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Comparison of health confidence in rural, suburban and urban areas in the UK and the USA: a secondary analysis

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ABSTRACT

Objective: Confidence in healthcare may influence the patients' utilisation of healthcare resources and perceptions of healthcare quality. We sought to determine whether self-reported confidence in healthcare differed between the UK and the USA, as well as by rurality or urbanicity.

Design: A secondary analysis of a subset of survey questions regarding self-reported confidence in healthcare from the 2010 Commonwealth Fund International Health Policy Survey.

Setting: Telephone survey of participants from the UK and the USA.

Participants: Our final analysis included 1511 UK residents (688 rural, 446 suburban, 372 urban, 5 uncategorised) and 2501 US residents (536 rural, 1294 suburban, 671 urban).

Outcome measures: Questions assessed respondents' confidence in the effectiveness and affordability of the treatment. We compared survey outcomes from these questions between, and within, the two regions and among, and within, residence types (rural, suburban and urban).

Results: Significant differences were found in self-reported confidence in healthcare between the UK and US, among residence types, and between the two regions within residence types. Reported levels were higher in the UK. Within regions, significant differences by residence type were found for the US, but not the UK. Within the US, suburban respondents had the highest self-reported confidence in healthcare.

Conclusions: Significant differences exist between the UK and US in confidence in healthcare. In the US, but not in the UK, self-reported confidence is related to residence type. Within countries, significant differences by residence type were found for the US, but not the UK. Our findings warrant the examination of causes for relative confidence levels in healthcare between regions and among US residence types.

ARTICLE SUMMARY

Article focus

- This paper compares consumers' self-reported confidence in healthcare in the UK and the USA, using 2010 survey responses gathered by the Commonwealth Fund.
- We sought to determine whether self-reported confidence in healthcare differed between the UK and the USA, as well as by rurality or urbanicity.

Key messages

- We believe that while much current political and academic discourse surrounding healthcare is focused on systems, providers and policy, patient experience and perception may also be the keys to understanding and responding to healthcare issues.
- Suburban residents in the USA expressed higher confidence in both receiving effective treatment and affording care than their rural and urban counterparts; however, overall confidence in the USA was significantly lower than in the UK, where residence type did not have an effect.
- These findings warrant the examination of the causes for relative confidence levels in both regions, as well as among residence types within the USA. Suburban healthcare in the USA should be further examined to identify why it is associated with higher patient confidence levels.

Strengths and limitations of this study

- Confidence can serve as a useful proxy for understanding patient attitudes and behaviours and has implications distinct from other more commonly discussed notions such as satisfaction, trust and self-efficacy.
- This analysis contributes to an ongoing discourse about healthcare systems by calling attention to the role of patient perspectives in this conversation. Such data provide a potential gauge of public response to policies affecting healthcare.
- Confidence is a subjective concept, and interpretations of the concept of confidence in one group may not be generalisable to another for semantic, cultural and situational reasons.
- Similarly, the definition of 'rurality' is not fixed, especially when comparing rural areas across different countries.

INTRODUCTION

A focus on patient-centered care has emerged in recent years in discussions of healthcare delivery, systems of care and direct care settings.[1 2] Patient-centered care

is typically defined as the care that is responsive to individual patient needs and which facilitates shared decision making among patients, family members and providers.[3] The patient experience is highly subjective and hinges on emotional, circumstantial and interpretive factors that are difficult to quantify and compare across groups.

While patient satisfaction has been discussed at some length,[4 5] another subjective measure, the concept of patient confidence in healthcare, is one that has been understudied thus far. The question of provider confidence in patients' abilities to care for themselves has been studied, but this research did not look into patients' own confidence regarding their health and healthcare.[6] A survey conducted in the USA explored the public's confidence in affording and accessing care.[7] Another US survey measured respondents' confidence in their ability to overcome disease without medical assistance.[8] Consumer confidence in healthcare has been surveyed,[9] but this is a facet of confidence focused more narrowly on consumer spending.

