A Single-Clinic Intervention to Facilitate Patient Communication, Improve Visit Satisfaction, and Provide Real-time Feedback

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Disclosures

- Pioneer Surgical Technology, Inc.
- Consultant to over 20 TV Shows

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THE CLINIC SATISFACTION TOOL

• What is it?
• Why is it needed?
• What is it trying to accomplish?
• How is it used?
• Can it be widely implemented?
• Is it simple and inexpensive?
• Is its use compliant with all rules and regulations?
• Will it slow down or cause negative impact to clinic?
• What are the alternatives?
Your Provider

1. Our records show that you got care from the provider named below in the last 6 months.
   Name of provider label goes here

   Is that right?
   ☐ Yes
   ☐ No → If No, go to #23 on page 4

   The questions in this survey will refer to the provider named in Question 1 as “this provider.”
   Please think of that person as you answer the survey.

2. Is this the provider you usually see if you need a check-up, want advice about a health problem, or get sick or hurt?
   ☐ Yes
   ☐ No

3. How long have you been going to this provider?
   ☐ Less than 6 months
   ☐ At least 6 months but less than 1 year
   ☐ At least 1 year but less than 3 years
   ☐ At least 3 years but less than 5 years
   ☐ 5 years or more

Your Care From This Provider in the Last 6 Months

These questions ask about your own health care. Do not include care you got when you stayed overnight in a hospital. Do not include the times you went for dental care visits.

4. In the last 6 months, how many times did you visit this provider to get care for yourself?
   ☐ None → If None, go to #23 on page 4
   ☐ 1 time
   ☐ 2
   ☐ 3
   ☐ 4
   ☐ 5 or 9
   ☐ 10 or more times

5. In the last 6 months, did you contact this provider’s office to get an appointment for an illness, injury, or condition that needed care right away?
   ☐ Yes → If Yes, go to #7
   ☐ No → If No, go to #7

6. In the last 6 months, when you contacted this provider’s office to get an appointment for care you needed right away, how often did you get an appointment as soon as you needed?
   ☐ Never
   ☐ Sometimes
   ☐ Usually
   ☐ Always

7. In the last 6 months, did you make any appointments for a check-up or routine care with this provider?
   ☐ Yes
   ☐ No → If No, go to #9

8. In the last 6 months, when you made an appointment for a check-up or routine care with this provider, how often did you get an appointment as soon as you needed?
   ☐ Never
   ☐ Sometimes
   ☐ Usually
   ☐ Always

9. In the last 6 months, did you contact this provider’s office with a medical question during regular office hours?
   ☐ Yes
   ☐ No → If No, go to #11

10. In the last 6 months, when you contacted this provider’s office during regular office hours, how often did you get an answer to your medical question that same day?
    ☐ Never
    ☐ Sometimes
    ☐ Usually
    ☐ Always

CG CAHPS:
Clinic and Group Consumer Assessment of Healthcare Provider and Systems

14. In the last 6 months, how often did this provider show respect for what you had to say?
    ☐ Never
    ☐ Sometimes
    ☐ Usually
    ☐ Always

15. In the last 6 months, how often did this provider spend enough time with you?
    ☐ Never
    ☐ Sometimes
    ☐ Usually
    ☐ Always

16. In the last 6 months, did this provider order a blood test, x-ray, or other test for you?
    ☐ Yes → If Yes, go to #18
    ☐ No → If No, go to #8

17. In the last 6 months, when this provider ordered a blood test, x-ray, or other test for you, how often did someone from this provider’s office follow up to give you the results?
    ☐ Never
    ☐ Sometimes
    ☐ Usually
    ☐ Always

18. Using any number from 0 to 10, where 0 is the worst provider possible and 10 is the best provider possible, what number would you use to rate this provider?
    ☐ 0 Worst provider possible
    ☐ 1
    ☐ 2
    ☐ 3
    ☐ 4
    ☐ 5
    ☐ 6
    ☐ 7
    ☐ 8
    ☐ 9
    ☐ 10 Best provider possible

19. In the last 6 months, did you take any prescription medications?
    ☐ Yes → If Yes, go to #21
    ☐ No → If No, go to #21

20. In the last 6 months, how often did you and someone from this provider’s office talk about all the prescription medicines you were taking?
    ☐ Never
    ☐ Sometimes
    ☐ Usually
    ☐ Always

21. In the last 6 months, how often were clerks and receptionists at this provider’s office as helpful as you thought they should be?
    ☐ Never
    ☐ Sometimes
    ☐ Usually
    ☐ Always

22. In the last 6 months, how often did clerks and receptionists at this provider’s office treat you with courtesy and respect?
    ☐ Never
    ☐ Sometimes
    ☐ Usually
    ☐ Always

23. In general, how would you rate your usual physical or mental health?
    ☐ Excellent
    ☐ Very good
    ☐ Good
    ☐ Fair
    ☐ Poor

24. In general, how would you rate your usual mental or emotional health?
    ☐ Excellent
    ☐ Very good
    ☐ Good
    ☐ Fair
    ☐ Poor

25. What is your age?
    ☐ 18 to 24
    ☐ 25 to 34
    ☐ 35 to 44
    ☐ 45 to 54
    ☐ 55 to 64
    ☐ 65 to 74
    ☐ 75 or older

26. Are you male or female?
    ☐ Male
    ☐ Female

27. What is the highest grade or level of school that you have completed?
    ☐ 8th grade or less
    ☐ Some high school, but did not graduate
    ☐ High school graduate or GED
    ☐ Some college or 2-year degree
    ☐ 4-year college graduate
    ☐ More than 4-year college degree

28. Are you of Hispanic or Latino origin or descent?
    ☐ Yes, Hispanic or Latino
    ☐ No, not Hispanic or Latino

29. What is your race? Mark one or more.
    ☐ White
    ☐ Black or African American
    ☐ Asian
    ☐ Native Hawaiian or Other Pacific Islander
    ☐ American Indian or Alaska Native
    ☐ Other

30. Did someone help you complete this survey?
    ☐ Yes
    ☐ No → Thank you.
    Please return the completed survey in the postage-paid envelope.

