

# Placing Bundled Payments in Perspective: A Survey of the New England Ophthalmological Society

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## ABSTRACT

**OBJECTIVE:** To determine ophthalmologists' views on the Medicare bundled payment model for specialty physicians in the outpatient setting.

**DESIGN AND METHODS:** The New England Ophthalmology Society (NEOS) was emailed an anonymous survey. Views of bundled payments and demographic characteristics were analyzed.

**RESULTS:** Of responding members, 72% (115/160) strongly opposed bundled payments; 68% (108/160) believed bundled payments will lead to financial losses, and the majority did not support including costs of prescription drugs (69%, 109/159) or preoperative (77%, 123/159) or postoperative complications (59%, 94/159) in the bundle. Respondents who held office in a medical society, were in private practice, solely billed for income, and had mostly conservative political views were significantly more likely to oppose bundling.

**CONCLUSION:** The majority of NEOS ophthalmologists were opposed to bundled payments. Personal beliefs and practice type may influence the level of ophthalmologist support of bundled payments.

**KEYWORDS:** ophthalmology, bundled payments, Medicare

## INTRODUCTION

Ophthalmology procedures account for a large portion of healthcare costs for Medicare beneficiaries.<sup>1</sup> To curb the expected rise in Medicare expenditure,<sup>2</sup> the Center of Medicare and Medicaid Services (CMS) has been piloting episode-based bundled payment models in a variety of specialties.<sup>3</sup> In this model, a pre-determined single payment is given for a set of services over a specified period of time. This cost-sharing method may lead to cost savings or financial losses for health care providers depending on the difference between the bundled payment and the actual costs of care.

In 2014, the CMS Innovation Center announced that it was interested in testing a new bundled payment model for specialists in outpatient settings such as ophthalmologists.<sup>4</sup> This Specialty Practitioner Payment Model (SPPM) may bundle services such as physician's fees, facility payments, diagnostic testing and prescription drug costs for ophthalmology

procedures such as cataract surgery and glaucoma care.<sup>4,5</sup> As part of the development of the SPPM, CMS has sought to understand factors that may influence physician interest in participating in this payment model as well as the types of services that are recommended for bundling.<sup>6</sup>

Our purpose was to determine ophthalmologists' views on bundled payments by surveying members of the New England Ophthalmological Society (NEOS). We also aimed to understand factors that may be associated with ophthalmologists' interests in participating in such a model and their views on services that should be included in the bundled payment.

## METHODS

After obtaining institutional review board approval, we administered a survey designed to assess ophthalmologists' views on bundled payments. The survey was modeled from previously published physician surveys,<sup>7,8</sup> and was tested on a small group of ophthalmologists and revised based on their input. The final survey asked respondents for their consent to participate in the survey and questions regarding 1) level of opposition or support to bundled payments 2) belief of what the overall financial outcome of bundled payments will be 3) opinion on which services should be included in the bundle and 4) demographic information. All answers related to their views on bundled payments were based on a five-point scale. An invitation to participate in the study was e-mailed to all NEOS members along with a link to the survey in March 2015. Email was the contact method approved by the NEOS board. Two additional weekly email reminders were sent. The survey was administered using the web-based software Research Electronic Data Capture (REDCap).<sup>9</sup> Responses were automatically stored in the REDCap system and recorded anonymously with no identifiable information.

In order to identify the extent of non-response bias that may have occurred in our survey, demographic information that was collected for respondents was compared to the general NEOS membership. The NEOS directory was searched for all members who had listed the name and address of their practice. Using this information, we determined if their primary practice was private, academic, governmental, or a health maintenance organization (HMO). The location of their practice was identified as urban (city/town), suburban,

or rural based on the National Center for Education Statistics classification of the majority of the schools located in each city.<sup>10</sup> Each ophthalmologist's date of certification by the American Board of Ophthalmology was identified in order to approximate time in practice. The proportions in each demographic category were then compared between our respondents and general NEOS members.

The proportion of members who selected each answer was tabulated. Answers to the question "How much do you oppose or support a bundled payment model for ophthalmology procedures?" were re-categorized from the five-point scale into three categories: "mostly or strongly oppose", "neutral" and "mostly or strongly support". Fisher's exact tests were computed to determine whether there were significant associations between other answers and the level of support for the model. P-values of <0.05 were considered statistically significant.

