



**School of Kinesiology
and Physical Therapy**

UNIVERSITY OF CENTRAL FLORIDA

THE INFLUENCE OF IMAGING ON CASH BASED PHYSICAL THERAPY UTILIZATION: A RETROSPECTIVE ANALYSIS

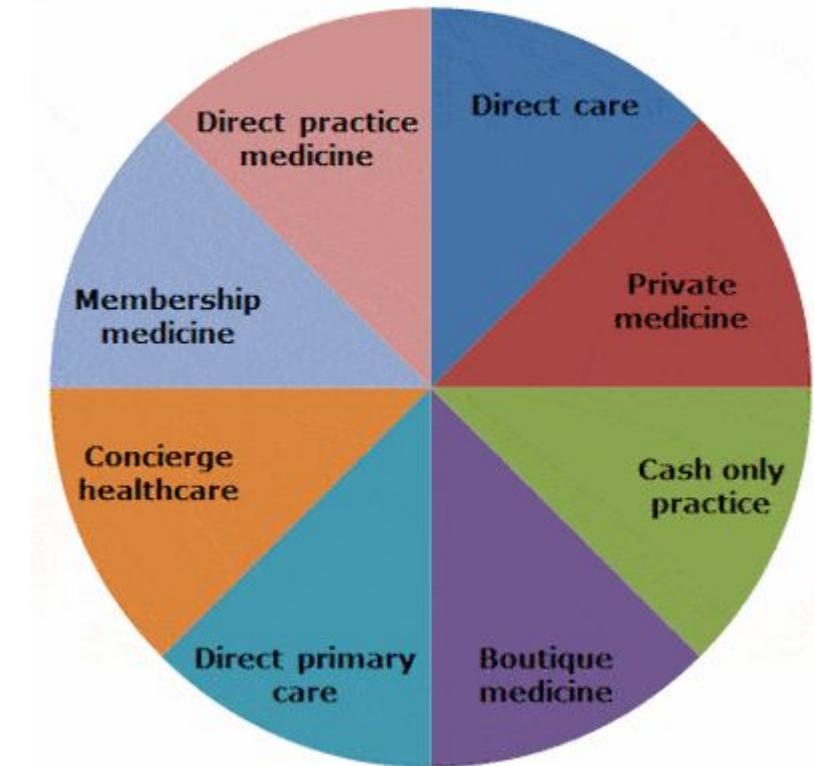
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Background

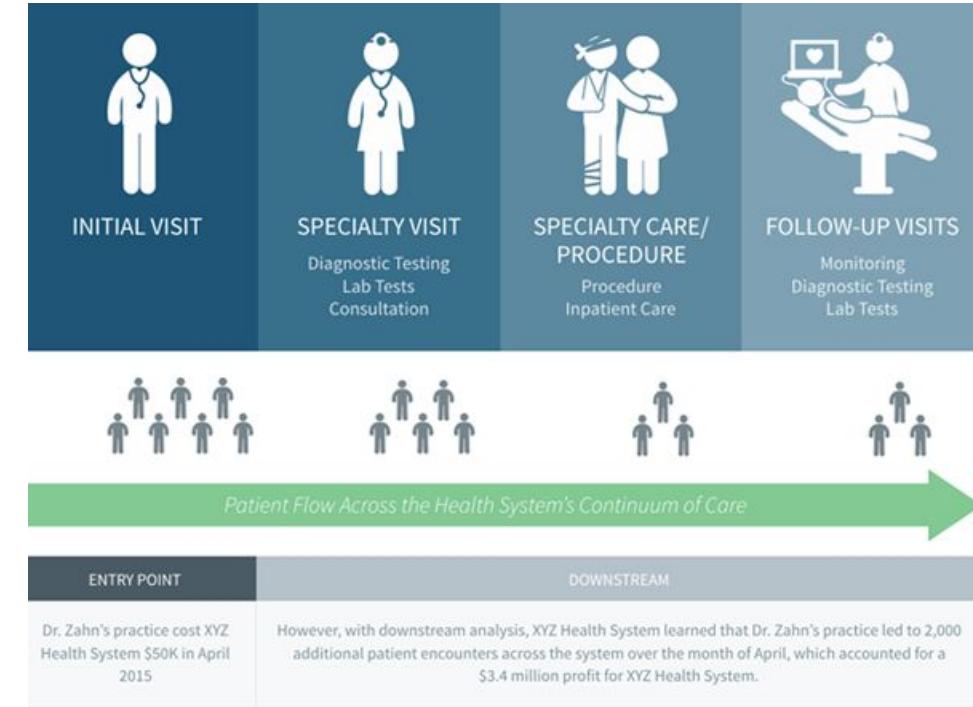
- What is Concierge Healthcare?
 - Broad Definition
 - *Requires upfront out of pocket payment to clinicians in exchange for enhanced access and services*
 - Cash Based PT
 - “CBPT”
 - Rate of Adoption¹
 - *US Concierge Healthcare growth from 2,400-5,000 to 12,000 practices*
 - 2010-2014

