affordable for patients.	26	19	55
Step therapy requirements are generally based on reasonable clinical evidence.	39	17	44
Step therapy requirements are usually implemented appropriately and efficiently by payers.	59	18	23
Cost aside, step therapy guidelines are useful in improving the clinical appropriateness of medication use.	19	22	59
	Never/Rarely (%)	Sometimes (%)	Often/Always (%)
The information system does not take into account a patient's prior medication use history.	18	39	43
The information system does not take into account a history of drug intolerance, adverse effects, or lack of clinical benefit.	18	35	46
There is poor underlying clinical logic for the recommended choice.	22	41	37
There is inflexibility in the administration of step therapy rules and exceptions.	8	31	60
There are long delay times in processing decisions or exemptions.	9	32	59
	Strongly/Somewhat Disagree (%)	Neither Agree nor Disagree (%)	Somewhat/Strongly Agree (%)
My state should pass a law that would prohibit the implementation of step therapy requirements.	12	23	65

Note: Row percentages may not add to 100% due to rounding.

extent of interaction with industry. We used chi-square tests to assess the statistical significance of observed associations. For the first 4 questions that focused on overall perceptions of step therapy, we developed ordinal logistic regression models to identify which physician characteristics were most strongly associated with favorable opinions of step therapy.

Results

Of the 1,416 physicians in the sample, 686 responded (101 hard copy and 585 online) for a response rate of 48%. Table 1 shows the characteristics of the 686 physicians responding to the survey. There were 385 male respondents (56%), and self-reported race/ethnicity indicated that 54% were white, 32% Asian, 3% African American, 4% Hispanic, and 3% other. Among respondents, 195 (28%) practiced primary care internal medicine, 233 (34%) endocrinology, 182 (27%) cardiology, and 76 (11%) other specialties (reflecting survey responses about current practice areas, which may differ from ABIM records). Physicians were aged, on average, 44 years (standard deviation [SD] ±8), 18 years (SD ±8) after medical school graduation, and 13 years (SD ±8) after completion of their residency. Interactions with industry were reported by 70% of respondents, including 57% who had received food or other gifts; 53% who used medication samples; 10% with consulting, advisory, or other paid roles; and 15% who had been reimbursed for travel or meeting costs. Among the non-respondents, 28% were internists, 39% cardiologists, and 33% endocrinologists; 60% were male.

Table 2 summarizes the responses to the 10 questions about step therapy (responses with the full 5-item scales are presented in the Appendix). For the initial questions about

step therapy requirements, a majority of respondents viewed them as helping to keep medications affordable for patients (55% somewhat/strongly agree vs. 26% somewhat/strongly disagree, 19% neither agree/disagree); based on reasonable evidence (44% somewhat/strongly agree vs. 39% somewhat/strongly disagree, 17% neither agree/disagree); and improving medication appropriateness (59% somewhat/strongly agree vs. 19% somewhat/strongly disagree, 22% neither agree/disagree). Most respondents, however, had negative views of whether implementation of step therapy by payers was appropriate and efficient (59% somewhat/strongly disagree vs. 23% somewhat/strongly agree; 18% neither agree/disagree).

The next 5 questions about the practical elements of using step therapy showed consistently negative opinions of the practice among physicians, including belief that information systems fail to consider previous medication use (43% often/always vs. 18% never/rarely) and fail to account for intolerance, adverse effects, or lack of benefit (46% often/always vs. 18% never/rarely). Most physicians also responded that the recommended choices had poor underlying logic (37% often/always vs. 22% never/rarely); that the programs' administration was inflexible (60% often/always vs. 8% never/rarely); and that processing times were long (59% often/always vs. 9% never/rarely).

A majority of the physicians responding to the survey agreed with the concept of state legislation to prohibit step therapy (65% somewhat/strongly agree vs. 12% somewhat/strongly disagree).