## RESULTS

We administered the survey to 684 NEOS members with valid email addresses; 160 (23%) responded. Demographics are shown in **Table 1**. The majority of respondents had over 20 years of experience (68%; 108/160) and worked in private practice (84%; 133/159) in suburban locations (85%; 87/159). Almost all accepted Medicare (98%; 156/160) and private insurance (95%; 152/160). The most common source of income was billing only (65%; 104/160), followed by salary only (30%; 48/160). Most respondents performed surgery (85%; 135/159); of those, 76% (98/129) performed cataract surgery. The respondents were most commonly independent/moderate (32%; 51/160) in their political beliefs and 75% (120/160) were involved in their local, regional, or national medical societies. About a quarter of those in societies held office in the society (24%; 29/119).

**Table 1.** Demographics of survey respondents

Number	Question and Responses	Responses	n (%)
1	<b>How many years have you been in practice?</b>	160	
	< 10 years in practice		16 (10%)
	10- 20 years in practice		36 (23%)
	> 20 years in practice		108 (68%)
2	<b>What is your primary practice setting?</b>	159	
	HMO		2 (1%)
	Private practice		133 (84%)
	Academic practice		19 (12%)
	Government affiliated practice		0 (0%)
Other		5 (3%)	
3	<b>What is your primary practice location?</b>	159	
	Urban		48 (30%)
	Suburban		87 (55%)
Rural		24 (15%)	
4a	<b>What insurance/payment does your primary practice accept (select all that apply)</b>	160	
	Medicare		156 (98%)
	Medicaid		142 (89%)
	Private insurance		152 (95%)
	Cash		139 (87%)
Other		11 (7%)	
4b	<b>About what percentage of your patients receive Medicare?</b>	151	
	< 25%		8 (5%)
	25-50%		56 (37%)
	51-75%		73 (48%)
> 75%		14 (9%)	
5	<b>What is your source of income from your primary practice?</b>	160	
	Salary (+/- bonus) only		48 (30%)
	Billing only		104 (65%)
Other		8 (5%)	
6a	<b>About how many surgeries do you perform per week (if any?)</b>	159	
	I do not perform surgery		24 (15%)
	< 10 surgeries per week		88 (55%)
	10- 20 surgeries per week		38 (24%)
>20 surgeries per week		9 (6%)	
6b	<b>Do you perform cataract surgery? (Of those who perform surgery)</b>	129	
	Yes		98 (76%)
No		31 (24%)	
7	<b>What is your political self-characterization?</b>	160	
	Very Conservative		11 (7%)
	Somewhat Conservative		50 (31%)
	Independent/moderate		51 (32%)
	Somewhat liberal/progressive		35 (22%)
Very liberal/progressive		13 (8%)	
8a	<b>Are you involved in your local, regional, or national medical (specialty or general) societies?</b>	160	
	Yes		120 (75%)
No		40 (25%)	
8b	<b>Do you hold office in one of your local, regional, or national medical societies? (Of those involved in societies only)</b>	119	
	Yes		29 (24%)
No		90 (76%)	

HMO=health maintenance organization

As shown in **Table 2**, the majority (72%; 115/160) of respondents mostly or strongly opposed a bundled payment model, with 58% (93/160) strongly opposing the model. The majority of respondents (68%; 108/160) believed that a pre-determined, episode-based bundled payment model would result in financial losses, and that the costs of care would likely be higher than the payment; only 3% (5/160) believed the financial outcome would be cost savings and that payments will likely be higher than the costs of care. Most respondents believed that the costs of preoperative complications (77%; 123/159), postoperative complications (59%; 94/159), and prescription drugs (69%; 109/159) should not be included in the bundle.

**Table 3** shows the factors that were significantly associated with ophthalmologists' support or opposition to the payment model. Ophthalmologists' views on whether preoperative and postoperative complications and prescription drugs should be included in the bundle were significantly associated with their overall support or opposition to the model. Significantly more ophthalmologists who thought bundling would lead to financial losses opposed the model (89%) compared to those who were unsure of the outcome (45%), thought there would be neither losses nor savings (29%), or thought the outcome would be cost savings (0%). The majority of ophthalmologists in each political category were opposed to bundled payments. Those who were very conservative were significantly more opposed to bundled payments (100%) than those that were somewhat conservative (78%), independent (71%), somewhat liberal (63%), and very liberal/progressive (54%). Significantly more physicians in private practice opposed bundling (75%) than those in academic practice (63%) or HMOs (0%). Almost all (90%) ophthalmologists that held office in a medical society opposed bundling compared to only 66% who were members but did not hold office in their medical society. Significantly more ophthalmologists who only billed as an income source were opposed to bundling (74%) compared to those who only received salary (67%).