Related issues like patient satisfaction and self-efficacy have been explored in depth,[4 5 10 11] but these notions are distinct from confidence. Albert Bandura, who posited the widely held theory of self-efficacy as contributing to behaviours,[12] describes confidence as less conceptual than self-efficacy; confidence is a more generalised 'strength of belief', but without the specificity to agency and capacity implied by self-efficacy.[13] Confidence has also been described as one component, along with skills and knowledge, that is necessary for a patient to be 'activated' to participate in self-care or to make decisions with healthcare providers.[14] Self-efficacy is related to personal sense of capacity/capability, while satisfaction is a response or impression following an experience.[15]

With the passage and implementation of the Patient Protection and Affordable Care Act in the USA, discussions about healthcare have dominated recent political and popular discourse.[16 17] While the focus often centers around fiscal, cultural and ethical concerns, the tendency to criticise or praise a healthcare system may also be linked to biases, generalisations and narratives based on personal experiences and beliefs.[18 19] Confidence in one's individual healthcare and in the health system may play a key role in shaping patients' utilisation, assessments and stated desires regarding their health. Single-payer, publicly administered healthcare in the UK is often held up as a counterpoint to the more fragmented multipayer, fee-for-service system in the USA;[20–22] thus, a comparison of patient confidence in these two regions could be helpful in better assessing the role of confidence in discussions and decisions pertaining to healthcare.

The UK has been found to have one of the highest levels of patient satisfaction among European countries,[23] and comparisons of health outcomes in the UK and the USA have explored physical and mental domains of health-related quality of life in the two regions.[24] US-based confidence surveys have explored perceptions and comprehension of health reform[7] and consumer confidence within the USA.[15] Building on this research and on public interest in coexamining the UK and the US systems, we see value in comparing the two regions on the subjective measure of confidence.

Some factors related to confidence in healthcare include patient satisfaction, medical skepticism, trust in government, health literacy and management and organisation of the healthcare system.[24–27] The efficiency and effectiveness of a healthcare system from a patient's perspective might affect patient adherence to medical therapies, self-efficacy and determination to improve personal health.[28] In the case of medical skepticism, mistrust in the healthcare system could result in a patient's complete denial of any sort of service, believing that she or he is capable of taking care of their own health with no assistance.[24] Personal characteristics that have been found to influence confidence in personal health management are disease status, age, insurance coverage/ability to pay, the present health service infrastructure, language and cultural barriers, ethnicity, sex/gender, employment status and socioeconomic position.[8] These factors may affect a health system's delivery of programmes and services if community members do not feel confident in the system's ability to address issues specific to their community. Rural, lower resource communities with poorer system performance have been associated with low patient satisfaction,[29] and a Canadian study found that the place of residence contributed to patient satisfaction.[30] Factors such as perceived or actual facility or system performance and residence type may influence patient confidence in healthcare.

We sought to determine whether self-reported confidence in healthcare differed between the UK and the USA, as well as by rurality or urbanicity.

METHODS

Between March and June of 2010, the Commonwealth Fund's International Health Policy Survey was conducted via telephone surveys in 11 countries and from which we used data from the UK and the USA.[31] The survey was conducted by Harris Interactive Inc for the Commonwealth Fund. The survey contained questions about health and healthcare experiences, perceptions, coverage and costs. Households in both the UK and the USA were selected using random digit dialling, and both samples were drawn to be representative of the geographic population distribution in each country or region.[31] Alaska and Hawaii were excluded from the US survey. For the UK, interviewing took place throughout the UK (ie, England, Scotland, Wales and Northern Ireland). In both the countries, respondent selection within the household was random, based on the 'most recent birthday' method. In the UK, a web-based

computer-assisted telephone interviewing (web-based CATI) was used; while in the US, traditional CATI was used. Both forms of CATI are essentially the same, except that the web-based CATI programme can be run off of Harris Interactive's own centrally located server. In the UK, the surveys were conducted in English and averaged 20-min in duration; while for the USA, the surveys were conducted in English and Spanish and averaged 18-min in duration. In both the countries, professional interviewing staff conducted the interviewing and the quality was continuously monitored by the supervisory staff. Collection methods are further described elsewhere.[31] The Commonwealth Fund granted permission for secondary analysis of this dataset.

For this analysis, residence categorisation data from the UK were recoded from four categories into three categories for side-by-side comparison with the USA. American respondents were categorised as living in either a rural, suburban or urban area. UK respondents were originally categorised as living in a village/rural area, a small town, a large town or suburb of a city or an urban area. Village/rural area and small town were combined into one 'rural' group.