Table 3 presents the variability in responses to the 4 initial questions about step therapy across different physician characteristics (cross-tabulations for all 10 questions about step therapy are provided in the Appendix). Specialist

TABLE 3 Survey Responses by Physician Characteristics

Independent Variable ^a	Step therapy requirements can help keep medications affordable for patients (%)				Step therapy requirements are generally based on reasonable clinical evidence (%)				Step therapy requirements are usually implemented appropriately and efficiently by payers (%)				Cost aside, step therapy guidelines are useful in improving the clinical appropriateness of medication use (%)			
	Disagree	Neither	Agree	P Value	Disagree	Neither	Agree	P Value	Disagree	Neither	Agree	P Value	Disagree	Neither	Agree	P Value
Specialist																
Internists	19	19	62	<0.01	26	17	57	<0.001	53	21	26	<0.01	11	20	69	<0.001
Cardiologist	21	20	59		34	18	48		53	19	28		17	18	65	
Endocrinologist	38	16	46		55	14	31		69	13	18		29	29	41	
Other specialist	23	26	52		31	24	45		52	27	21		12	16	72	
Age, years																
<40	29	20	52	0.34	39	17	43	0.94	57	22	21	0.18	16	25	59	0.07
40-54	23	19	57		38	16	46		57	17	25		18	22	60	
≥55	32	15	53		39	19	42		66	12	22		30	17	53	
From resident years																
<10	27	19	54	0.36	38	19	44	0.84	55	23	23	0.09	14	24	62	0.20
10-20	24	21	55		40	15	45		58	16	26		20	22	58	
>20	29	13	58		38	17	45		66	15	19		25	22	53	
Any benefit (gift, payment, reimburse)																
Yes	31	17	52	<0.01	43	16	42	<0.01	62	16	21	0.01	23	23	54	<0.01
No	15	24	61		29	20	52		49	23	28		8	20	72	

Note: Row percentages may not add to 100% due to rounding.

^aCategories of outcome variables: disagree (strongly/somewhat disagree), neither (neither agree nor disagree), agree (somewhat/strongly agree).

physicians and physicians who had interactions with industry were statistically significantly more likely to hold negative views about whether step therapy could help patients afford their medications and whether step therapy policies could improve the appropriateness of medication use. All physician groups held negative views of the efficiency with which step therapy was implemented, with negative views slightly more common among specialists and those who had interactions with industry. Physician age, race, sex, and years since completing residency were not associated with their opinions of step therapy.

Table 4 summarizes the results of the ordinal regression models that showed that endocrinologists were less likely to have positive opinions of step therapy compared with general internists, and physicians with interactions with industry were less likely to have positive opinions of step therapy compared with those without interactions.

Discussion

In a national survey of primary care and physicians from 2 specialties, we found that, while a majority agreed with the principles underlying step therapy as an approach to formulary management, most responding physicians had negative opinions about how the policies are implemented, and most respondents favored legislation banning the approach.

Physicians in medical subspecialties, especially endocrinology, and those with ties to the pharmaceutical industry were more likely to hold negative views of step therapy, compared with general internists and physicians without industry relationships. Our results have important implications for the design of policy interventions to improve the quality and cost-effectiveness of physician prescribing.

Physicians navigating the step therapy process require information about the formulary assignments for multiple medications across multiple insurers. Ideally, these elements will be provided by electronic health records (EHR) during the process of writing prescriptions,¹⁴ but many EHRs do not have such capabilities.¹⁵ These limitations mean that obtaining approval for medications with a step therapy requirement creates additional work for physicians. Front-line clinicians already struggle with a range of burdensome administrative requirements, and many EHRs add complexity to physicians' work processes.¹⁶ In this situation, it is not surprising that many physicians have negative opinions about the fairness, efficiency, and timeliness of step therapy processes.

More encouraging is the finding that most physicians continue to agree that step therapy has the potential to improve the quality of medication use and to make medications more affordable for patients. This suggests that there may yet be an opportunity for physicians to develop more generally

TABLE 4 Predictors of Responses to Questions About Step Therapy

Independent Variable	Step therapy requirements can help keep medications affordable for patients ^a				Step therapy requirements are generally based on reasonable clinical evidence ^a				Step therapy requirements are usually implemented appropriately and efficiently by payers ^a				Cost aside, step therapy guidelines are useful in improving the clinical appropriateness of medication use ^a			
	OR ^b	95% CI	P Value		OR ^b	95% CI	P Value		OR ^b	95% CI	P Value		OR ^b	95% CI	P Value	
Specialist																
Internists	ref															
Cardiologist	0.97	0.64	1.49	0.1	0.73	0.49	1.10	0.5	1.18	0.78	1.77	0.1	0.92	0.58	1.47	0.5
Endocrinologist	0.53	0.35	0.78	0.002	0.34	0.23	0.51	<0.0001	0.62	0.42	0.94	0.003	0.37	0.24	0.57	<0.0001
Other specialist	0.75	0.40	1.38	0.8	0.78	0.42	1.42	0.5	1.07	0.58	1.97	0.6	1.39	0.66	2.94	0.053
Age, years																
<40	ref															
40-54	1.25	0.72	2.18	0.1	1.00	0.58	1.73	0.7	1.48	0.85	2.58	0.4	1.46	0.76	2.78	0.09
≥55	0.77	0.33	1.78	0.3	0.83	0.37	1.89	0.6	1.54	0.66	3.62	0.5	0.95	0.38	2.35	0.5
From resident years																
<10	ref															
10-20	0.98	0.57	1.70	0.5	1.10	0.64	1.87	1.0	0.77	0.45	1.33	0.6	0.69	0.36	1.31	0.5
>20	1.26	0.60	2.66	0.4	1.18	0.58	2.41	0.7	0.48	0.23	1.01	0.054	0.63	0.28	1.42	0.4
Any benefit (gift, payment, reimburse)																
No	ref															
Yes	0.66	0.46	0.95	0.02	0.73	0.51	1.03	0.07	0.71	0.50	1.02	0.06	0.55	0.36	0.84	0.006