Concierge Medicine is Also Known As:



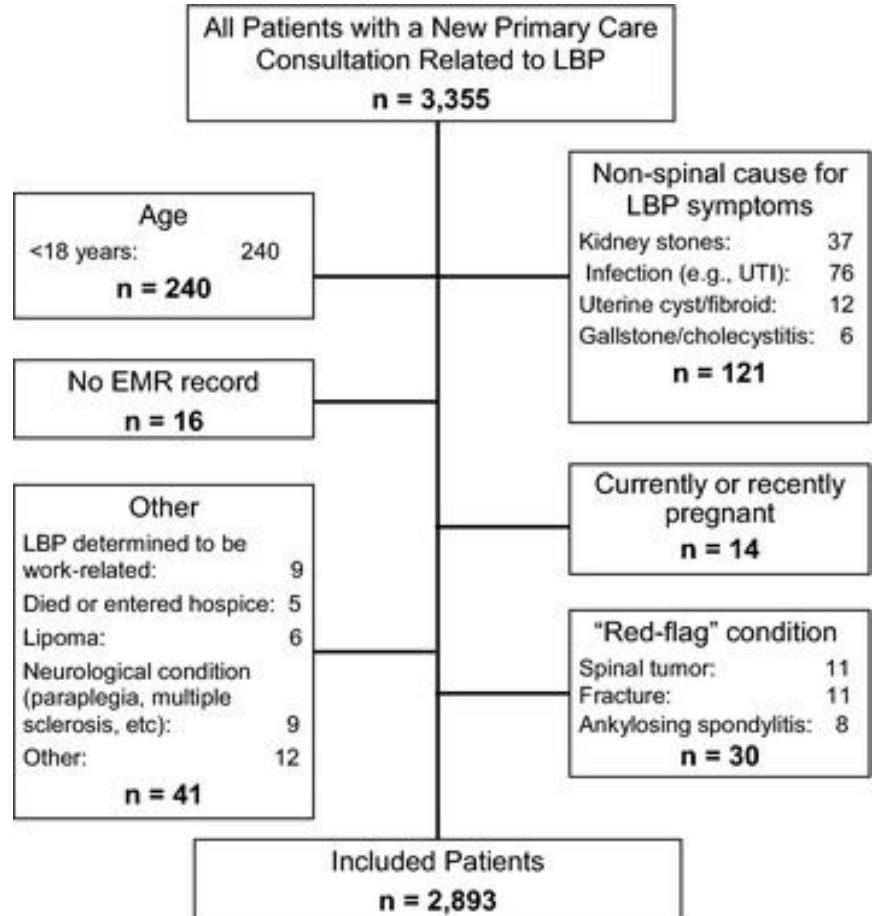
Background

- Reported Benefits of Concierge Healthcare
(compared to traditional care)
 - Clinician¹
 - Smaller patient caseloads
 - *500 vs 2,500 for traditional clinics*
 - Time with patients
 - *Average of 30 minutes more per patient*
 - Patient¹
 - Access to clinician
 - *Cell phone numbers to same day appointments*
 - Downstream care/healthcare utilization⁴
 - *Up to 50% reductions*



Background

- Evidence suggests that concierge healthcare
 - Has high levels of patient satisfaction^{1,2,3,4,5}
 - Decrease in healthcare utilization⁴
- Imaging effects on healthcare utilization⁷
 - PT vs Imaging first
 - Higher annual total health care utilization
 - *Average of \$4,793*



Purpose

- The purpose of this study was to investigate the effects of prior imaging on healthcare utilization in a CBPT setting.

