

TRENDS IN PHYSICAL AND OCCUPATIONAL THERAPY UTILIZATION IN THE US AND WESTERN EUROPE

Florian Eichmann, PhD¹; Marco DiBonaventura, PhD²; Astrid Schoefer, OT³

¹Kantar Health, Munich, Germany; ²Kantar Health, New York, NY, USA; ³Private Practice, Munich, Germany

KANTAR HEALTH

PHP9

ABSTRACT

OBJECTIVE: Allied health care (AHC) disciplines, such as physical (PT) and occupational therapy (OT), are primarily performed by non-medical healthcare professionals. Although the budget impact of AHC is generally low, reimbursements are often scrutinized for their financial impact and benefit/risk ratios. To better inform the healthcare decision making regarding AHC, the aim of this study was to examine trends and utilization of PT and OT.

METHODS: Data from the 2013 US (N=75,000) and 2013 5EU (France, Germany, Italy, Spain, and UK; N=62,000) National Health and Wellness Survey (NHWS) were used. The NHWS is a patient-reported survey administered to a demographically representative sample of adults (with respect to age, sex, and region) in each country. Overall rates of PT/OT visits were reported. Patients who reported a PT/OT visit in the past six months were compared with those who did not with respect to sociodemographics, health characteristics, and comorbidity variables. Logistic regression models were then conducted to predict PT/OT visits from these variables.

RESULTS: Rates of PT/OT visits did not change from 2010 to 2013 but significant differences among countries were observed ($p < .05$). In 2013, France (0.54%) and the US (4.51%) had the most infrequent visits while Spain (11.13%) and Germany (11.92%) had the most frequent. Being in Germany (OR=3.46), being in Spain (OR=3.24), and having an above the country-specific median income (OR=1.14) were the strongest sociodemographic predictors of a PT/OT visit (all $p < .05$). Although most comorbidities were associated with an increased probability of a PT/OT visit, pain (OR=2.30), arthritis (OR=1.73), and psychiatric disease (OR=1.73) were most strongly associated (all $p < .05$).

CONCLUSIONS: PT and OT utilization varies significantly across countries, being highest in Germany and Spain where over 10% of adults reported a visit in the past six months. Pain-related (pain, arthritis) and psychiatric comorbidities were among the strongest predictors of PT/OT use.

- Sociodemographic and health characteristic differences between those who had and had not visited a PT/OT are reported in **Table 1**. Respondents who visited the PT/OT were significantly older and were significantly more likely to be female, be University educated, earn higher income, be unemployed, be obese, drink alcohol, smoke, and regularly exercise (all $p < .05$).
- Despite statistical significance on the above factors, most effect sizes were small.

Table 1: Sociodemographic and Health Characteristic Differences between Those Who Have and Have Not Visited a PT/OT in the Past Six Months

Variable	No PT/OT Visit (N=129,547)	Visited PT/OT (N=7,453)	p Value
Age (Years)			<.001
Mean ± SD	47.54 ± 16.34	49.72 ± 16.45	
Male (%)	61,641 (47.6%)	3,343 (44.9%)	<.001
University Education or Higher (%)	63,964 (49.4%)	4,454 (59.8%)	<.001
Annual Household Income			<.001
Below Country Median (%)	73,541 (56.8%)	3,890 (52.2%)	
Above Country Median (%)	43,087 (33.3%)	2,796 (37.5%)	
Declined to Answer (%)	12,919 (10.0%)	767 (10.3%)	
Employed (%)	72,110 (55.7%)	3,801 (51.0%)	<.001
BMI			<.001
Underweight (%)	3,194 (2.5%)	181 (2.4%)	
Normal Weight (%)	48,766 (37.6%)	2,608 (35.0%)	
Overweight (%)	41,537 (32.1%)	2,460 (33.0%)	
Obese (%)	32,492 (25.1%)	2,079 (27.9%)	
Declined to Provide Weight (%)	3,558 (2.7%)	125 (1.7%)	
Drink Alcohol (%)	91,988 (71.0%)	5,463 (73.3%)	<.001
Smoking Behavior			<.001
Never Smoked (%)	63,613 (49.1%)	3,195 (42.9%)	
Former Smoker (%)	38,989 (30.1%)	2,530 (33.9%)	
Current Smoker (%)	26,945 (20.8%)	1,728 (23.2%)	
Regularly Exercise (%)	81,757 (63.1%)	4,996 (67.0%)	<.001