^aCategories of outcome variables: 1. somewhat/strongly agree, 2. neither agree/nor disagree, 3. strongly/somewhat disagree.

^bThe OR is based on the likelihood of "somewhat/strongly agree."

CI=confidence interval; OR=odds ratio; ref=reference.

favorable views of step therapy if the approach can be implemented more effectively. Increased transparency of formulary policies for public and private insurers may prevent some of the confusion faced by prescribers when trying to identify which medications require step therapy before approval. Integration of this formulary information into EHRs in a manner that fits into clinical workflows would allow prescribers to address step therapy requirements at the moment of medication selection and to discuss them with patients. Implementation of these and other changes, coupled with rigorous evaluation of their effects, could not only increase the efficiency of prescribing but could change the negative opinions that many physicians hold about step therapy.

Physician opinions of step therapy differed across a subset of characteristics. In particular, primary care physicians were more likely to view step therapy favorably than subspecialists in endocrinology. One possible explanation for this difference is that endocrinologists may see more patients with complex presentations of a given condition, for whom first-line medications were not successful and who may more often require prescriptions restricted by step therapy policies; the persistent high costs of insulin and other diabetes medications may contribute to their experiences.^{17,18} It is also possible that primary care physicians, responsible for the entire range of a patient's care, are more attuned to the cost barriers created by multiple expensive prescriptions and thus more sympathetic to the need

for policies to manage medication costs. Primary care practices may have more support staff or office processes to help with any paperwork related to step therapy. In either event, increasing the transparency and efficiency of the step therapy process would likely improve perceptions for all groups of physicians.

Physicians interacting with industry were more likely to hold negative views of step therapy. Earlier work has raised a range of concerns about the effect of gifts to physicians on prescribing and other clinical decisions.¹⁹⁻²¹ Step therapy policies are largely reactions to the high prices charged for many medications in the United States. If physicians with more industry connections hold negative opinions of step therapy policies and resist using the less expensive medications recommended, this may represent a successful outcome of marketing expenditures by industry. Recognizing this additional effect of physician interactions with manufacturers may inform current debates about how to manage such relationships and conflict of interest policies more generally.

Limitations

Limitations of the data collected in the survey may affect the interpretation of this study's results. A prespecified subset of specialties was included in the survey, so the findings do not necessarily reflect the views of all physicians, although the specialties sampled write large volumes of outpatient prescriptions. We could not be certain whether nonresponding

physicians had different frequencies of industry interactions or certain views on step therapy. Several varieties of step therapy policies exist, differing in complexity, ease of approval, and other elements.³⁻⁸ Physicians' responses may have been shaped by whichever type of policy they had encountered most recently before completing the survey, by the predominant insurance providers in their region, or by the policies encountered most often, but space constraints of the survey did not allow for the inclusion of these questions.

The step therapy questions were embedded in a larger survey about prescribing decisions and responding to these other questions may have influenced responses to the step therapy questions. The questions on step therapy had not been previously validated, which may have limited their generalizability. While we identified associations between survey responses, we cannot draw firm conclusions about causality. For example, our finding that physicians with industry interactions held more negative views of step therapy may reflect underlying attitudes in those physicians that drive their decisions to accept industry gifts and also their opinions of step therapy.

Conclusions

A majority of physicians recognize the potential of step therapy to address problems with the quality and costliness of prescription drug therapy, but many hold negative views of how these policies are implemented. Insurers, EHR vendors, and others working to improve medication use must improve the transparency and efficiency with which step therapy is implemented to ensure the acceptability of this important cost containment approach.