Three questions in the survey sought to assess participants' confidence levels. These questions were (1) 'How confident are you that if you become seriously ill, you will receive the most effective treatment, including drugs and diagnostic tests?' (2) 'How confident are you that if you become seriously ill, you will be able to afford the care you need?' and (3) 'How confident are you that you can control and manage your health problems?' Responses to all three questions were measured on a six-item Likert scale with the items 'very confident', 'confident', 'not very confident', 'not at all confident', 'unsure' and 'decline to answer'.

Pearson's χ^2 tests were used to compare the relative frequencies between and within regions and between and within residence types. To compare data ordinally, rank sum tests were also conducted. Mann-Whitney U tests measured differences between the UK and the USA overall, as well as between the UK and the USA within each residence type. Kruskal-Wallis tests were used for rank-sum comparisons between residence types overall and between residence types within each region or country. Significance was set at $p \leq 0.05$. All statistical analyses were conducted using Stata, V.12 (StataCorp. 2011. Stata Statistical Software: Release 12. College Station, Texas, USA: StataCorp LP).

RESULTS

Participants

In total, 1511 UK residents and 2501 US residents responded to the survey. The UK response rate was 24%, and the USA response rate was 26%.[16] Around 87% (86.8%) of the UK and 77.0% of the US respondents were identified as whites. Women made up 48.4% of the UK sample and 61.7% of the US respondents. Around 46% (45.5%) of the UK respondents lived in rural areas or small towns. Only 21.4% of the US respondents identified their residence as rural, while over half (51.7%) lived in suburban areas. Demographics are described further in table 1. Data were missing for five UK respondents on residence type, so these five participants were excluded from the data analysis.

Outcomes

A limited sample of respondents from each country (n=471 in the UK and 1486 in the USA) answered the question 'How confident are you that you can control and manage your health problems?' Over 90% of this limited pool of respondents in both regions answered 'very confident' or 'confident', so a statistical comparison was not meaningful, and that question was removed from the final analysis. The results of the other two confidence questions, 'How confident are you that if you become seriously ill, you will receive the most effective treatment, including drugs and diagnostic tests?' and 'How confident are you that if you become seriously ill, you will be able to afford the care you need?' are described as follows.

Confidence in receiving effective treatment

Overall, the differences between the UK and the USA for responses on confidence in receiving effective treatment were significant for both χ^2 and Mann-Whitney U tests (table 2).

Around 93% (93.3%) of the UK residents were confident or very confident in receiving effective treatment, compared with 73.3% of the US residents. Within residence types, Mann-Whitney and χ^2 tests revealed statistically significant differences between countries (all $p<0.01$). Among residence types, overall, the differences were also significant based on both χ^2 and Kruskal-Wallis tests. Within each country, there were only statistically significant differences by residence type in the USA (χ^2 p=0.003, Kruskal-Wallis p=0.001) and not in the UK (χ^2 p=0.817, Kruskal-Wallis p=0.781).

Confidence in affording care

Statistically significant differences were found between the UK and the USA via χ^2 and Mann-Whitney tests (table 3).

In the UK, 91% of respondents were confident or very confident in their ability to afford healthcare, versus 61.6% in the USA. Within residence types there were also statistically significant differences. Among residence types overall, there were only statistically significant differences based the χ^2 test, not on the Kruskal-Wallis. Within the UK and the USA, as for the effective treatment question, differences in confidence based on residence type were only statistically significant for the US respondents (USA: χ^2 p=0.001, Kruskal-Wallis p=0.001; UK χ^2 p=0.339, Kruskal-Wallis p=0.084).

A descriptive analysis of responses by residence type in the USA revealed that suburban respondents had the

Table 1 Demographic characteristics, by region/country of residence and residence type

Region/country of residence	UK			USA		
	n=1511			n=2501		
Residence type*	Rural/small town	Suburban	Urban	Rural	Suburban	Urban
	688	446	372	536	1294	671
Age						
18–29	215	118	117	32	73	63
30–49	235	185	162	149	370	209
50–64	131	93	51	171	431	192
65+	107	50	42	184	420	207
Gender						
Male	358	229	188	201	516	240
Female	330	217	184	335	778	431
Income level†						
Much below average	26	6	17	106	196	130
Somewhat below average	109	70	46	112	203	114
Average	345	234	171	139	262	154
Somewhat above average	95	111	99	101	339	131
Much above average	12	6	18	33	165	84
Race/ethnicity						
White, non-Hispanic				450	1031	445
Black, non-Hispanic				33	59	83
Hispanic				26	96	73
White (British, Irish, other European)	610	388	314			
Mixed (white and black Caribbean, white and black African, white and Asian, any other mixed)	54	36	31			
Asian or Asian British	10	8	14			
Black or black British	8	14	9			
Chinese	1	0	3			
Other	2	0	1			
Decline to answer	3	0	0			