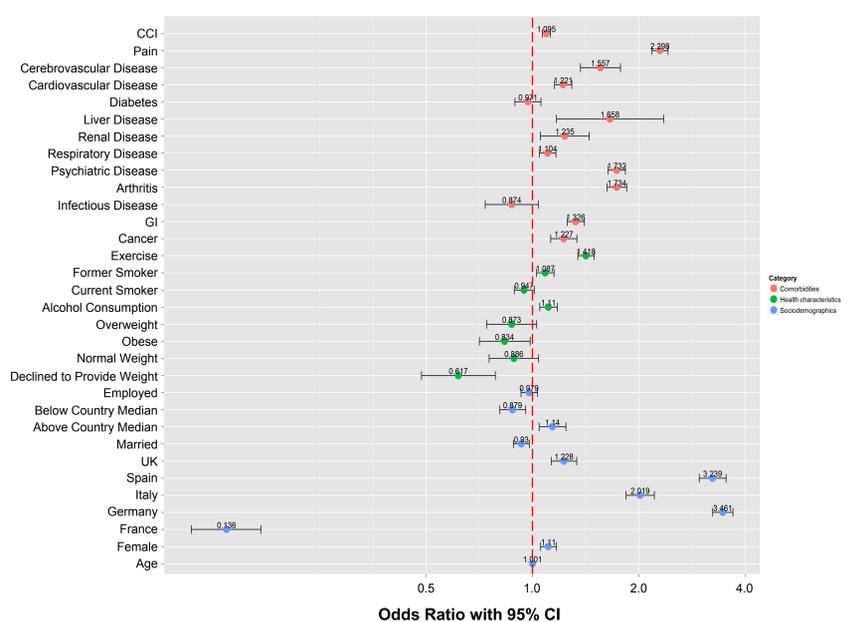
- For all comorbidity clusters, a significant association with having at least one PT/OT visit was observed. The overall CCI was nearly twice as high (0.71 vs 0.36) for respondents with at least one PT/OT visit (see **Table 2**).

Table 2: Comorbidity Differences between Those Who Have and Have Not Visited a PT/OT in the Past Six Months

Variable	No PT/OT Visit (N=129,547)	Visited PT/OT (N=7,453)	p Value
Cancer Comorbidity	8,699 (6.7%)	823 (11.0%)	<.001
GI Comorbidity	23,785 (18.4%)	2,318 (31.1%)	<.001
Infectious Disease Comorbidity	2,160 (1.7%)	200 (2.7%)	<.001
Arthritis Comorbidity	16,836 (13.0%)	2,007 (26.9%)	<.001
Psychiatric Disease Comorbidity	22,462 (17.3%)	2,349 (31.5%)	<.001
Respiratory Disease Comorbidity	30,346 (23.4%)	2,411 (32.3%)	<.001
Renal Disease Comorbidity	1,541 (1.2%)	226 (3.0%)	<.001
Liver Disease Comorbidity	267 (0.2%)	48 (0.6%)	<.001
Diabetes	11,512 (8.9%)	937 (12.6%)	<.001
Cardiovascular Disease Comorbidity	47,100 (36.4%)	3,745 (50.2%)	<.001
Cerebrovascular Disease Comorbidity	2,337 (1.8%)	350 (4.7%)	<.001
Experienced Pain	39,248 (30.3%)	4,162 (55.8%)	<.001
CCI			<.001
Mean ± SD	0.36 ± 0.90	0.71 ± 1.50	

- To assess the relative importance of all sociodemographic and comorbidity factors for having a PT/OT visit in the past six months, a logistic regression model was conducted.
- Entering all factors into a single logistic model suggested that being in Germany (OR=3.46), being in Spain (OR=3.24), and having an above-the-country median income (OR=1.14) were the strongest sociodemographic predictors of a PT/OT visit (all $p < .05$; see **Figure 2**).
- Although most comorbidities were associated with an increased probability of a PT/OT visit, experienced pain (OR=2.30), arthritis (OR=1.73), and psychiatric disease (OR=1.73) were most strongly associated (all $p < .05$).