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APPENDIX Full Cross-Tabs of Step Therapy Questions^a

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree	P Value
Step therapy requirements can help keep medications affordable for patients.						
Specialist						
Internists	8 (4)	28 (15)	37 (19)	85 (44)	34 (18)	<0.0001
Cardiologist	17 (10)	20 (11)	35 (20)	86 (48)	20 (11)	
Endocrinologist	35 (15)	53 (23)	37 (16)	84 (36)	22 (10)	
Other specialist	9 (15)	5 (8)	16 (26)	21 (34)	11 (18)	
Age, years						
<40	21 (10)	40 (19)	42 (20)	85 (40)	25 (12)	0.6
40-54	31 (9)	47 (14)	65 (19)	146 (44)	46 (14)	
≥55	14 (15)	16 (17)	14 (15)	35 (38)	14 (15)	
From resident years						
<10	23 (10)	43 (18)	45 (19)	100 (41)	31 (13)	0.6
10-20	23 (9)	40 (15)	56 (21)	109 (41)	35 (13)	
>20	19 (14)	20 (15)	18 (13)	60 (44)	19 (14)	
Any benefit (gift, payment, reimburse)						
Yes	56 (12)	91 (19)	82 (17)	200 (42)	51 (11)	0.0001
No	13 (7)	15 (8)	43 (24)	75 (41)	36 (20)	
Step therapy requirements are generally based on reasonable clinical evidence.						
Specialist						
Internists	19 (10)	31 (16)	32 (17)	82 (43)	27 (14)	<0.0001
Cardiologist	22 (12)	39 (22)	32 (18)	67 (37)	19 (11)	
Endocrinologist	54 (23)	74 (32)	33 (14)	53 (23)	18 (8)	
Other Specialist	5 (8)	14 (23)	15 (24)	22 (35)	6 (10)	
Age, year						
<40	26 (12)	58 (27)	37 (17)	71 (33)	21 (10)	0.6
40-55	52 (15)	77 (23)	53 (16)	118 (35)	37 (11)	
≥56	19 (21)	17 (18)	17 (18)	28 (30)	11 (12)	
From resident years						
<10	25 (10)	66 (27)	45 (19)	82 (34)	24 (10)	0.2
11-20	45 (17)	61 (23)	39 (15)	92 (35)	28 (11)	
>20	26 (19)	25 (19)	23 (17)	44 (33)	17 (13)	
Any benefit (gift, payment, reimburse)						
Yes	82 (17)	123 (26)	76 (16)	155 (32)	45 (9)	0.02
No	18 (10)	34 (19)	36 (20)	69 (38)	25 (14)	
Step therapy requirements are usually implemented appropriately and efficiently by payers.						
Specialist						
Internists	31 (16)	70 (37)	40 (21)	43 (23)	7 (4)	0.001
Cardiologist	44 (25)	51 (29)	33 (19)	44 (25)	6 (3)	
Endocrinologist	79 (34)	80 (35)	31 (13)	34 (15)	7 (3)	
Other specialist	9 (15)	23 (37)	17 (27)	10 (16)	3 (5)	
Age, years						
<40	44 (21)	78 (37)	47 (22)	35 (16)	9 (4)	0.1
40-56	83 (25)	109 (33)	58 (17)	75 (22)	10 (3)	
≥57	32 (35)	29 (32)	11 (12)	17 (18)	3 (3)	
From resident years						
<10	43 (18)	89 (37)	55 (23)	43 (18)	12 (5)	0.01
12-20	70 (27)	83 (32)	42 (16)	62 (24)	6 (2)	
>20	44 (33)	45 (33)	20 (15)	22 (16)	4 (3)	
Any benefit (gift, payment, reimburse)						
Yes	134 (28)	164 (34)	79 (16)	90 (19)	13 (3)	0.006
No	29 (16)	60 (33)	41 (23)	41 (23)	10 (6)	

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Physician Perceptions of Step Therapy Prescribing Requirements

APPENDIX Full Cross-Tabs of Step Therapy Questions^a (continued)

