BMJ open

Attitudes Toward Restricting Healthcare Costs by Limiting the Use of High-Cost Medical Interventions across Four Countries

Journal:	*BMJ Open*
Manuscript ID:	bmjopen-2012-001087
Article Type:	Research
Date Submitted by the Author:	09-Mar-2012
Complete List of Authors:	Blendon, Robert; Harvard School of Public Health, Health Policy and Management Benson, John; Harvard School of Public Health, Health Policy and Management Botta, Michael; Harvard University, Program in Health Policy Zeldow, Deborah; Alliance for Aging Research, Kim, Minah; Harvard School of Public Health, Global Health and Population
Primary Subject Heading:	Health policy
Secondary Subject Heading:	Evidence based practice
Keywords:	Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, International health services < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Rationing < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

ATTITUDES TOWARD RESTRICTING HEALTHCARE COSTS BY LIMITING THE USE OF HIGH-COST MEDICAL INTERVENTIONS ACROSS FOUR COUNTRIES

Robert J Blendon, John M Benson, Michael D Botta, Deborah Zeldow, Minah Kang Kim

Robert J. Blendon, Sc.D., Professor of Health Policy and Political Analysis, Department of Health Policy and Management, Harvard School of Public Health, 677 Huntington Ave., 4th Floor, Boston, MA 02115, USA, phone +1 617-432-4502, fax +1 617-432-0092, rblendon@hsph.harvard.edu

John M. Benson, M.A., Research Scientist, Department of Health Policy and Management, Harvard School of Public Health, Boston, MA, USA, jmbenson@hsph.harvard.edu

Michael D. Botta, A.B., Doctoral Candidate, Program in Health Policy, Harvard University, Cambridge, MA, USA, mbotta@fas.harvard.edu

Deborah Zeldow, M.B.A., Executive Vice President, Alliance for Aging Research, 750 17th Street, N.W., Suite 1100, Washington, DC, 20005, USA, DZeldow@agingresearch.org

Minah Kang Kim, Ph.D., Takemi Fellow, Department of Global Health and Population, Harvard School of Public Health, Boston, MA, USA, and Associate Professor, Department of Public Administration, Ewha Womans University, Seoul, South Korea, chathamkang@gmail.com

Corresponding author: Robert J. Blendon, rblendon@hsph.harvard.edu

Keywords: Health policy, Evidence based practice. International health services, Rationing

Word count: 2288

ATTITUDES TOWARD RESTRICTING HEALTHCARE COSTS BY LIMITING THE USE OF HIGH-COST MEDICAL INTERVENTIONS ACROSS FOUR COUNTRIES

ABSTRACT

Objective. To discern how the public in four countries, each with unique health systems and cultures, feels about efforts to restrain health care costs by limiting the use of high-cost prescription drugs and medical/surgical treatments.

Design. Cross-sectional survey.

Setting. Adult populations in Germany, Italy, the United Kingdom, and the United States.

Participants. 2517 adults in the four countries. A questionnaire survey conducted by telephone (landline and cell) with randomly-selected adults in each of the four countries.

Main outcome measures. Support for different rationales for not providing/paying for high-cost prescription drugs/medical or surgical treatments, measured in the aggregate and using four

case examples derived from actual decisions. Measures of public attitudes about specific policies involving comparative effectiveness and cost-benefit decision-making.

Results. The survey finds support among publics in four countries for decisions that limit the use of high-cost prescription drugs/treatments when some other drug/treatment is available that works equally well but costs less. The survey finds little public support, either in individual case examples or when asked in the aggregate, for decisions in which prescription drugs/treatments are denied on the basis of cost or various definitions of benefits. The main results are based on majorities of the public in each country supporting or opposing each measure.

Conclusions. The survey findings indicate that the public distinguishes in practice between the concepts of comparative effectiveness and cost-effectiveness analysis. This suggests that public authorities engaged in decision-making activities will find much more public support if they are dealing with the first type of decision than with the second.

ARTICLE SUMMARY

Article focus

- Despite increasing concerns among government officials about high health care spending, a survey of the public in four countries finds little support for decisions that limit use of high-cost prescription drugs and treatments.
- The results provide insights for policy-makers, indicating that the public distinguishes in practice between the concepts of comparative effectiveness and cost-benefit analysis. They will generally support decisions related to the first, but not the second.

Key Messages

- Government agencies dealing with cost-control issues should highlight those decisions not to pay for or provide the more expensive drug or treatment when two prescription drugs or treatments have the same outcome but one is more expensive than the other.
- Policy-makers need to be aware that when they discuss limiting the availability of high-cost prescription drugs or treatments based on the assessment of broader benefits, they may face considerable public controversy.

Strengths and Limitations

- This is the only multi-country study of attitudes on this subject. It is unique in that it includes responses for four actual cases where governments made decisions about what should be paid for or provided.
- For general public respondents these are complex issues that may be difficult to understand, and some responses might differ if respondents were aware of other factors.

ATTITUDES TOWARD RESTRICTING HEALTHCARE COSTS BY LIMITING THE USE OF HIGH-COST MEDICAL INTERVENTIONS ACROSS FOUR COUNTRIES

The rising cost of health care is seen as a serious concern in many industrialized countries. Increasingly, the focus by national governments for restraining these costs has been to have independent agencies assess whether the benefits of specific high-cost prescription drugs, diagnostic tests, and medical or surgical treatments justify their cost. If this is not seen to be the case, these agencies may recommend that payors or government health systems not pay for or provide these medical care interventions.

In Germany, the Institute for Quality and Efficiency in Healthcare (IQWiG – Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen) has been responsible for health technology assessments across a range of pharmaceuticals and therapeutics since 2004.[1-3] In Italy, the Italian Medicines Agency (AIFA – Agenzia Italiana del Farmaco) conducts health technology assessments, evaluating the clinical benefits of new products

and, in conjunction with the Pricing and Reimbursement Committee (CPR – Comitato Prezzi e Reimborso), judges cost effectiveness.[4] In the United Kingdom, the National Health Service has since 1999 relied on the National Institute for Clinical Excellence (NICE) to generate cost effectiveness assessments and determine whether new treatments offer enough value to justify adding their costs to the health system.[3,5] In the United States, 2010 saw the advent of a new comparative effectiveness agency, the Patient-Centered Outcomes Research Institute (PCORI). However, the new U.S. agency was established with an explicit ban on the use of any cost effectiveness analysis in payment or provision decisions, in notable contrast to its more empowered European counterparts.[6,7]

As this approach to restraining health costs grows, the question is raised about how accepting the public in these various countries will be to these types of decisions. Health care is a visible and popular issue. From one perspective, it might be expected that the public would support these approaches to containing costs and keeping health systems more affordable. On the other hand, they may see these government- or insurance-sponsored decisions as interfering in important individual physician and patient choices, and thus oppose them. To date, there has not been an assessment of public attitudes across various countries on this question. A prior survey that looked

at part of this overall issue found that the U.S. public was resistant to the use of comparative effectiveness research results for patient care expenditure decisions. The public was supportive of its use for general information, but not decision-making purposes.[8] But European views might be expected to differ from American attitudes because of the long history of more government-directed health systems.

In this article, we seek to provide an answer about public acceptance of these types of decisions by looking at the findings of a recent four-country survey. The data reported from Germany, Italy, the U.K., and the U.S. offer results about public attitudes toward these key questions. It also provides the public response in each country to four case examples of actual decisions in which the high cost of a medical intervention was not thought by payors or governments to be justified by its overall benefits.

METHODS

The data are derived from a four-country survey by the Harvard School of Public Health and the Alliance for Aging Research. Fieldwork was conducted via telephone (landline and cell) with nationally representative random samples of adults age 18 and older in four countries by SSRS/ICR, an independent research company. Interview dates, sample sizes, and margins of

error are shown below. The sample sizes are typical of public opinion surveys.

	Interview Dates	Total interviews	Margin of error (percentage points)
Germany	June 30 – July 19, 2011	500	+/-5.4
Italy	June 30 – July 19, 2011	500	+/-5.4
U.K.	June 30 – July 19, 2011	500	+/-5.4
U.S.	June 28 – July 24, 2011	1017	+/-3.9

Nonresponse in telephone surveys produces some known biases in survey-derived estimates because participation tends to vary for different subgroups of the population. To compensate for these known biases, a post-stratification weighting design was used to weight all collected interviews to represent each country's adult population. Weighting targets included telephone status (landline, cell) and various individual demographics: race/ethnicity (U.S. only), age, gender, education, and region. Other techniques, such as callbacks staggered over times of days

and days of weeks and systematic respondent selection within households, are used to help ensure that the sample in each country is representative. After weighting, the sample for each country reflects the demographic composition of the adult population of that country.