*Missing data from five UK respondents on residence type.
†Missing data from 141 UK and 232 US respondents on income level.

highest percentage (76.3%) of confident or very confident ratings in effectiveness of treatment, versus 69.4% in rural areas and 70.4% in urban areas. Regarding the ability to afford treatment in the USA, 65.4% of suburban residents were confident or very confident, compared with 56.8% in rural areas and 58.2% in urban areas.

DISCUSSION

Significant differences were found between the UK and the US in health confidence. Suburban residents in the US expressed higher confidence in both receiving effective treatment and affording care than their rural and urban counterparts; however, the overall confidence in the USA was significantly lower than in the UK, where residence type did not have an effect. The effect of the overall difference between residence types may be moderated by the lack of difference in the UK. Our findings are supported by a previous study which found that in the UK the public is happier than in the USA (and other countries surveyed) regarding their healthcare system and are least likely to be worried about future healthcare needs.[32] Higher confidence in healthcare in the UK than in the USA may be related to differences between healthcare systems, to cultural and political differences or to differing social norms that may influence interpretations in answering questions about confidence. Examining the causes for higher or lower respondent confidence could illuminate future directions for health system decision makers in both the regions.

In addition to exploring the causes for relative confidence levels in those regions, these findings also warrant closer examination of the different confidence levels among residence types within the USA. Lower confidence in the rural US may not be simply attributable to health insurance coverage, as rural US coverage is highly variable.[33] Other factors such as income, race/ethnicity, age and sociocultural factors may combine to influence rural confidence.[33] The larger percentage of suburban Americans, who rated their confidence as high, implies that factors in the suburban environment may contribute to a sense of control or reliability. While disparities in access, safety and quality of care between rural and urban areas are well-documented,[34 35] our findings suggest that exploring the suburban healthcare

Table 2 Survey responses to the question: how confident are you that if you become seriously ill, you will receive the most effective treatment, including drugs and diagnostic tests?

	Confidence level (%)								
	Very confident	Confident	Not very confident	Not at all confident	Not sure	Decline to answer	χ^2	Mann-Whitney U	Kruskal-Wallis
Comparison between region/ country							p<0.001*	p<0.001*	
UK	32.0	61.3	5.6	0.7	0.4	0.0			
USA	34.6	38.7	16.0	9.1	1.3	0.3			
Comparison between residence types							p=0.004*		p=0.004*
Rural	32.0	51.2	10.2	5.2	1.2	0.1			
Suburban	35.9	44.9	12.4	5.6	1.0	0.2			
Urban	31.7	46.3	13.8	7.2	0.6	0.4			
Comparison within residence types, by region/country									
Rural							p<0.001*	p<0.001*	
Suburban							p<0.001*	p=0.009*	
Urban							p<0.001*	p<0.001*	
Comparison within region/country, by residence types									
UK							p=0.817		p=0.781
USA							p=0.003*		p=0.001*

Table 3 Survey responses to the question: How confident are you that if you become seriously ill, you will be able to afford the care you need?

	Confidence level (%)								
	Very confident	Confident	Not very confident	Not at all confident	Not sure	Decline to answer	χ^2	Mann-Whitney U	Kruskal-Wallis
Comparison between region/ country							p<0.001*	p<0.001*	
UK	33.8	57.2	6.6	0.6	1.9	0.0			
USA	26.6	35.0	22.4	13.6	2.1	0.3			
Comparison between residence types							p=0.002*		p=0.388
Rural	27.5	47.7	15.4	6.8	2.5	0.1			
Suburban	30.7	41.5	17.1	8.7	1.7	0.3			
Urban	29.1	41.4	16.6	11.0	1.8	0.1			
Comparison within residence types, by region/country									
Rural							p<0.001*	p<0.001*	
Suburban							p<0.001*	p<0.001*	
Urban							p<0.001*	p<0.001*	
Comparison within region/country, by residence types									
UK							p=0.339		p=0.084
USA							p=0.001*		p=0.001*

environment could provide insight into US healthcare attitudes, especially given that 50% of Americans live in suburban areas.[36] Studies have explored rural, suburban and urban localities as factors in health information management,[37] minority access to care[38] and telemedicine satisfaction[39] with varying results for each measure. More targeted research on the place of residence in healthcare confidence and quality may be advisable.