Research Hypothesis

- It was hypothesized that patients who received advanced imaging or x-rays would have greater utilization of CBPT services, represented by the total amount of money spent.

Methods

Study Design

- This study utilized retrospective data from a private CBPT outpatient orthopedic practice.
- All previous patients who completed a plan of care under direct supervision of a licensed DPT were eligible for inclusion in this study.

Participants

- Data was collected from 254 patient charts who completed their plan of care between April 2015 and December 2019.
- All data was de-identified prior to the researchers receiving access.

Methods

Data Collection

- Characteristics extracted:
 - Age
 - Gender
 - Diagnosis
 - Prior X-ray
 - Prior Advanced Imaging
 - Number of Treatment Visits
 - Total Amount of Money Spent on CBPT

Statistical Analyses

- IBM SPSS Statistics Version 27 was used to perform the data analysis.
 - Means and standard deviations were calculated for all ratio data.
 - Frequency counts were calculated for all nominal data.
 - Difference in means were evaluated via independent t-tests, as well as analysis of variance (ANOVA).

Results

Table 1. Patient Demographics and Variables.

	Mean or Percent
Age (n=254)	43.0 ± 15.77 years
Gender: male (n=113)	44.5%
Gender: female (n=141)	55.5%
Patients with prior x-ray (n=64)	25.2%
Patients with prior advanced imaging (n=100)	39.4%
Treatment visits	9.67 ± 8.69
Total amount of money spent on CBPT	\$1,390.66 \pm \$997.34