The results for each country are generalisable to the adult population of that country.

The survey instrument comprised a range of questions relating to support for different rationales for not providing/paying for high-cost prescription drugs/medical or surgical treatments, measured in the aggregate and using four case examples derived from actual decisions, and attitudes about specific policies involving comparative effectiveness and cost-benefit decision-making. The question wordings are shown in more detail on the three tables.

The survey included four case examples, derived from comparative effectiveness decisions that had actually been made in one or another of the countries. Respondents were read a paragraph about the decision, without mention of the country where the decision was made or the name of the prescription drug or diagnostic test involved, and then asked whether they approved or disapproved of the decision. The content of the case examples, whose wordings appear in Table 2, were derived from journal or newspaper accounts, or the actual decision. The

drug/test, disease, and country for the four decisions were (1) Avastin/bowel cancer/U.K.,[9] (2) Avastin/Lucentis/wet age-related macular degeneration (wet AMD)/Italy,[10] (3) beta interferon/multiple sclerosis/U.K.,[11] and (4) positron emission tomography (PET scans)/head and neck tumors/Germany.[12]

Many of the questions in the survey were asked of split samples, where one half was asked about prescription drugs, the other half about medical or surgical treatments. Because the responses of the two half-samples were similar, the data for the two forms were combined for clarity of presentation and to increase statistical power. In the U.K. and Italy, questions were asked about "the national health service providing…." In Germany and the U.S., questions were asked about "the government or health insurance plans paying for…."

Data analysis comprises descriptive statistics to ascertain public attitudes on each of the measures. Percentages and confidence intervals (at the 95% confidence level) are shown for the responses to each survey item in each country. The base for calculating percentages included all respondents who were asked the question, so there are no missing data. "Don't know/Refused" responses are included in the base, but are not shown in the tables unless they are 10% or greater for the question in one or more countries.

The Institutional Review Board at the Harvard School of Public Health ruled that this study is not human subjects research (Protocol #20104-101, December 16, 2010).

RESULTS

Across the four countries, many people believe that high-cost drugs and treatments are already often being withheld. Majorities of the public in Germany (58%), Italy (55%), and the U.S. (67%) believe that in their country high-cost prescription drugs/medical or surgical treatments are very or somewhat often withheld from some people who might benefit from them in order to save money. This belief is not shared by a majority in the U.K., where 39% believe drugs/treatments are often withheld (Table 1).

Table 1. Public attitudes in four countries about comparative effectiveness decision-making and patient access (in percent)

	Germany n=500 % (CI 95%)	Italy n=500 % (CI 95%)	U.K. n=500 % (CI 95%)	U.S. n=1017 % (CI 95%)
In [your country] the (government or health insurance plans withhold/national health service withholds) high-cost (prescription drugs/medical or surgical treatments) from people who might benefit in order to save money…				
Very often	15 (11-19)	19 (15-24)	11 (7-14)	29 (26-33)
Somewhat often	43 (38-48)	36 (31-41)	28 (23-33)	38 (34-41)
Not too often	30 (25-35)	25 (20-29)	39 (33-44)	20 (17-23)
Not at all	4 (2-7)	9 (6-12)	19 (15-23)	7 (5-9)
Don't know/Refused	7 (4-10)	11 (8-14)	4 (1-6)	6 (4-8)
Paying for/providing approved (prescription drugs/medical or surgical treatments) regardless of cost				

(respondents were asked to choose between two statements:)				
The (government or health insurance plans should pay for/national health service should provide) any (prescription drug/medical or surgical treatment) that has been approved as being safe and effective for saving lives or improving people's health, regardless of what it costs	61 (56-66)	77 (72-81)	60 (55-65)	59 (55-62)
There are so many new, expensive prescription drugs and medical or surgical treatments that it is too expensive for (government or health insurance plans to pay for/the national health service to provide) all of them	35 (29-40)	20 (16-24)	38 (33-43)	35 (31-39)
The (government or your health insurance plan paying for/national health service providing) a more expensive (prescription drug/medical or surgical treatment) recommended by your doctor even if it has not been shown to work better than less expensive (drugs/treatments)				
Favor paying for/providing (oppose comparative effectiveness)	43 (37-48)	21 (17-25)	29 (24-34)	33 (29-37)
Oppose paying for/providing (favor comparative effectiveness)	49 (44-54)	70 (65-75)	69 (64-74)	64 (61-68)
Some (prescription drugs/medical or surgical treatments) that have been shown to be safe and effective should not be (paid for by the government or health insurance plans/provided by the national health service) because their high cost is not felt to be justified by the amount of benefit they provide.				
Favor not paying for/providing	32 (27-37)	31 (26-36)	34 (28-39)	31 (27-34)
Oppose not paying for/providing	59 (54-65)	61 (56-66)	63 (58-68)	62 (59-66)

Source: Harvard School of Public Health/Alliance for Aging Research Survey, 2011.

Note: "Don't know/Refused" responses not shown unless they are 10% or greater for the question in one or more countries.

Majorities in all four countries believe that any prescription drug/medical or surgical treatment that has been

approved as safe and effective for saving lives or improving people's health should be paid for or provided, regardless of cost. Paying for or providing these drugs/treatments is favored by about three-fourths of the public in Italy (77%) and about six in ten in Germany (61%), the U.K. (60%), and the U.S. (59%).

A majority in Italy (70%), the U.K. (69%), and the U.S. (64%) oppose the government, health insurance plans, or the national health service paying for or providing a prescription drug/medical or surgical treatment recommended by their doctor if it has not been shown to work better than less expensive ones. This view is shared by a plurality (49%) in Germany. This is often referred to as comparative effectiveness research.

However, the public does not support decisions in which prescription drugs/medical or surgical treatments are denied on the basis of cost or various definitions of benefits. The public was asked whether some prescription drugs/medical or surgical treatments that have been shown to be safe and effective should not be paid for or provided because of their high cost is not felt to be justified by the amount of benefit they provide. About six in ten—59% in Germany, 61% in Italy, 63% in the U.K., 62% in the U.S.—were opposed.

When it comes to case examples of specific decisions involving cost and benefits that have been made, majorities in all four countries opposed three of the four decisions presented

in the survey. In a fourth case example, a decision not to pay for or provide an imaging technology for diagnosing certain types of cancer, majorities in three of the countries were opposed, while a majority in Italy favored the decision (Table 2).

Table 2. Public attitudes in four countries about actual coverage decisions (in percent)

	Germany n=250 % (CI 95%)	Italy n=250 % (CI 95%)	U.K. n=250 % (CI 95%)	U.S. n=509 % (CI 95%)
In one country, the national government decided against (paying for/providing) a new drug for treating an advanced form of cancer. On average, the drug costs ($35,000/£21,000/€25,000) per patient. The drug does not cure the disease, but studies suggest that using the drug can add, on average, about six months to a patient's life. Some patients would gain only a short period, while others could gain a lot more time. If this decision not to (pay for/provide) this drug were made in [your country], would you approve or disapprove of the decision?				
Favor	36 (28-43)	39 (32-47)	24 (17-30)	37 (32-43)
Oppose	60 (53-68)	51 (44-59)	76 (69-82)	59 (54-65)
In one country, two drugs were available to treat a debilitating condition in the elderly. One of the drugs costs about 100 times as much as the other. The more expensive one has been tested and shown to be effective for people with this condition. The less expensive one has not been tested in research studies for treating this illness. However, many physicians who specialize in the condition use the lower-cost drug because they believe it is safe and effective for their patients. This is often referred to as using an off-label drug. The government in that country decided to (pay for/provide/pay) only the less				

expensive drug even though it had not been tested for this illness.-If this decision only to (pay for/provide) the less expensive drug that had not been tested for this illness were made in [your country], would you approve or disapprove of the decision?				
Favor	24 (18-31)	25 (18-31)	20 (14-26)	26 (21-31)
Oppose	70 (63-78)	71 (64-80)	80 (74-86)	71 (66-76)
A new drug is available for a serious, debilitating disease. It does not cure the disease, but it can provide relief for the symptoms of the disease. In one country, the national government decided to (pay for/provide) this drug only for a limited number of patients because of the drug's high cost of ($15,000/£9,000/€11,000) a year. The drug is reserved for those patients who are most likely to see significant health benefits. Some people have objected to the decision because they argue that other patients might also benefit from the drug.-If this decision to (pay for/provide) this drug only for a limited number of patients were made in [your country], would you approve or disapprove of the decision?				
Favor	28 (21-35)	26 (20-32)	27 (20-34)	28 (22-33)
Oppose	66 (58-73)	71 (64-77)	72 (65-79)	69 (64-75)
In one country, the national government decided against (paying for/providing) the use of an imaging technology for diagnosing certain types of cancers. The technology is more expensive than alternative methods, costing over ($2,000/£1,200/€1,400) per use. After conducting an evaluation, a government organization concluded that there was not enough scientific evidence to recommend using the technology for these other types of cancer. Other countries, however, actively use this technology for multiple types of cancer, because many doctors believe it provides the best, most detailed view of these other types of tumors. The evaluation organization argued that existing studies have not conclusively proven				

that the technology has advantages over alternative methods and therefore should not be (paid for/provided). If this decision not to (pay for/provide) this technology to help diagnose these other types of cancer were made in [your country], would you approve or disapprove of the decision?				
Favor	26 (19-32)	53 (46-60)	18 (13-24)	34 (28-39)
Oppose	67 (60-75)	39 (32-47)	78 (71-84)	63 (57-68)

Source: Harvard School of Public Health/Alliance for Aging Research Survey, 2011.