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree	P Value
Cost aside, step therapy guidelines are useful in improving the clinical appropriateness of medication use.						
Specialist						
Internists	15 (9)	4 (2)	34 (20)	36 (21)	84 (49)	<0.0001
Cardiologist	22 (14)	5 (3)	29 (18)	42 (26)	64 (40)	
Endocrinologist	52 (24)	12 (6)	64 (29)	32 (15)	57 (26)	
Other specialist	5 (9)	2 (3)	9 (16)	23 (40)	19 (33)	
Age, years						
<40	27 (14)	5 (3)	50 (25)	45 (23)	72 (36)	0.3
40-57	44 (14)	12 (4)	66 (22)	67 (22)	115 (38)	
≥58	22 (25)	4 (5)	15 (17)	14 (16)	32 (37)	
From resident years						
<10	27 (12)	5 (2)	53 (24)	53 (24)	84 (38)	0.5
13-20	39 (16)	10 (4)	52 (22)	50 (21)	90 (37)	
>20	26 (21)	5 (4)	28 (22)	23 (18)	44 (35)	
Any benefit (gift, payment, reimburse)						
Yes	84 (19)	20 (4)	104 (23)	89 (20)	154 (34)	0.0003
No	10 (6)	3 (2)	31 (20)	44 (28)	70 (44)	
My state should pass a law that would prohibit the implementation of step therapy requirements.						
Specialist						
Internists	25 (14)	3 (2)	53 (30)	54 (30)	44 (25)	<0.0001
Cardiologist	17 (10)	5 (3)	35 (22)	60 (37)	45 (28)	
Endocrinologist	8 (4)	4 (2)	36 (19)	69 (37)	68 (37)	
Other specialist	2 (4)	5 (9)	8 (14)	31 (55)	10 (18)	
Age, years						
<40	8 (4)	8 (4)	31 (16)	80 (42)	64 (34)	0.001
40-58	33 (11)	5 (2)	69 (23)	111 (38)	76 (26)	
≥59	10 (13)	3 (4)	25 (33)	17 (22)	21 (28)	
From resident years						
<10	9 (4)	7 (3)	41 (19)	91 (41)	73 (33)	0.0003
14-20	25 (11)	7 (3)	47 (21)	88 (39)	57 (25)	
>20	17 (15)	3 (3)	39 (34)	27 (23)	30 (26)	
Any benefit (gift, payment, reimburse)						
Yes	30 (7)	10 (2)	87 (21)	144 (35)	141 (34)	0.0001
No	22 (13)	7 (4)	44 (26)	70 (41)	26 (15)	
	Never	Rarely	Sometimes	Often	Always	P Value
The information system does not take into account a patient's prior medication use history.						
Specialist						
Internists	11 (6)	30 (16)	71 (37)	65 (34)	15 (8)	0.7
Cardiologist	7 (4)	23 (13)	76 (42)	65 (36)	8 (4)	
Endocrinologist	10 (4)	34 (15)	83 (36)	90 (39)	16 (7)	
Other specialist	3 (5)	4 (6)	29 (47)	22 (35)	4 (6)	
Age, years						
<40	8 (4)	27 (13)	95 (44)	78 (36)	6 (3)	0.09
40-59	17 (5)	49 (15)	125 (37)	116 (34)	30 (9)	
≥60	4 (4)	12 (13)	29 (31)	41 (44)	7 (8)	
From resident years						
<10	10 (4)	30 (12)	109 (45)	82 (34)	11 (5)	0.2
15-20	12 (5)	42 (16)	98 (37)	96 (36)	17 (6)	
>20	7 (5)	18 (13)	42 (31)	55 (40)	14 (10)	
Any benefit (gift, payment, reimburse)						
Yes	21 (4)	70 (14)	178 (37)	178 (37)	36 (7)	0.2
No	10 (5)	21 (12)	80 (44)	64 (35)	7 (4)	

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Physician Perceptions of Step Therapy Prescribing Requirements

APPENDIX Full Cross-Tabs of Step Therapy Questions^a (continued)