The respondents in this survey were similar to the 352 NEOS members with available information when comparing time in practice and primary practice type (**Appendix**). For location of practice, the majority of our respondents were located in suburbs (55%) compared to NEOS members, who were mostly located in an urban location (65%).

**Table 2.** Ophthalmologists' views of bundled payments

Number	Question and Responses	Responses	n (%)
1	<b>How much do you oppose or support a bundled payment model for ophthalmology procedures? Please rate your level of support from a scale of 1 (strongly oppose) to 5 (strongly support).</b>	160	
	1 Strongly oppose		93 (58%)
	2		22 (14%)
	3		31 (19%)
	4		7 (4%)
	5 Strongly support		7 (4%)
2	<b>What do you think the likely overall outcome would be of a pre-determined, episode-based bundled payment model?</b>	160	
	Financial losses; the costs of care will likely be higher than the payment		108 (68%)
	Cost savings; the payment will likely be higher than the costs of care		5 (3%)
	Neither losses nor savings; the costs of care will likely be similar to the payment		14 (9%)
	I am unsure		33 (21%)
<b>Please rate whether the following services should be included in a bundled payment from a scale of 1 (should NOT be included) to 5 (should absolutely be included).</b>			
3	<b>The costs of preoperative complications:</b>	159	
	1 Should not be included		123 (77%)
	2		4 (3%)
	3		10 (6%)
	4		6 (4%)
	5 Should absolutely be included		16 (10%)
4	<b>The costs of postoperative complications:</b>	159	
	1 Should not be included		94 (59%)
	2		9 (6%)
	3		16 (10%)
	4		23 (14%)
	5 Should absolutely be included		17 (11%)
5	<b>The costs of prescription drugs:</b>	159	
	1 Should not be included		109 (69%)
	2		11 (7%)
	3		14 (9%)
	4		6 (4%)
	5 Should absolutely be included		19 (12%)

**Table 3.** Significant factors associated with ophthalmologists' views of bundled payments

	Mostly or Strongly Oppose Bundling	Neutral	Mostly or Strongly Support Bundling	Fisher's exact
<b>Believe costs of prescription drugs:</b>				<b>p &lt;0.001</b>
1. Should not be included	89 (82%)	15 (14%)	5 (5%)	
2.	5 (45%)	5 (45%)	1 (9%)	
3.	7 (50%)	7 (50%)	0 (0%)	
4.	3 (50%)	1 (17%)	2 (33%)	
5. Should absolutely be included	10 (53%)	3 (16%)	6 (32%)	
<b>Believe costs of preoperative complications:</b>				<b>p &lt;0.001</b>
1. Should not be included	94 (76%)	25 (20%)	4 (3%)	
2.	2 (50%)	0 (0%)	2 (50%)	
3.	6 (60%)	4 (40%)	0 (0%)	
4.	2 (33%)	1 (17%)	3 (50%)	
5. Should absolutely be included	11 (69%)	1 (6%)	4 (25%)	
<b>Believe costs of postoperative complications:</b>				<b>p &lt;0.001</b>
1. Should not be included	81 (86%)	10 (11%)	3 (3%)	
2.	6 (67%)	3 (33%)	0 (0%)	
3.	9 (56%)	6 (38%)	1 (6%)	
4.	7 (30%)	11 (48%)	5 (22%)	
5. Should absolutely be included	12 (71%)	1 (6%)	4 (24%)	
<b>View of financial implications of bundled payments</b>				
Financial losses	96 (89%)	9 (8%)	3 (3%)	p<0.001
Cost savings	0 (0%)	2 (40%)	3 (60%)	
Neither losses nor savings	4 (29%)	6 (43%)	4 (29%)	
I am unsure	15 (45%)	14 (42%)	4 (12%)	
<b>Political Belief</b>				
Very Conservative	11 (100%)	0 (0%)	0 (0%)	p=0.038
Somewhat Conservative	39 (78%)	10 (20%)	1 (2%)	
Independent/moderate	36 (71%)	9 (18%)	6 (12%)	
Somewhat liberal/progressive	22 (63%)	10 (29%)	3 (9%)	
Very liberal/progressive	7 (54%)	2 (15%)	4 (31%)	
<b>Practice Setting</b>				
HMO	0 (0%)	2 (100%)	0 (0%)	p=0.002
Private Practice	100 (75%)	27 (20%)	6 (5%)	
Academic Practice	12 (63%)	2 (11%)	5 (26%)	
<b>Office in Medical Society</b>				
Hold office	26 (90%)	2 (7%)	1 (3%)	p=0.039
Don't hold office	59 (66%)	21 (23%)	10 (11%)	
<b>Income Source</b>				
Salary (+/-bonus)	32 (67%)	7 (15%)	9 (19%)	p=0.011
Billing only	77 (74%)	23 (22%)	4 (4%)	

HMO = health maintenance organization

## DISCUSSION

To our knowledge, this is the first survey to assess ophthalmologists' views on bundled payments. Our study showed that the majority of the NEOS members opposed a bundled payment model like the SPPM for outpatient procedures. Those ophthalmologists who held office in a medical society, were in private practice, solely billed for income, and had mostly conservative political views were significantly more likely to oppose bundling.