Note: "Don't know/Refused" responses not shown.

The survey asked people whether they would favor or oppose their country having a government decision-making body that recommends whether government programs should pay for or provide prescription drugs/medical or surgical treatments if they think they cost too much. Public opinion in the four countries differs. Majorities in Germany (69%) and Italy (71%) favor having such an agency. A majority (54%) in the U.S. oppose having such an agency, while 43% favor having one. The public in the U.K. is about evenly divided, with 46% in favor, 48% opposed (Table 3).

Table 3. Public attitudes in four countries about government decision-making about costs of medical interventions (in percent)

	Germany n=500 % (CI 95%)	Italy n=500 % (CI 95%)	U.K. n=500 % (CI 95%)	U.S. n=1017 % (CI 95%)
Favor/oppose [your country] having a government decision-making body that recommends whether government programs should (pay for/provide) (prescription drugs/medical or surgical treatments) if they think they cost too much				

Favor	71 (66-76)	69 (64-74)	46 (40-51)	43 (39-47)
Oppose	21 (17-25)	23 (18-27)	48 (42-53)	54 (50-58)
Such a government decision-making body would provide doctors with useful scientific information about what works best for patients with a given disease or medical condition				
Yes	64 (59-69)	87 (84-90)	67 (62-73)	55 (51-59)
No	27 (22-31)	7 (5-9)	27 (23-32)	40 (36-43)
Trust the national government to make the right health care decisions				
Trust	42 (37-47)	54 (49-59)	54 (49-59)	34 (30-38)
Do not trust	53 (48-58)	35 (30-40)	39 (34-44)	61 (57-65)
Don't know/Refused	5 (3-7)	11 (8-14)	7 (4-10)	4 (3-5)

Source: Harvard School of Public Health/Alliance for Aging Research Survey, 2011.

Note: "Don't know/Refused" responses not shown unless they are 10% or greater for the question in one or more countries.

In spite of these differences in approval for a government decision-making body, majorities in all four countries believe that such an agency would provide doctors with useful scientific information about what works for patients with a given disease or medical condition.

With regard to governmental decision-making in health care, majorities in Italy and the U.K. say that they trust their national government to make the right health care decisions, while majorities in Germany and the U.S. say they do not.

DISCUSSION

The survey findings indicate that the public distinguishes in practice between the concepts of comparative effectiveness and cost-benefit analysis. When two prescription drugs or

treatments have the same outcome but one is more expensive than the other, the public supports policies that would not pay for or provide the more expensive one in the absence of evidence that it would work better than the less expensive alternative.

On the other hand, the survey found little public support, either in individual case examples or when asked in the aggregate, for the establishment of broader benefits as a criterion for whether or not a drug or treatment should be paid for or provided. If the evidence shows that a drug or treatment benefits some patients for some period of time, the public is reluctant to have these medical interventions not paid for or provided.

Taken together, this suggests that across the four countries public authorities engaged in decision-making activities will find much more public support if they are dealing with the first type of decision than with the second. In addition, public officials may face public resistance for decision-making about whether to pay for or provide high-cost medical interventions, because a large proportion of the public believes that some high-cost prescription drugs and treatments are already being withheld.

This study has two main limitations. First, these types of policy-making decisions may be difficult for the general public to understand fully. Second, although respondents were told that

these types of decisions were being made as a way of limiting future health care costs, they might have answered differently had they been told that these decisions might lower their taxes or health insurance premiums in the future, if that were the case.

Author Contributions

RJB and JMB made substantial contributions to the conception and design of the study, as well as the analysis and interpretation of the data, and drafted the article. MDB and MKK made substantial contributions to the conception and design of the study, the analysis and interpretation of the data, and the critical revision of the article. DZ made substantial contributions to the conception and design of the study, and to the critical revision of the article. All authors gave final approval of this version of the article. No one who fulfills the criteria for authorship has been excluded as an author.

Competing Interests

All authors have completed the Unified Competing Interest form at http://www.icmje.org/coi_disclosure.pdf (available on request from the corresponding author). RJB, JMB, EMW, and KJW acted as subcontractors under an Alliance for Aging Research grant. DZ declares that the organisation by which she is

employed, the Alliance for Aging Research, received a grant from Bayer AG for this survey.

Role of Funder

The survey was supported by a grant to the Alliance for Aging Research from Bayer AG. Bayer was not involved in the design of the survey, the data collection, the analysis or the interpretation of findings, or the preparation of the manuscript. The authors had full access to all data in the study and had full responsibility for the decision to submit for publication.

Data sharing

The topline results of the survey are publicly available at http://www.hsph.harvard.edu/news/press-

releases/files/blendon topline aging 12.11.pdf. Within six months, the dataset will be made available at a public opinion data archive.

REFERENCES

1. European Observatory on Health Care Systems. Health care systems in transition: Germany. 2000. http://www.euro.who.int/__data/assets/pdf_file/0010/80776/E68952.pdf (accessed March 9, 2012).

2. Jonsson B. IQWiG: an opportunity lost? *Eur J Health Econ* 2008;9(3):205–207.

3. Chalkidou K, Tunis S, Lopert R, *et al.* Comparative effectiveness research and evidence-based health policy: experience from four countries. *Millbank Q* 2009;87(2):339–367.

4. France G, Taroni F, Donatini A. The Italian health-care system. *Health Econ* 2005;14(Suppl 1):S187–202.

5. Macarthur D. Pharmaceutical pricing and reimbursement in the United Kingdom. *Health Economics in Prevention and Care* 2000;1(1):47–50.

6. Kamerow D. PCORI: odd name, important job, potential trouble. *BMJ* 2011;342:d2635. doi: 10.1136/bmj.d2635.

7. Iglehart JK. The political fight over comparative effectiveness research. *Health Aff (Millwood)* 2010;29(10):1757-1760.

8. Gerber AS, Patashnik EM, Doherty D, *et al*. The public wants information, not board mandates, from comparative effectiveness research. *Health Aff (Millwood)* 2010;29(10):1872-1881.

9. Smith R. Bowel cancer drug Avastin turned down by NICE. *The Telegram*. August 24, 2010. http://www.telegraph.co.uk/health/healthnews/7959762/Bowel-cancer-drug-Avastin-turned-down-by-Nice.html (accessed March 9, 2012).

10. Pavlou F. Avastin to be reimbursed by Italian authorities. *Ophthalmology Times Europe*. July 1, 2007. http://www.oteurope.com/ophthalmologytimeseurope/content/printContentPopup.jsp?id=476054 (accessed March 9, 2012).

11. Kernick D. Beta interferon, NICE, and rationing. *Br J Gen Pract* 2002;52(482):784-785.

12. Institute for Quality and Efficiency in Health Care. Benefit of positron emission tomography (PET) in patients with head and neck tumors cannot be assessed. April 27, 2011. https://www.iqwig.de/benefit-of-positron-emission-tomography-pet-in.1287.en.html (accessed March 9, 2012).