Figure 2: Logistic Regression Model Results Predicting a PT/OT Visit in the Past Six Months Based on Sociodemographic, Health Characteristic, and Comorbidity Variables



INTRODUCTION

- Allied health care (AHC) disciplines, such as physical (PT) and occupational therapy (OT), are primarily performed by non-medical healthcare professionals.
- Although the budget impact of AHC is generally low (e.g., in Germany, 2.9% of 2012 statutory health insurance expenses are related to AHC¹), reimbursements are often scrutinized for their financial impact and benefit/risk ratios.
- Currently available utilization information is limited and typically originates from provider reports (e.g., physician surveys^{2,3}; administrative information^{1,3}).

OBJECTIVE

- To better inform the healthcare decision making regarding AHC, the aim of this study was to examine trends and utilization of PT and OT from the perspective of the adult population: We compared respondent-reported utilization rates in European countries and the US and assessed the relationship of PT/OT use with comorbidities and demographic/behavioral characteristics.

METHODS

Data Source

- Data from the 2013 US (N=75,000) and 2013 5EU (France, Germany, Italy, Spain, UK; N=62,000) National Health and Wellness Survey (NHWS) were used.
- The NHWS is an annual self-administered, internet-based survey from a nationwide sample of adults (aged ≥18 years) that is stratified by sex and age to represent the demographic composition of each individual country's adult population.
- All respondents provided informed consent, and the study was approved by an Institutional Review Board.

Sample

- All respondents in the US (N=75,000) and 5EU (N=62,000) were included in the analyses.

Measures

- PT/OT Visit** – Respondents were presented with a list of healthcare providers which they have visited in the past six months. Those who selected either “occupational therapist” or “physical therapist” were considered to have had a PT/OT visit.
- Sociodemographics** – Respondents provided information with respect to their country, sex, age, marital status, education, and annual household income (the latter was recoded as below the country-specific median, above the country-specific median, and declined to answer to make cross-country comparisons).
- Health Characteristics** – Respondents also provided information as to their alcohol consumption, smoking habits, exercise behavior, and height and weight (used to calculate body mass index [BMI]).
- Comorbidities** – A number of comorbidities were assessed in the NHWS. These were categorized into comorbidity clusters as follows:
 - Cancer
 - Gastrointestinal (GI)
 - Infectious Disease
 - Arthritis
 - Psychiatric Disease
 - Respiratory Disease
 - Renal Disease
 - Liver Disease
 - Diabetes
 - Cardiovascular Disease
 - Cerebrovascular Disease
 - Pain
- In addition, the Charlson comorbidity index (CCI) was also calculated as an overall indication of comorbidity burden.

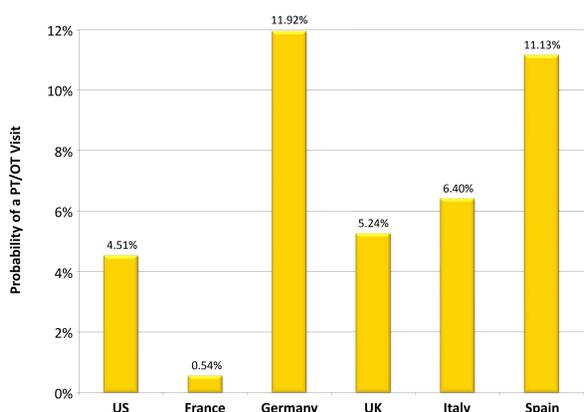
Statistical Analysis

- Frequency of having at least one PT/OT visit in the past six months was reported separately by country.
- Chi-square tests and one-way ANOVAs were used to test for sociodemographics, health characteristics, and comorbidity differences between those who did and did not report visiting a PT/OT in the past six months.
- A logistic regression model included all sociodemographics, health characteristics, and comorbidities as predictors of PT/OT visits. Odds ratios (ORs) and 95% confidence intervals of the ORs were reported.
- All analyses used $p < .05$ as the cutoff for statistical significance.