This analysis contributes to an ongoing discourse about the advantages and disadvantages of the UK and the US healthcare systems by calling attention to the role of patient perspectives in this conversation. How the end users perceive their system to be serving them or accessible to them is an important factor in assessing, maintaining and revising healthcare legislation, pricing, standards of care and communication frameworks. Data on confidence, particularly in patient assessments of future or hypothetical health circumstances, provide insight into how the patients might make decisions in planning and paying for healthcare. Such data also provide a potential gauge of public response to policies affecting healthcare. Our findings that the UK residents have greater self-reported confidence in healthcare might suggest higher levels of perceived reliability and system stability in their single-payer system as well as a perspective of confidence as a social norm. The outcomes determined here may be viewed as not only markers of patients' personal experiences with healthcare but also indicators of the sociocultural context in which each healthcare system functions. Comparing the responses to confidence questions with responses about insurance status, accessibility of care and personal factors such as income and age could be an area for follow-up research that could clarify the extent to which the expressions of confidence might be associated with system features versus other factors.

There remain constraints and limitations in our data and subsequent conclusions that must be taken into consideration. We were limited by the variables available in a secondary dataset, and our use of secondary data was driven by empirical research questions rather than by a conceptual framework. This analysis of two countries is exploratory in nature, and further research would be needed to determine if our findings hold true in other countries.

We acknowledge the inability to assess wholly the concept of confidence. Bandura refers to confidence as non-specific and a 'catchword'.[13] Confidence in one group may not be generalisable to another for semantic, cultural and situational reasons. However, confidence is probably a more accessible term than 'self-efficacy' or similar concepts for members of the public. As such, confidence may serve as a useful proxy in attempts to measure and understand patient attitudes and behaviours and has implications distinct from other commonly discussed notions such as satisfaction or trust, in that confidence implies components of self-efficacy. One study of diabetic patients in the USA found a strong correlation between patient self-efficacy and confidence in health outcomes, underscoring these separately measured variables as related, but distinct.[40] For both populations sampled in this study, data were gathered from primarily English-speaking respondents who answered survey questions about confidence originally written in English, and both groups received the questions worded identically, providing some consistency in how confidence might be interpreted here across groups.

The issue of confidence itself is somewhat unwieldy given the inherently subjective nature of the concept and the myriad factors that can contribute to individual confidence. Age, gender, ethnicity, education, socioeconomic status, health status and health literacy are just a few of the many factors that can potentially contribute to confidence in healthcare, and each might also serve as a potential confounder. Notably, two of the three Commonwealth Fund questions involve notions of personal forecasting ('if I become seriously ill, then… '), which may be more subject to biases than questions about conditions that are already present.

The definition of 'rurality' can be problematic, especially given the disparate categories for the UK and the USA. Although the recoding of these categories to combine 'village/rural area' and 'small town' in the UK was rather simple, definitions of what constitutes rural, suburban and other descriptors vary culturally and contextually. It is also notable that four healthcare systems are included in the Commonwealth Fund's category for the UK. Scotland, Wales, Northern Ireland and England each maintain unique healthcare systems; despite their similarities, distinctions should be acknowledged when assigning a value to the UK health system effectiveness and quality in comparison with the USA. For example, while universal registration for primary care is consistent across the four countries' health systems, there are key differences in prescription charges from country to country and in how each country is implementing recent reforms.[41] In addition to considering these distinct countries in future comparisons, other healthcare systems, such as Canada's, which combine public funding with private sector delivery,[42] could provide a useful point of comparison for future analyses of confidence in healthcare.

CONCLUSION

Our analyses revealed significant differences between the UK and the USA in self-reported confidence levels, suggesting a disparity between these regions and their systems in the provision of equitable healthcare to all residents. Suburban healthcare in the US should be further examined to identify why it is associated with higher patient confidence levels. The findings of this study build on existing literature and may provide insight for policy developers and health practitioners working with rural, suburban and urban communities. Patient confidence would be an interesting and

culturally relevant measure for future survey projects to explore in more detail.

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