STROBE 2007 (v4) Statement—Checklist of items that should be included in reports of *cross-sectional studies*

Section/Topic	Item #	Recommendation	Reported on page #
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	2-3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	6-8
Objectives	3	State specific objectives, including any prespecified hypotheses	8
Methods			
Study design	4	Present key elements of study design early in the paper	8-11
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	8-9
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants	8-9
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	10-11
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	8-9
Bias	9	Describe any efforts to address potential sources of bias	9-10
Study size	10	Explain how the study size was arrived at	9
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	11
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	11
		(*b*) Describe any methods used to examine subgroups and interactions	Not applicable
		(*c*) Explain how missing data were addressed	11
		(*d*) If applicable, describe analytical methods taking account of sampling strategy	Not applicable
		(*e*) Describe any sensitivity analyses	Not applicable
Results			

Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	9
		(b) Give reasons for non-participation at each stage	9
		(c) Consider use of a flow diagram	Not applicable
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	10
		(b) Indicate number of participants with missing data for each variable of interest	11
Outcome data	15*	Report numbers of outcome events or summary measures	12-18
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	12-18
		(*b*) Report category boundaries when continuous variables were categorized	Not applicable
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Not applicable
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	Not applicable
Discussion			
Key results	18	Summarise key results with reference to study objectives	18-20
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	19-20
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	18-20
Generalisability	21	Discuss the generalisability (external validity) of the study results	10
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	21

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

ICMJE INTERNATIONAL COMMITTEE of MEDICAL JOURNAL EDITORS

ICMJE Form for Disclosure of Potential Conflicts of Interest

Instructions

The purpose of this form is to provide readers of your manuscript with information about your other interests that could influence how they receive and understand your work. The form is designed to be completed electronically and stored electronically. It contains programming that allows appropriate data display. Each author should submit a separate form and is responsible for the accuracy and completeness of the submitted information. The form is in four parts.

1. Identifying information.

Enter your full name. If you are NOT the corresponding author please check the box "no" and a space to enter the name of the corresponding author in the space that appears. Provide the requested manuscript information. Double-check the manuscript number and enter it.

2. The work under consideration for publication.

This section asks for information about the work that you have submitted for publication. The time frame for this reporting is that of the work itself, from the initial conception and planning to the present. The requested information is about resources that you received, either directly or indirectly (via your institution), to enable you to complete the work. Checking "No" means that you did the work without receiving any financial support from any third party -- that is, the work was supported by funds from the same institution that pays your salary and that institution did not receive third-party funds with which to pay you. If you or your institution received funds from a third party to support the work, such as a government granting agency, charitable foundation or commercial sponsor, check "Yes". Then complete the appropriate boxes to indicate the type of support and whether the payment went to you, or to your institution, or both.

3. Relevant financial activities outside the submitted work.

This section asks about your financial relationships with entities in the bio-medical arena that could be perceived to influence,or that give the appearance of potentially influencing, what you wrote in the submitted work. You should disclose interactions with ANY entity that could be considered broadly relevant to the work. For example, if your article is about testing an epidermal growth factor receptor (EGFR) antagonist in lung cancer, you should report all associations with entities pursuing diagnostic or therapeutic strategies in cancer in general, not just in the area of EGFR or lung cancer.

Report all sources of revenue paid (or promised to be paid) directly to you or your institution on your behalf over the 36 months prior to submission of the work. This should include all monies from sources with relevance to the submitted work, not just monies from the entity that sponsored the research. Please note that your interactions with the work's sponsor that are outside the submitted work should also be listed here. If there is any question, it is usually better to disclose a relationship than not to do so.

For grants you have received for work outside the submitted work, you should disclose support ONLY from entities that could be perceived to be affected financially by the published work, such as drug companies, or foundations supported by entities that could be perceived to have a financial stake in the outcome. Public funding sources, such as government agencies, charitable foundations or academic institutions, need not be disclosed. For example, if a government agency sponsored a study in which you have been involved and drugs were provided by a pharmaceutical company, you need only list the pharmaceutical company.

4. Other relationships.

Use this section to report other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work.

ICMJE INTERNATIONAL COMMITTEE of MEDICAL JOURNAL EDITORS

ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name): Deborah
2. Surname (Last Name): Zeldow
3. Effective Date (07-August-2008): 31-January-2012

4. Are you the corresponding author? ☐ Yes ☑ No — Corresponding Author's Name: Blendon

5. Manuscript Title: Attitudes about restricting healthcare costs by limiting the use of high-cost medical interventions across four countries

6. Manuscript Identifying Number (if you know it)

Section 2. The Work Under Consideration for Publication

Did you or your institution at any time receive payment or services from a third party for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc…)?

Complete each row by checking "No" or providing the requested information. If you have more than one relationship click the "Add" button to add a row. Excess rows can be removed by clicking the "X" button.

The Work Under Consideration for Publication

Type	No	Money Paid to You	Money to Your Institution*	Name of Entity	Comments**	
1. Grant	☐	☐	☑	Bayer A G		× ADD
2. Consulting fee or honorarium	☑	☐	☐			× ADD
3. Support for travel to meetings for the study or other purposes	☑	☐	☐			× ADD
4. Fees for participation in review activities such as data monitoring boards, statistical analysis, end point committees, and the like	☑	☐	☐			× ADD
5. Payment for writing or reviewing the manuscript	☑	☐	☐			× ADD
6. Provision of writing assistance, medicines, equipment, or administrative support	☑	☐	☐			×

ICMJE INTERNATIONAL COMMITTEE of MEDICAL JOURNAL EDITORS

ICMJE Form for Disclosure of Potential Conflicts of Interest

The Work Under Consideration for Publication

Type	No	Money Paid to You	Money to Your Institution*	Name of Entity	Comments**	
7. Other	☑	☐	☐			ADD × ADD

* This means money that your institution received for your efforts on this study.
** Use this section to provide any needed explanation.

Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were present during the 36 months prior to submission.

Complete each row by checking "No" or providing the requested information. If you have more than one relationship click the "Add" button to add a row. Excess rows can be removed by clicking the "X" button.

Relevant financial activities outside the submitted work

Type of Relationship (in alphabetical order)	No	Money Paid to You	Money to Your Institution*	Entity	Comments	
1. Board membership	☑	☐	☐			× ADD
2. Consultancy	☑	☐	☐			× ADD
3. Employment	☑	☐	☐			× ADD
4. Expert testimony	☑	☐	☐			× ADD
5. Grants/grants pending	☐	☐	☑			× ADD
6. Payment for lectures including service on speakers bureaus	☑	☐	☐			× ADD
7. Payment for manuscript preparation	☑	☐	☐			×

ICMJE INTERNATIONAL COMMITTEE of MEDICAL JOURNAL EDITORS

ICMJE Form for Disclosure of Potential Conflicts of Interest

Relevant financial activities outside the submitted work

Type of Relationship (in alphabetical order)	No	Money Paid to You	Money to Your Institution*	Entity	Comments	
8. Patents (planned, pending or issued)	☑	☐	☐			ADD ×
9. Royalties	☑	☐	☐			ADD ×
10. Payment for development of educational presentations	☑	☐	☐			ADD ×
11. Stock/stock options	☑	☐	☐			ADD ×
12. Travel/accommodations/ meeting expenses unrelated to activities listed**	☑	☐	☐			ADD ×
13. Other (err on the side of full disclosure)	☑	☐	☐			ADD ×

* This means money that your institution received for your efforts.
** For example, if you report a consultancy above there is no need to report travel related to that consultancy on this line.

Section 4. Other relationships

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

☑ No other relationships/conditions/circumstances that present a potential conflict of interest

☐ Yes, the following relationships/conditions/circumstances are present (explain below):

At the time of manuscript acceptance, journals will ask authors to confirm and, if necessary, update their disclosure statements. On occasion, journals may ask authors to disclose further information about reported relationships.

Hide All Table Rows Checked 'No' SAVE

ICMJE INTERNATIONAL COMMITTEE of MEDICAL JOURNAL EDITORS

ICMJE Form for Disclosure of Potential Conflicts of Interest

Evaluation and Feedback

Please visit http://www.icmje.org/cgi-bin/feedback to provide feedback on your experience with completing this form.