RESULTS

- Of the overall 137,000 respondents, 7,453 (5.4%) reported having at least one PT/OT visit during the past six months (PT/OT visit rate).
- Significant differences among countries were observed with respect to rates of PT/OT visits ($p < .05$) (see **Figure 1**). In 2013, France (0.54%) and the US (4.51%) had the most infrequent visits while Spain (11.13%) and Germany (11.92%) had the most frequent.

Figure 1: Rates of at Least One PT/OT Visit in the Past Six Months, by Country



References

- Waltersbacher A. 2013: Heilmittelbericht 2013 Wissenschaftliches Institut der AOK http://www.wido.de/fileadmin/wido/downloads/pdf_heil_hilfsmittel/wido_hei_hmbericht2013_1213.pdf.
- Hodgin KE, Nordon-Craft A, McFann KK, Mealer ML, Moss M. Crit Care Med. Feb 2009; 37(2):561-568. Physical Therapy Utilization in Intensive Care Units: Results from a National Survey. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2908523/>.
- Liu CJ, Stump TE, Ambuehl R, Clark DO. Utilization of Occupational and Physical Therapy Services in Postacute Care: Findings from the 2006 Health and Retirement Study and Linked Medicare Claims Data. Physical & Occupational Therapy in Geriatrics. 2014, Vol. 32, No. 1, 85-96. <http://informahealthcare.com/doi/abs/10.3109/02703181.2014.883044>.
- COTEC – Summary of the occupational therapy profession in Europe 2013, www.cotec-europe.org; <http://www.cotec-europe.org/userfiles/file/SummaryOfotProfesion2013.pdf>.

CONCLUSIONS

- As our study demonstrates, respondent-based healthcare utilization data can add relevant information to the discussion on healthcare expenses and healthcare system resource allocation.
- Overall PT/OT self-reported usage rates (~5%) were relatively low. Comparing with provider data, in Germany, 19.4% of those insured with the largest statutory health insurance, AOK, received at least one AHT prescription.
- While the Western European average utilization was similar to the US rate, there were significant differences among the European countries: PT/OT utilization was highest in Germany and Spain where over 10% of adults reported a visit in the past six months; utilization reported for France was the lowest. Utilization rates reflect to some extent the number of registered practitioners in these countries, where Germany reports highest numbers.⁴ The low numbers for France may relate to hospital-focused treatment, reimbursement questions, and potentially definitional differences.
- Overall, female, University educated, higher income, and physically active respondents were more likely to have PT/OT visits: Respondents with a more active and informed perspective on their health could thus be typical PT/OT users/receivers.
- Respondents reporting comorbidities were significantly more likely to have at least one PT/OT visit during the past six months. Effect sizes for association of PT/OT with comorbidities were by far larger than association with sociodemographics and health characteristics.
- Pain-related (pain, arthritis) and psychiatric comorbidities were among the strongest predictors of PT/OT use, suggesting treatments typically focus on sensorimotor/perceptive, CNS-related, and spinal/extremity disorders in PT/OT.¹

METHOD LIMITATIONS / ADVANTAGES

- Whereas provider reporting is typically biased towards respondents using respective services, respondent self-reporting provides an overall population-based perspective on service utilization.
- However, respondent-reported data do not include physician or expert verification of visits, comorbidities, or other variables and rely on information provided by the reporter.
- The NHWS is broadly representative of the countries it is fielded in with respect to key sociodemographic variables. However, the NHWS sample may differ from the respective adult population in terms of other variables (e.g., healthcare attitudes) that might limit the generalizability.
- For the PT/OT topic, data collection can be expected to under-report PT/OT utilization of subjects with long-term hospitalization or rehabilitation stays. Thus, PT/OT for example hemiplegia or severe neurological conditions may be under-reported in our analysis.