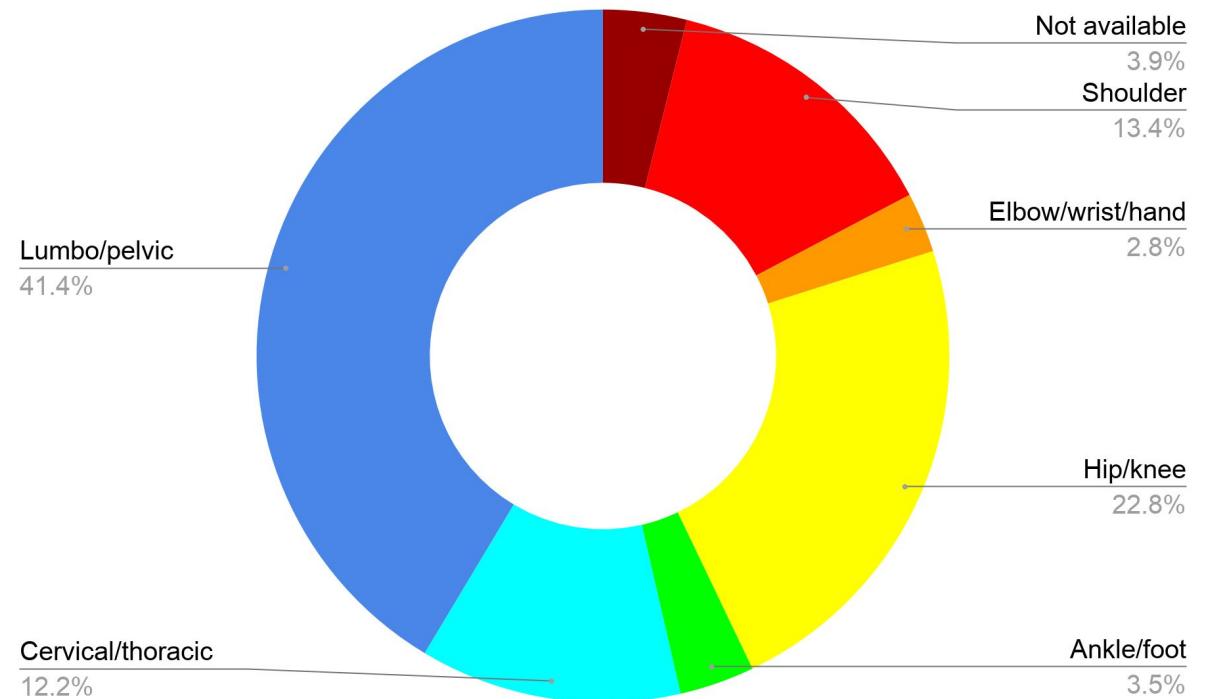
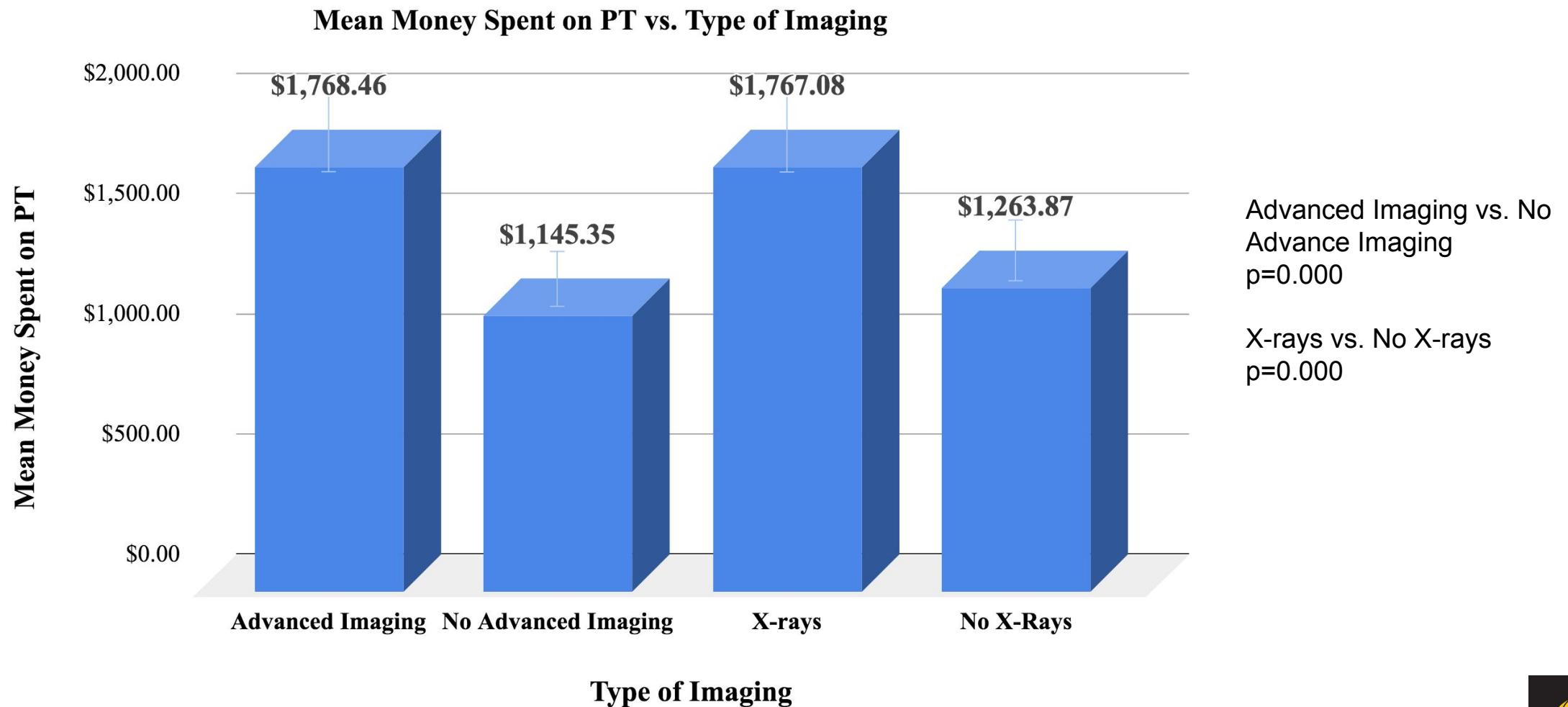


Figure 1. Frequency of diagnosis based on body part.