A Four-Country Survey of Public Attitudes Toward Restricting Healthcare Costs by Limiting the Use of High-Cost Medical Interventions

Journal:	*BMJ Open*
Manuscript ID:	bmjopen-2012-001087.R1
Article Type:	Research
Date Submitted by the Author:	02-Apr-2012
Complete List of Authors:	Blendon, Robert; Harvard School of Public Health, Health Policy and Management Benson, John; Harvard School of Public Health, Health Policy and Management Botta, Michael; Harvard University, Program in Health Policy Zeldow, Deborah; Alliance for Aging Research, Kim, Minah; Harvard School of Public Health, Global Health and Population
Primary Subject Heading:	Health policy
Secondary Subject Heading:	Evidence based practice, Health economics, Qualitative research, Pharmacology and therapeutics
Keywords:	Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, International health services < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Rationing < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

A FOUR-COUNTRY SURVEY OF PUBLIC ATTITUDES TOWARD RESTRICTING HEALTHCARE COSTS BY LIMITING THE USE OF HIGH-COST MEDICAL INTERVENTIONS ~~ACROSS FOUR COUNTRIES~~

Robert J Blendon, John M Benson, Michael D Botta, Deborah Zeldow, Minah Kang Kim

Robert J. Blendon, Sc.D., Professor of Health Policy and Political Analysis, Department of Health Policy and Management, Harvard School of Public Health, 677 Huntington Ave., 4th Floor, Boston, MA 02115, USA, phone +1 617-432-4502, fax +1 617-432-0092, rblendon@hsph.harvard.edu

John M. Benson, M.A., Research Scientist, Department of Health Policy and Management, Harvard School of Public Health, Boston, MA, USA, jmbenson@hsph.harvard.edu

Michael D. Botta, A.B., Doctoral Candidate, Program in Health Policy, Harvard University, Cambridge, MA, USA, mbotta@fas.harvard.edu

Deborah Zeldow, M.B.A., Executive Vice President, Alliance for Aging Research, 750 17th Street, N.W., Suite 1100, Washington, DC, 20005, USA, DZeldow@agingresearch.org

Minah Kang Kim, Ph.D., Takemi Fellow, Department of Global Health and Population, Harvard School of Public Health, Boston, MA, USA, and Associate Professor, Department of Public Administration, Ewha Womans University, Seoul, South Korea, chathamkang@gmail.com

Corresponding author: Robert J. Blendon, rblendon@hsph.harvard.edu

Keywords: Health policy, Evidence based practice. International health services, Rationing

Word count: 2356~~2288~~

A FOUR-COUNTRY SURVEY OF PUBLIC ATTITUDES TOWARD RESTRICTING HEALTHCARE COSTS BY LIMITING THE USE OF HIGH-COST MEDICAL INTERVENTIONS ~~ACROSS FOUR COUNTRIES~~

ABSTRACT

Objective. To discern how the public in four countries, each with unique health systems and cultures, feels about efforts to restrain health care costs by limiting the use of high-cost prescription drugs and medical/surgical treatments.

Design. Cross-sectional survey.

Setting. Adult populations in Germany, Italy, the United Kingdom, and the United States.

Participants. 2517 adults in the four countries. A questionnaire survey conducted by telephone (landline and cell) with randomly-selected adults in each of the four countries.

Main outcome measures. Support for different rationales for not providing/paying for high-cost prescription drugs/medical or

surgical treatments, measured in the aggregate and using four case examples derived from actual decisions. Measures of public attitudes about specific policies involving comparative effectiveness and cost-benefit decision-making.

Results. The survey finds support among publics in four countries for decisions that limit the use of high-cost prescription drugs/treatments when some other drug/treatment is available that works equally well but costs less. The survey finds little public support, either in individual case examples or when asked in the aggregate, for decisions in which prescription drugs/treatments are denied on the basis of cost or various definitions of benefits. The main results are based on majorities of the public in each country supporting or opposing each measure.

Conclusions. The survey findings indicate that the public distinguishes in practice between the concepts of comparative effectiveness and cost-effectiveness analysis. This suggests that public authorities engaged in decision-making activities will find much more public support if they are dealing with the first type of decision than with the second.

ARTICLE SUMMARY

Article focus

- Despite increasing concerns among government officials about high health care spending, a survey of the public in four countries finds little support for decisions that limit use of high-cost prescription drugs and treatments.
- The results provide insights for policy-makers, indicating that the public distinguishes in practice between the concepts of comparative effectiveness and cost-benefit analysis. They will generally support decisions related to the first, but not the second.

Key Messages

- Government agencies dealing with cost-control issues should highlight those decisions not to pay for or provide the more expensive drug or treatment when two prescription drugs or treatments have the same outcome but one is more expensive than the other.
- Policy-makers need to be aware that when they discuss limiting the availability of high-cost prescription drugs or treatments based on the assessment of broader benefits, they may face considerable public controversy.

Strengths and Limitations

- This is the only multi-country study of attitudes on this subject. It is unique in that it includes responses for four actual cases where governments made decisions about what should be paid for or provided.
- For general public respondents these are complex issues that may be difficult to understand, and some responses might differ if respondents were aware of other factors.

A FOUR-COUNTRY SURVEY OF PUBLIC ATTITUDES TOWARD RESTRICTING HEALTHCARE COSTS BY LIMITING THE USE OF HIGH-COST MEDICAL INTERVENTIONS ~~ACROSS FOUR COUNTRIES~~

The rising cost of health care is seen as a serious concern in many industrialized countries. Increasingly, the focus by national governments for restraining these costs has been to have independent agencies assess whether the benefits of specific high-cost prescription drugs, diagnostic tests, and medical or surgical treatments justify their cost. If this is not seen to be the case, these agencies may recommend that payors or government health systems not pay for or provide these medical care interventions.

In Germany, the Institute for Quality and Efficiency in Healthcare (IQWiG – Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen) has been responsible for health technology assessments across a range of pharmaceuticals and therapeutics since 2004.[1-3] In Italy, the Italian Medicines Agency (AIFA – Agenzia Italiana del Farmaco) conducts health technology

assessments, evaluating the clinical benefits of new products and, in conjunction with the Pricing and Reimbursement Committee (CPR – Comitato Prezzi e Reimborso), judges cost effectiveness.[4] In the United Kingdom, the National Health Service has since 1999 relied on the National Institute for Clinical Excellence (NICE) to generate cost effectiveness assessments and determine whether new treatments offer enough value to justify adding their costs to the health system.[3,5] In the United States, 2010 saw the advent of a new comparative effectiveness agency, the Patient-Centered Outcomes Research Institute (PCORI). However, the new U.S. agency was established with an explicit ban on the use of any cost effectiveness analysis in payment or provision decisions, in notable contrast to its more empowered European counterparts.[6,7]

As this approach to restraining health costs grows, the question is raised about how accepting the public in these various countries will be to these types of decisions. Health care is a visible and popular issue. From one perspective, it might be expected that the public would support these approaches to containing costs and keeping health systems more affordable. On the other hand, they may see these government- or insurance-sponsored decisions as interfering in important individual physician and patient choices, and thus oppose them.

To date, there has not been an assessment of public attitudes across various countries on this question. A prior survey that looked at part of this overall issue found that the U.S. public was resistant to the use of comparative effectiveness research results for patient care expenditure decisions. The public was supportive of its use for general information, but not decision-making purposes.[8] An earlier study found that a majority of the German public favored government not limiting spending for health services, opposed limiting benefits to a core of essential benefits, and thought treatment decisions should be made by doctors.[9] A study in Italy found that when given a single case example, there was considerable public resistance to rationing or prior-setting.[10] In a recent study aimed at examining the German public's attitudes toward proposed criteria for prioritizing health services, little evidence of support was found for using age as a criterion.[11] ~~But European views might be expected to differ from American attitudes because of the long history of more government directed health systems.~~

In this article, we seek to provide an answer about public acceptance of these types of decisions by looking at the findings of a recent four-country survey. The data reported from Germany, Italy, the U.K., and the U.S. offer results about public attitudes toward these key questions. It also provides

Formatted: Indent: First line: 0.5"

Formatted: Superscript

Formatted: Superscript

Formatted: Superscript

the public response in each country to four case examples of actual decisions in which the high cost of a medical intervention was not thought by payors or governments to be justified by its overall benefits.

METHODS

The data are derived from a four-country survey by the Harvard School of Public Health and the Alliance for Aging Research. Fieldwork was conducted via telephone (landline and cell) with nationally representative random samples of adults age 18 and older in four countries by SSRS/ICR, an independent research company. Interview dates, sample sizes, and margins of error are shown below. The sample sizes are typical of public opinion surveys.

	Interview Dates	**Total interviews**	**Margin of error (percentage points)**
Germany	June 30 – July 19, 2011	500	+/–5.4
Italy	June 30 – July 19, 2011	500	+/–5.4
U.K.	June 30 – July	500	+/–5.4

	19, 2011		
U.S.	June 28 – July 24, 2011	1017	+/–3.9

Nonresponse in telephone surveys produces some known biases in survey-derived estimates because participation tends to vary for different subgroups of the population. To compensate for these known biases, a post-stratification weighting design was used to weight all collected interviews to represent each country's adult population. Weighting targets included telephone status (landline, cell) and various individual demographics: race/ethnicity (U.S. only), age, gender, education, and region. Other techniques, such as callbacks staggered over times of days and days of weeks and systematic respondent selection within households, are used to help ensure that the sample in each country is representative.