	Never	Rarely	Sometimes	Often	Always	P Value
The information system does not take into account a history of drug intolerance, adverse effects, or lack of clinical benefit.						
Specialist						
Internists	11 (6)	26 (14)	60 (31)	84 (44)	10 (5)	0.9
Cardiologist	7 (4)	26 (15)	68 (38)	70 (39)	8 (4)	
Endocrinologist	11 (5)	30 (13)	84 (36)	90 (39)	18 (8)	
Other specialist	3 (5)	7 (11)	23 (37)	25 (40)	4 (6)	
Age, years						
< 40	6 (3)	30 (14)	87 (41)	80 (37)	11 (5)	0.1
40-60	19 (6)	51 (15)	105 (31)	142 (42)	20 (6)	
≥ 61	5 (5)	5 (5)	33 (36)	43 (47)	6 (7)	
From resident years						
< 10	9 (4)	34 (14)	93 (38)	92 (38)	14 (6)	0.3
16-20	14 (5)	42 (16)	83 (31)	115 (43)	11 (4)	
> 20	7 (5)	12 (9)	48 (36)	56 (41)	12 (9)	
Any benefit (gift, payment, reimburse)						
Yes	19 (4)	62 (13)	167 (35)	201 (42)	33 (7)	0.2
No	13 (7)	27 (15)	67 (37)	68 (37)	7 (4)	
There is poor underlying clinical logic for the recommended choice.						
Specialist						
Internists	6 (3)	41 (21)	89 (46)	51 (27)	5 (3)	<0.0001
Cardiologist	4 (2)	40 (22)	80 (45)	49 (27)	6 (3)	
Endocrinologist	4 (2)	35 (15)	71 (30)	96 (41)	27 (12)	
Other specialist	4 (6)	11 (18)	35 (56)	10 (16)	2 (3)	
Age, years						
< 40	3 (1)	46 (22)	99 (46)	54 (25)	12 (6)	0.3
40-61	11 (3)	61 (18)	133 (39)	108 (32)	24 (7)	
≥ 62	2 (2)	15 (16)	36 (39)	36 (39)	4 (4)	
From resident years						
< 10	5 (2)	52 (21)	113 (47)	58 (24)	14 (6)	0.2
17-20	6 (2)	48 (18)	102 (38)	90 (34)	19 (7)	
> 20	5 (4)	23 (17)	52 (38)	49 (36)	7 (5)	
Any benefit (gift, payment, reimburse)						
Yes	9 (2)	83 (17)	190 (39)	165 (34)	36 (7)	0.0003
No	9 (5)	44 (24)	84 (46)	41 (23)	4 (2)	
There is inflexibility in the administration of step therapy rules and exceptions.						
Specialist						
Internists	4 (2)	18 (9)	70 (36)	74 (39)	26 (14)	0.01
Cardiologist	2 (1)	12 (7)	59 (33)	87 (49)	18 (10)	
Endocrinologist	3 (1)	9 (4)	57 (24)	122 (52)	42 (18)	
Other specialist	3 (5)	4 (6)	23 (37)	26 (42)	6 (10)	
Age, years						
< 40	1 (0)	18 (8)	76 (36)	99 (46)	20 (9)	0.03
40-62	6 (2)	21 (6)	99 (29)	158 (47)	52 (15)	
≥ 63	3 (3)	1 (1)	27 (29)	43 (46)	19 (20)	
From resident years						
< 10	3 (1)	21 (9)	83 (34)	110 (46)	24 (10)	0.2
18-20	3 (1)	17 (6)	82 (31)	121 (46)	42 (16)	
> 20	4 (3)	5 (4)	36 (26)	68 (50)	23 (17)	
Any benefit (gift, payment, reimburse)						
Yes	7 (1)	25 (5)	142 (29)	237 (49)	71 (15)	0.02
No	5 (3)	18 (10)	67 (37)	71 (39)	21 (12)	

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Physician Perceptions of Step Therapy Prescribing Requirements

APPENDIX Full Cross-Tabs of Step Therapy Questions^a (continued)

	Never	Rarely	Sometimes	Often	Always	P Value
There are long delay times in processing decisions or exemptions.						
Specialist						
Internists	5 (3)	15 (8)	74 (39)	72 (38)	25 (13)	0.2
Cardiologist	2 (1)	12 (7)	56 (31)	80 (45)	29 (16)	
Endocrinologist	4 (2)	15 (6)	62 (27)	99 (42)	53 (23)	
Other specialist	3 (5)	5 (8)	19 (31)	25 (40)	10 (16)	
Age, years						
< 40	1 (0)	14 (7)	81 (38)	85 (40)	32 (15)	0.03
40-63	7 (2)	27 (8)	103 (31)	132 (39)	68 (20)	
≥ 64	4 (4)	3 (3)	23 (25)	48 (52)	15 (16)	
From resident years						
< 10	4 (2)	11 (5)	95 (39)	98 (41)	33 (14)	0.002
19-20	3 (1)	27 (10)	76 (29)	101 (38)	58 (22)	
> 20	5 (4)	9 (7)	34 (25)	68 (50)	20 (15)	
Any benefit (gift, payment, reimburse)						
Yes	7 (1)	29 (6)	146 (30)	212 (44)	88 (18)	0.03
No	7 (4)	18 (10)	65 (36)	63 (35)	29 (16)	

Note: Row percentages may not add to 100% due to rounding.

^aN (%) of responses for the questions about step therapy by characteristics.