Key Findings



Study Limitations

- Findings are based on patients from one CBPT clinic
 - CBPT utilization may drastically differ depending on:
 - Specialty of the clinic (e.g. orthopedic, sports, geriatric, pediatric, neurologic, pelvic health)
 - General population
 - Clinic's geographic location.
- A large number of patients only utilize CBPT services once traditional insurance based PT has failed.
 - This makes it nearly impossible to pinpoint exactly when the imaging took place during the patient's course of injury.

Future Research Directions

- Investigating more CBPT clinics for specific dx⁷
 - Fritz et al. 2017
 - Healthcare utilization of MRI vs PT first populations*
 - LBP specific population; insurance based clinics*

Cash Based PT

Lumbo/Pelvic Avg Money Spent:	\$1,547.86
w/Advanced Imaging	\$1,894.04
w/No Imaging	\$1,179.00
%Diff	60.65%

Fritz et al. 2017

w/MRI Imaging	\$4,887.00
w/No Imaging	\$1,467.00
%Diff	233.13%

Note: avg MRI cost was subtracted from the original avg money spent

Clinical Bottom Line

- Our data supports
 - Receiving imaging, whether advanced imaging or x-ray, results in increased utilization of CBPT services, represented by greater total amount of money spent on PT when compared to patients who did not receive imaging.

Group Statistics

	Advanced Imaging (MRI, CT, Ultra)	N	Mean	Std. Deviation	Std. Error Mean
Money Spent on PT	No	154	\$1,145.34	\$875.911	\$70.583
	Yes	100	\$1,768.46	\$1,057.578	\$105.758

Group Statistics

	Xray	N	Mean	Std. Deviation	Std. Error Mean
Money Spent on PT	No	190	\$1,263.87	\$923.996	\$67.034
	Yes	64	\$1,767.08	\$1,113.909	\$139.239

Resources

1. Dalen JE, Alpert JS. Concierge Medicine Is Here and Growing!! *Am J Med*. 2017;130(8):880-881.
2. Braeuninger-Weimer K, Anjarwalla N, Pincus T. Discharged and dismissed: A qualitative study with back pain patients discharged without treatment from orthopaedic consultations. *Eur J Pain*. 2019;23(8):1464-1474.
3. Hush JM, Cameron K, Mackey M. Patient satisfaction with musculoskeletal physical therapy care: a systematic review. *Phys Ther*. 2011;91(1):25-36.
4. Page L. The rise and further rise of concierge medicine. *BMJ*. 2013;347:f6465.
5. Ojha HA, Snyder RS, Davenport TE. Direct access compared with referred physical therapy episodes of care: a systematic review. *Phys Ther*. 2014;94(1):14-30.
6. Pendergast J, Kliethermes SA, Freburger JK, Duffy PA. A comparison of health care use for physician-referred and self-referred episodes of outpatient physical therapy. *Health Serv Res*. 2012;47(2):633-654.
7. Fritz JM, Brennan GP, Hunter SJ. Physical Therapy or Advanced Imaging as First Management Strategy Following a New Consultation for Low Back Pain in Primary Care: Associations with Future Health Care Utilization and Charges. *Health Serv Res*. 2015;50(6):1927-1940.
8. Chevan J, Riddle DL, Reed SD. Out-of-Pocket Spending for Ambulatory Physical Therapy Services From 2008 to 2012: National Panel Survey. *Phys Ther*. 2015;95(12):1680-1691.

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QUESTIONS?