After weighting, the sample for each country reflects the demographic composition of the adult population of that country. The results for each country are generalisable to the adult population of that country.

The survey instrument comprised a range of questions relating to support for different rationales for not providing/paying for high-cost prescription drugs/medical or surgical treatments, measured in the aggregate and using four

Formatted: Indent: First line: 0.5"

Formatted: Indent: First line: 0"

case examples derived from actual decisions, and attitudes about specific policies involving comparative effectiveness and cost-benefit decision-making. The question wordings are shown in more detail on the three tables.

The survey included four case examples, derived from comparative effectiveness decisions that had actually been made in one or another of the countries. Respondents were read a paragraph about the decision, without mention of the country where the decision was made or the name of the prescription drug or diagnostic test involved, and then asked whether they approved or disapproved of the decision. The content of the case examples, whose wordings appear in Table 2, were derived from journal or newspaper accounts, or the actual decision. The drug/test, disease, and country for the four decisions were (1) Avastin/bowel cancer/U.K.,[129] (2) Avastin/Lucentis/wet age-related macular degeneration (wet AMD)/Italy,[130] (3) beta interferon/multiple sclerosis/U.K.,[141] and (4) positron emission tomography (PET scans)/head and neck tumors/Germany.[152]

Many of the questions in the survey were asked of split samples, where one half was asked about prescription drugs, the other half about medical or surgical treatments. Because the responses of the two half-samples were similar, the data for the two forms were combined for clarity of presentation and to increase statistical power. In the U.K. and Italy, questions

were asked about "the national health service providing…." In Germany and the U.S., questions were asked about "the government or health insurance plans paying for…."

Data analysis comprises descriptive statistics to ascertain public attitudes on each of the measures. Percentages and confidence intervals (at the 95% confidence level) are shown for the responses to each survey item in each country. The base for calculating percentages included all respondents who were asked the question, so there are no missing data. "Don't know/Refused" responses are included in the base, but are not shown in the tables unless they are 10% or greater for the question in one or more countries.

The Institutional Review Board at the Harvard School of Public Health ruled that this study is not human subjects research (Protocol #20104-101, December 16, 2010).

RESULTS

Across the four countries, many people believe that high-cost drugs and treatments are already often being withheld. Majorities of the public in Germany (58%), Italy (55%), and the U.S. (67%) believe that in their country high-cost prescription drugs/medical or surgical treatments are very or somewhat often withheld from some people who might benefit from them in order

to save money. This belief is not shared by a majority in the U.K., where 39% believe drugs/treatments are often withheld (Table 1).

Table 1. Public attitudes in four countries about comparative effectiveness decision-making and patient access (in percent)

	Germany n=500 % (CI 95%)	Italy n=500 % (CI 95%)	U.K. n=500 % (CI 95%)	U.S. n=1017 % (CI 95%)
In [your country] the (government or health insurance plans withhold/national health service withholds) high-cost (prescription drugs/medical or surgical treatments) from people who might benefit in order to save money…				
Very often	15 (11-19)	19 (15-24)	11 (7-14)	29 (26-33)
Somewhat often	43 (38-48)	36 (31-41)	28 (23-33)	38 (34-41)
Not too often	30 (25-35)	25 (20-29)	39 (33-44)	20 (17-23)
Not at all	4 (2-7)	9 (6-12)	19 (15-23)	7 (5-9)
Don't know/Refused	7 (4-10)	11 (8-14)	4 (1-6)	6 (4-8)
Paying for/providing approved (prescription drugs/medical or surgical treatments) regardless of cost (respondents were asked to choose between two statements:)				
The (government or health insurance plans should pay for/national health service should provide) any (prescription drug/medical or surgical treatment) that has been approved as being safe and effective for saving lives or improving people's health, regardless of what it costs	61 (56-66)	77 (72-81)	60 (55-65)	59 (55-62)
There are so many new, expensive prescription drugs and medical or surgical treatments that it is too expensive for (government or health insurance plans to pay for/the national health service to provide) all of them	35 (29-40)	20 (16-24)	38 (33-43)	35 (31-39)
The (government or your health insurance plan paying for/national health service providing) a more expensive (prescription drug/medical or surgical treatment) recommended by your doctor even if it has not been				

shown to work better than less expensive (drugs/treatments)				
Favor paying for/providing (oppose comparative effectiveness)	43 (37-48)	21 (17-25)	29 (24-34)	33 (29-37)
Oppose paying for/providing (favor comparative effectiveness)	49 (44-54)	70 (65-75)	69 (64-74)	64 (61-68)
Some (prescription drugs/medical or surgical treatments) that have been shown to be safe and effective should not be (paid for by the government or health insurance plans/provided by the national health service) because their high cost is not felt to be justified by the amount of benefit they provide.				
Favor not paying for/providing	32 (27-37)	31 (26-36)	34 (28-39)	31 (27-34)
Oppose not paying for/providing	59 (54-65)	61 (56-66)	63 (58-68)	62 (59-66)

Source: Harvard School of Public Health/Alliance for Aging Research Survey, 2011.

Note: "Don't know/Refused" responses not shown unless they are 10% or greater for the question in one or more countries.

Majorities in all four countries believe that any prescription drug/medical or surgical treatment that has been approved as safe and effective for saving lives or improving people's health should be paid for or provided, regardless of cost. Paying for or providing these drugs/treatments is favored by about three-fourths of the public in Italy (77%) and about six in ten in Germany (61%), the U.K. (60%), and the U.S. (59%).

A majority in Italy (70%), the U.K. (69%), and the U.S. (64%) oppose the government, health insurance plans, or the national health service paying for or providing a prescription drug/medical or surgical treatment recommended by their doctor if it has not been shown to work better than less expensive

ones. This view is shared by a plurality (49%) in Germany. This is often referred to as comparative effectiveness research.

However, the public does not support decisions in which prescription drugs/medical or surgical treatments are denied on the basis of cost or various definitions of benefits. The public was asked whether some prescription drugs/medical or surgical treatments that have been shown to be safe and effective should not be paid for or provided because of their high cost is not felt to be justified by the amount of benefit they provide. About six in ten—59% in Germany, 61% in Italy, 63% in the U.K., 62% in the U.S.—were opposed.

When it comes to case examples of specific decisions involving cost and benefits that have been made, majorities in all four countries opposed three of the four decisions presented in the survey. In a fourth case example, a decision not to pay for or provide an imaging technology for diagnosing certain types of cancer, majorities in three of the countries were opposed, while a majority in Italy favored the decision (Table 2).

Table 2. Public attitudes in four countries about actual coverage decisions (in percent)

	Germany n=250 % (CI 95%)	Italy n=250 % (CI 95%)	U.K. n=250 % (CI 95%)	U.S. n=509 % (CI 95%)
In one country, the national government decided against (paying for/providing) a new drug for treating an advanced form of cancer. On average, the drug costs				

($35,000/£21,000/€25,000) per patient. The drug does not cure the disease, but studies suggest that using the drug can add, on average, about six months to a patient's life. Some patients would gain only a short period, while others could gain a lot more time. If this decision not to (pay for/provide) this drug were made in [your country], would you approve or disapprove of the decision?				
Favor	36 (28-43)	39 (32-47)	24 (17-30)	37 (32-43)
Oppose	60 (53-68)	51 (44-59)	76 (69-82)	59 (54-65)
In one country, two drugs were available to treat a debilitating condition in the elderly. One of the drugs costs about 100 times as much as the other. The more expensive one has been tested and shown to be effective for people with this condition. The less expensive one has not been tested in research studies for treating this illness. However, many physicians who specialize in the condition use the lower-cost drug because they believe it is safe and effective for their patients. This is often referred to as using an off-label drug. The government in that country decided to (pay for/provide/pay) only the less expensive drug even though it had not been tested for this illness.-If this decision only to (pay for/provide) the less expensive drug that had not been tested for this illness were made in [your country], would you approve or disapprove of the decision?				
Favor	24 (18-31)	25 (18-31)	20 (14-26)	26 (21-31)
Oppose	70 (63-78)	71 (64-80)	80 (74-86)	71 (66-76)
A new drug is available for a serious, debilitating disease. It does not cure the disease, but it can provide relief for the symptoms of the disease. In one country, the national government decided to (pay for/provide) this drug only for a limited number of patients because of the drug's high cost of ($15,000/£9,000/€11,000) a year. The drug is reserved for those patients who are most likely to see significant health				

benefits. Some people have objected to the decision because they argue that other patients might also benefit from the drug.-If this decision to (pay for/provide) this drug only for a limited number of patients were made in [your country], would you approve or disapprove of the decision?				
Favor	28 (21-35)	26 (20-32)	27 (20-34)	28 (22-33)
Oppose	66 (58-73)	71 (64-77)	72 (65-79)	69 (64-75)
In one country, the national government decided against (paying for/providing) the use of an imaging technology for diagnosing certain types of cancers. The technology is more expensive than alternative methods, costing over ($2,000/£1,200/€1,400) per use. After conducting an evaluation, a government organization concluded that there was not enough scientific evidence to recommend using the technology for these other types of cancer. Other countries, however, actively use this technology for multiple types of cancer, because many doctors believe it provides the best, most detailed view of these other types of tumors. The evaluation organization argued that existing studies have not conclusively proven that the technology has advantages over alternative methods and therefore should not be (paid for/provided). If this decision not to (pay for/provide) this technology to help diagnose these other types of cancer were made in [your country], would you approve or disapprove of the decision?				
Favor	26 (19-32)	53 (46-60)	18 (13-24)	34 (28-39)
Oppose	67 (60-75)	39 (32-47)	78 (71-84)	63 (57-68)

Source: Harvard School of Public Health/Alliance for Aging Research Survey, 2011.