Other physician surveys have reported similar rates of opposition to bundled payments.<sup>7,8</sup> Physician opposition is problematic as it can impede the successful implementation of a new payment model into the healthcare system. The Medicare Cataract Surgery Alternate Payment Demonstration in 1993 piloted bundled payments for a select group of cataracts surgeons and was met with overwhelming organized opposition by the ophthalmology community.<sup>11</sup> Ultimately, only 3.7% of invited facilities applied to participate. Investigators concluded factors that may have influenced ophthalmologists' opposition to bundling included recent reductions in reimbursement in the field, the fact that Medicare beneficiaries made up a large portion of ophthalmology patients, and a lack of evidence that higher volume would improve clinical outcomes for ophthalmology procedures.<sup>11</sup>

Bundled payment models have emerged in response to rising health care costs that are often attributed to the current fee-for-service model, which has been criticized for promoting disintegrated and unrestricted spending.<sup>12,13</sup> Fee-for-service payments for ophthalmology services in particular are very high,<sup>14,15</sup> a large portion of which is due to prescription drug costs.<sup>16,17</sup> The wide variation in ophthalmic drug costs allows for the potential for cost savings,<sup>18,19</sup> especially in a bundled payment model that may encourage ophthalmologists to use alternative, cost-effective drugs. Despite this fact, we found that the majority of NEOS ophthalmologists did not believe that prescription drugs should be bundled in an episode-based payment, including more than a third of those who said they supported a bundled payment model.

Although bundled payments may present an opportunity for physicians to achieve cost savings,<sup>2</sup> we found that most NEOS ophthalmologists are concerned that a bundled payment model may lead them to financial losses. In order to mitigate this risk, physicians may change management of care in a way that reduces quality of care. Bajric et al. surveyed oculoplastic surgeons following the bundling of blepharoplasty and blepharoptosis repair to determine how delivery of care might have changed; instead of improving the quality of care, the authors reported that oculoplastic surgeons were more likely to bill patients for cosmetic blepharoplasty and delay blepharoptosis repair past the 90-day episode following the implementation of the bundled payment model.<sup>20</sup>

## Limitations

Our study has several limitations. First, the views of NEOS members may not be generalizable to ophthalmologists in other regions of the country. Second, our 24% response rate suggests the possibility of non-response bias. However, non-response bias may be lower among physicians than the general public.<sup>21</sup> Additionally, our response rate is similar to many other surveys of ophthalmologists<sup>22-27</sup> and is a typical of electronic surveys to physicians.<sup>28</sup> Since we were unable to compare political views between our respondents and the general NEOS membership, it is possible that members with more extreme political views and stronger opposition to bundling were more likely to complete our survey. However, this is not likely since almost one-third (32%) of respondents identified as independent/moderate on the political spectrum.

With the emergence of the SPPM and other bundled payment models across medicine, there is a good possibility that ophthalmologists will be facing bundled payments in the near future. Further studies are needed to determine what factors would increase ophthalmologists' support for new payment models. Knowledge of these factors will help ensure that a cost-effective, outcomes-driven and physician-supported model can be successfully integrated into our healthcare system.

## Appendix. Comparison of practice-related factors between NEOS survey respondents and NEOS general membership<sup>a</sup>

	NEOS Survey respondents (n=160)	NEOS general membership (n=352)
<b>Time in practice</b>		
<10 years	16 (10%)	51 (15%)
10-20	36 (23%)	91 (26%)
>20	108 (68%)	204 (58%)
<b>Location</b>		
suburb	87 (55%)	107 (30%)
urban	48 (30%)	233 (66%)
rural	24 (15%)	12 (3%)
<b>Primary practice type</b>		
private	133 (83%)	259 (74%)
academic	19 (12%)	92 (26%)
government	0 (0%)	1 (0.3%)
HMO	2 (1%)	0 (0%)

NEOS = New England Ophthalmological Society

<sup>a</sup>Includes only those members that identified their practice name and address on the New England Ophthalmological Society membership directory

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