Note: “Don’t know/Refused” responses not shown.

The survey asked people whether they would favor or oppose their country having a government decision-making body that

recommends whether government programs should pay for or provide prescription drugs/medical or surgical treatments if they think they cost too much. Public opinion in the four countries differs. Majorities in Germany (69%) and Italy (71%) favor having such an agency. A majority (54%) in the U.S. oppose having such an agency, while 43% favor having one. The public in the U.K. is about evenly divided, with 46% in favor, 48% opposed (Table 3).

Table 3. Public attitudes in four countries about government decision-making about costs of medical interventions (in percent)

	Germany n=500 % (CI 95%)	Italy n=500 % (CI 95%)	U.K. n=500 % (CI 95%)	U.S. n=1017 % (CI 95%)
Favor/oppose [your country] having a government decision-making body that recommends whether government programs should (pay for/provide) (prescription drugs/medical or surgical treatments) if they think they cost too much				
Favor	71 (66-76)	69 (64-74)	46 (40-51)	43 (39-47)
Oppose	21 (17-25)	23 (18-27)	48 (42-53)	54 (50-58)
Such a government decision-making body would provide doctors with useful scientific information about what works best for patients with a given disease or medical condition				
Yes	64 (59-69)	87 (84-90)	67 (62-73)	55 (51-59)
No	27 (22-31)	7 (5-9)	27 (23-32)	40 (36-43)
Trust the national government to make the right health care decisions				
Trust	42 (37-47)	54 (49-59)	54 (49-59)	34 (30-38)
Do not trust	53 (48-58)	35 (30-40)	39 (34-44)	61 (57-65)
Don't know/Refused	5 (3-7)	11 (8-14)	7 (4-10)	4 (3-5)

Source: Harvard School of Public Health/Alliance for Aging Research Survey, 2011.

Note: "Don't know/Refused" responses not shown unless they are 10% or greater for the question in one or more countries.

In spite of these differences in approval for a government decision-making body, majorities in all four countries believe that such an agency would provide doctors with useful scientific information about what works for patients with a given disease or medical condition.

With regard to governmental decision-making in health care, majorities in Italy and the U.K. say that they trust their national government to make the right health care decisions, while majorities in Germany and the U.S. say they do not.

DISCUSSION

The survey findings indicate that the public distinguishes in practice between the concepts of comparative effectiveness and cost-benefit analysis. When two prescription drugs or treatments have the same outcome but one is more expensive than the other, the public supports policies that would not pay for or provide the more expensive one in the absence of evidence that it would work better than the less expensive alternative.

On the other hand, the survey found little public support, either in individual case examples or when asked in the aggregate, for the establishment of broader benefits as a criterion for whether or not a drug or treatment should be paid for or provided. If the evidence shows that a drug or treatment benefits some patients for some period of time, the public is

reluctant to have these medical interventions not paid for or provided.

Taken together, this suggests that across the four countries public authorities engaged in decision-making activities will find much more public support if they are dealing with the first type of decision than with the second. In addition, public officials may face public resistance for decision-making about whether to pay for or provide high-cost medical interventions, because a large proportion of the public believes that some high-cost prescription drugs and treatments are already being withheld.

This study has two main limitations. First, these types of policy-making decisions may be difficult for the general public to understand fully. Second, although respondents were told that these types of decisions were being made as a way of limiting future health care costs, they might have answered differently had they been told that these decisions might lower their taxes or health insurance premiums in the future, if that were the case.

Author Contributions

RJB and JMB made substantial contributions to the conception and design of the study, as well as the analysis and interpretation of the data, and drafted the article. MDB and MKK

made substantial contributions to the conception and design of the study, the analysis and interpretation of the data, and the critical revision of the article. DZ made substantial contributions to the conception and design of the study, and to the critical revision of the article. All authors gave final approval of this version of the article. No one who fulfills the criteria for authorship has been excluded as an author.

Competing Interests

All authors have completed the Unified Competing Interest form at http://www.icmje.org/coi_disclosure.pdf (available on request from the corresponding author). RJB, JMB, EMW, and KJW acted as subcontractors under an Alliance for Aging Research grant. DZ declares that the organisation by which she is employed, the Alliance for Aging Research, received a grant from Bayer AG for this survey.

Role of Funder

The survey was supported by a grant to the Alliance for Aging Research from Bayer AG. Bayer was not involved in the design of the survey, the data collection, the analysis or the interpretation of findings, or the preparation of the manuscript. The authors had full access to all data in the study

and had full responsibility for the decision to submit for publication.

Licence to Publish

The Corresponding Author has the right to grant on behalf of all authors and does grant on behalf of all authors, an exclusive licence (or non exclusive for government employees) on a worldwide basis to the BMJ Publishing Group Ltd and its Licensees to permit this article (if accepted) to be published in BMJ editions and any other BMJPGL products and sublicences to exploit all subsidiary rights, as set out in our licence.

Data sharing

The topline results of the survey are publicly available at http://www.hsph.harvard.edu/news/press-releases/files/blendon_topline_aging_12.11.pdf. Within six months, the dataset will be made available at a public opinion data archive.

REFERENCES

1. European Observatory on Health Care Systems. Health care systems in transition: Germany. 2000.

http://www.euro.who.int/__data/assets/pdf_file/0010/80776/E68952.pdf (accessed March 309, 2012).

2. Jonsson B. IQWiG: an opportunity lost? *Eur J Health Econ* 2008;9(3):205-207.

3. Chalkidou K, Tunis S, Lopert R, *et al.* Comparative effectiveness research and evidence-based health policy: experience from four countries. *Millbank Q* 2009;87(2):339-367.

4. France G, Taroni F, Donatini A. The Italian health-care system. *Health Econ* 2005;14(Suppl 1):S187-202.

5. Macarthur D. Pharmaceutical pricing and reimbursement in the United Kingdom. *Health Economics in Prevention and Care* 2000;1(1):47-50.

6. Kamerow D. PCORI: odd name, important job, potential trouble. *BMJ* 2011;342:d2635. doi: 10.1136/bmj.d2635.

7. Iglehart JK. The political fight over comparative effectiveness research. *Health Aff (Millwood)* 2010;29(10):1757-1760.

8. Gerber AS, Patashnik EM, Doherty D, *et al.* The public wants information, not board mandates, from comparative effectiveness research. *Health Aff (Millwood)* 2010;29(10):1872-1881.

9. Busse R. Priority-setting and rationing in German health care. *Health Policy* 1999;50 (1-2):71-90.

10. Fattore G. Clarifying the scope of Italian NHS coverage. is it feasible? is it desirable? *Health Policy* 1999;50(1-2):123-142.

11. Diederich A, Winkelhage J, Wirsik N. Age as a criterion for setting priorities in health care? a survey of the German public view. PLoS One 2011;6(8):e23930. http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0023930 (accessed March 30, 2012).

129. Smith R. Bowel cancer drug Avastin turned down by NICE. *The Telegram.* August 24, 2010. http://www.telegraph.co.uk/health/healthnews/7959762/Bowel-cancer-drug-Avastin-turned-down-by-Nice.html (accessed March 309, 2012).

13. Pavlou F. Avastin to be reimbursed by Italian authorities. *Ophthalmology Times Europe*. July 1, 2007. http://www.oteurope.com/ophthalmologytimeseurope/content/printContentPopup.jsp?id=476054 (accessed March 30, 2012).

14. Kernick D. Beta interferon, NICE, and rationing. *Br J Gen Pract* 2002;52(482):784–785.

15. Institute for Quality and Efficiency in Health Care. Benefit of positron emission tomography (PET) in patients with head and neck tumors cannot be assessed. April 27, 2011. https://www.iqwig.de/benefit-of-positron-emission-tomography-pet-in.1287.en.html (accessed March 30, 2012).

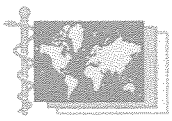
STROBE 2007 (v4) Statement—Checklist of items that should be included in reports of *cross-sectional studies*

Section/Topic	Item #	Recommendation	Reported on page #
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	2-3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	6-8
Objectives	3	State specific objectives, including any prespecified hypotheses	8-9
Methods			
Study design	4	Present key elements of study design early in the paper	9-11
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	9-10
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants	9-10
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	10-12
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	9-10
Bias	9	Describe any efforts to address potential sources of bias	10
Study size	10	Explain how the study size was arrived at	9
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	12
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	12
		(*b*) Describe any methods used to examine subgroups and interactions	Not applicable
		(*c*) Explain how missing data were addressed	12
		(*d*) If applicable, describe analytical methods taking account of sampling strategy	Not applicable
		(*e*) Describe any sensitivity analyses	Not applicable
Results			

Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	9-10
		(b) Give reasons for non-participation at each stage	10
		(c) Consider use of a flow diagram	Not applicable
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	10
		(b) Indicate number of participants with missing data for each variable of interest	12
Outcome data	15*	Report numbers of outcome events or summary measures	12-19
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	12-19
		(*b*) Report category boundaries when continuous variables were categorized	Not applicable
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Not applicable
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	Not applicable
Discussion			
Key results	18	Summarise key results with reference to study objectives	19-21
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	20
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	19-21
Generalisability	21	Discuss the generalisability (external validity) of the study results	10
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	21-22

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.



ICMJE INTERNATIONAL COMMITTEE of MEDICAL JOURNAL EDITORS

ICMJE Form for Disclosure of Potential Conflicts of Interest

Instructions

The purpose of this form is to provide readers of your manuscript with information about your other interests that could influence how they receive and understand your work. The form is designed to be completed electronically and stored electronically. It contains programming that allows appropriate data display. Each author should submit a separate form and is responsible for the accuracy and completeness of the submitted information. The form is in four parts.

1. Identifying information.

Enter your full name. If you are NOT the corresponding author please check the box "no" and a space to enter the name of the corresponding author in the space that appears. Provide the requested manuscript information. Double-check the manuscript number and enter it.

2. The work under consideration for publication.

This section asks for information about the work that you have submitted for publication. The time frame for this reporting is that of the work itself, from the initial conception and planning to the present. The requested information is about resources that you received, either directly or indirectly (via your institution), to enable you to complete the work. Checking "No" means that you did the work without receiving any financial support from any third party -- that is, the work was supported by funds from the same institution that pays your salary and that institution did not receive third-party funds with which to pay you. If you or your institution received funds from a third party to support the work, such as a government granting agency, charitable foundation or commercial sponsor, check "Yes". Then complete the appropriate boxes to indicate the type of support and whether the payment went to you, or to your institution, or both.

3. Relevant financial activities outside the submitted work.

This section asks about your financial relationships with entities in the bio-medical arena that could be perceived to influence,or that give the appearance of potentially influencing, what you wrote in the submitted work. You should disclose interactions with ANY entity that could be considered broadly relevant to the work. For example, if your article is about testing an epidermal growth factor receptor (EGFR) antagonist in lung cancer, you should report all associations with entities pursuing diagnostic or therapeutic strategies in cancer in general, not just in the area of EGFR or lung cancer.

Report all sources of revenue paid (or promised to be paid) directly to you or your institution on your behalf over the 36 months prior to submission of the work. This should include all monies from sources with relevance to the submitted work, not just monies from the entity that sponsored the research. Please note that your interactions with the work's sponsor that are outside the submitted work should also be listed here. If there is any question, it is usually better to disclose a relationship than not to do so.

For grants you have received for work outside the submitted work, you should disclose support ONLY from entities that could be perceived to be affected financially by the published work, such as drug companies, or foundations supported by entities that could be perceived to have a financial stake in the outcome. Public funding sources, such as government agencies, charitable foundations or academic institutions, need not be disclosed. For example, if a government agency sponsored a study in which you have been involved and drugs were provided by a pharmaceutical company, you need only list the pharmaceutical company.

4. Other relationships.

Use this section to report other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work.

ICMJE INTERNATIONAL COMMITTEE of MEDICAL JOURNAL EDITORS

ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name): Deborah
2. Surname (Last Name): Zeldow
3. Effective Date (07-August-2008): 31-January-2012

4. Are you the corresponding author? ☐ Yes ☑ No — Corresponding Author's Name: Blendon

5. Manuscript Title: Attitudes about restricting healthcare costs by limiting the use of high-cost medical interventions across four countries

6. Manuscript Identifying Number (if you know it)

Section 2. The Work Under Consideration for Publication

Did you or your institution at any time receive payment or services from a third party for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc…)?

Complete each row by checking "No" or providing the requested information. If you have more than one relationship click the "Add" button to add a row. Excess rows can be removed by clicking the "X" button.

The Work Under Consideration for Publication

Type	No	Money Paid to You	Money to Your Institution*	Name of Entity	Comments**	
1. Grant	☐	☐	☑	Bayer A G		× ADD
2. Consulting fee or honorarium	☑	☐	☐			× ADD
3. Support for travel to meetings for the study or other purposes	☑	☐	☐			× ADD
4. Fees for participation in review activities such as data monitoring boards, statistical analysis, end point committees, and the like	☑	☐	☐			× ADD
5. Payment for writing or reviewing the manuscript	☑	☐	☐			× ADD
6. Provision of writing assistance, medicines, equipment, or administrative support	☑	☐	☐			×

ICMJE INTERNATIONAL COMMITTEE of MEDICAL JOURNAL EDITORS

ICMJE Form for Disclosure of Potential Conflicts of Interest

The Work Under Consideration for Publication

Type	No	Money Paid to You	Money to Your Institution*	Name of Entity	Comments**	
7. Other	☑	☐	☐			ADD × ADD

* This means money that your institution received for your efforts on this study.
** Use this section to provide any needed explanation.

Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were present during the 36 months prior to submission.

Complete each row by checking "No" or providing the requested information. If you have more than one relationship click the "Add" button to add a row. Excess rows can be removed by clicking the "X" button.

Relevant financial activities outside the submitted work

Type of Relationship (in alphabetical order)	No	Money Paid to You	Money to Your Institution*	Entity	Comments	
1. Board membership	☑	☐	☐			× ADD
2. Consultancy	☑	☐	☐			× ADD
3. Employment	☑	☐	☐			× ADD
4. Expert testimony	☑	☐	☐			× ADD
5. Grants/grants pending	☐	☐	☑			× ADD
6. Payment for lectures including service on speakers bureaus	☑	☐	☐			× ADD
7. Payment for manuscript preparation	☑	☐	☐			×

ICMJE INTERNATIONAL COMMITTEE of MEDICAL JOURNAL EDITORS

ICMJE Form for Disclosure of Potential Conflicts of Interest

Relevant financial activities outside the submitted work

Type of Relationship (in alphabetical order)	No	Money Paid to You	Money to Your Institution*	Entity	Comments	
8. Patents (planned, pending or issued)	☑	☐	☐			ADD ×
9. Royalties	☑	☐	☐			ADD ×
10. Payment for development of educational presentations	☑	☐	☐			ADD ×
11. Stock/stock options	☑	☐	☐			ADD ×
12. Travel/accommodations/ meeting expenses unrelated to activities listed**	☑	☐	☐			ADD ×
13. Other (err on the side of full disclosure)	☑	☐	☐			ADD ×

* This means money that your institution received for your efforts.
** For example, if you report a consultancy above there is no need to report travel related to that consultancy on this line.

Section 4. Other relationships

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

☑ No other relationships/conditions/circumstances that present a potential conflict of interest

☐ Yes, the following relationships/conditions/circumstances are present (explain below):

At the time of manuscript acceptance, journals will ask authors to confirm and, if necessary, update their disclosure statements. On occasion, journals may ask authors to disclose further information about reported relationships.

Hide All Table Rows Checked 'No' SAVE

ICMJE INTERNATIONAL COMMITTEE of MEDICAL JOURNAL EDITORS

ICMJE Form for Disclosure of Potential Conflicts of Interest

Evaluation and Feedback

Please visit http://www.icmje.org/cgi-bin/feedback to provide feedback on your experience with completing this form.