31. How did that person help you? Mark one or more.
    ☐ Read the questions to me
    ☐ Wrote down the answers I gave
    ☐ Answered the questions for me
    ☐ Translated the questions into my language
    ☐ Helped in some other way

Thank you.
Please return the completed survey in the postage-paid envelope.
Relevant CG CAHPS Satisfaction Scores

• Global
  – Rate provider 0-10

• MD Communication Domain
  – Doctor explains in a way you understand
  – Doctor listens carefully to you
  – Doctor gives easy to understand instructions
  – Doctor knows important info medical history
  – Doctor shows respect for what you say
  – Doctor spends enough time with you
Why do we care about CG CAHPS?

- Hospital scorecards
- Impact on reimbursement
- Provide great quality care
- Online Profile and reputation
THE CLINIC SATISFACTION TOOL

- Will it improve patient – clinician communication?
- Will it improve satisfaction?
- Will it provide physicians with real time feedback and meaningful information?
- Can it impact or predict patient communications scores and global rating (CG CAHPS)?
  - Patient perspective
- Can it improve quality of clinic for providers?
  - Clinician perspective
- Is there a better option?
CLINIC SATISFACTION TOOL: WHY IS IT NEEDED?
Duke Spine Center

• Team approach to spine care:
  – Complete team of experts working together to cover every aspect of spine care treatment, recovery, and rehabilitation
  – Our team includes:
    • Neurosurgeons, Orthopedic surgeons, Physiatrists, Physical Therapists, Nurses, Behavioral Health Psychologist, Surgical and Medical Pain Management, Chiropractic Care, and More
Patient Volume

We average >1300 patients & >1400 encounters per month
Our Patients

<table>
<thead>
<tr>
<th>Table 1: Spine Center Patient Demographics, All comers, December 2016 (n=1193)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (mean, SD)</strong></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td><strong>Race</strong></td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>Black</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td><strong>Current or former smoker</strong></td>
</tr>
<tr>
<td><strong>Department</strong></td>
</tr>
<tr>
<td>Neurosurgery</td>
</tr>
<tr>
<td>Orthopedic Surgery</td>
</tr>
<tr>
<td>PM &amp; R</td>
</tr>
<tr>
<td><strong>Comorbidities (mean, SD)</strong></td>
</tr>
<tr>
<td><strong>Charlson-Deyo (mean, range)</strong></td>
</tr>
</tbody>
</table>
Why is change needed?

• As a group of spinal physicians, we were below target for CG CAHPS global & communication scores for FY 2015
  – Wide range of outcomes at individual clinician level
    • Each person has unique issues
  – Collaborations with hospital communications specialist
    • Observing interviews and providing targeted feedback did not show sustainable changes
  – Transparently demonstrating to providers their low scores and attention on specific questions did not help

<table>
<thead>
<tr>
<th>Global Rating</th>
<th>Rate provider 0-10</th>
<th>Top Box R.. DENOMIN.. Misses</th>
<th>92.00%</th>
<th>25</th>
<th>2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Know important info medical</td>
<td>Top Box R.. DENOMIN.. Misses</td>
<td>95.00%</td>
<td>25</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Provider expl in way you unders</td>
<td>Top Box R.. DENOMIN.. Misses</td>
<td>96.00%</td>
<td>25</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Provider Gives Easy to Understand</td>
<td>Top Box R.. DENOMIN.. Misses</td>
<td>95.65%</td>
<td>23</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Provider listen carefully</td>
<td>Top Box R.. DENOMIN.. Misses</td>
<td>92.00%</td>
<td>25</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>Show respect for what you</td>
<td>Top Box R.. DENOMIN..</td>
<td>92.00%</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>
Not Great Results in 2015

Modest improvements… …or frank decline

Provider 7: PC score over time

Provider 6: PC score over time
2015 CG CAHPS scores were lackluster

Global

Physician Communication

CG CAHPS Global Score 2015

CG CAHPS Communication Score 2015
How do we improve patient experience and satisfaction?

- Clinic is very busy with many different providers and trying to enforce any initiative is complicated.
- We have a difficult population in that chronic pain & spine patients traditionally give lower scores.
- There are limits to using CG CAHPS.
CG CAHPS Global Response Feedback

CGCAHPS Global Responses
Jan 2015 - Dec 2016

Less than 10% completion rate: see 1400 patients a month
CG CAHPS Physician Communication Feedback

CGCAHPS Physician Communication Responses
Jan 2015 - Dec 2016

50% completion rate
CG CAHPS: Limitations

- **Aggregated data** means no association with particular patients, visits, or procedures
- **Limited option for free text** to articulate patient comments
- Large delay of months between visits and results
  - Difficulties to judge an intervention
- **Data validity and utility**
  - Highly variable as patient related outcomes are associated with a patient’s education & work status and other factors
  - Weak, if any, association between patient satisfaction and surgical outcomes
Something CG-CAHPS is not...
A Patient’s Perspective

• Many factors impact patient experience and scores beyond the doctor visit
  – Initial referral / phone call
    • Average time from call to appointment: weeks
  – Interactions with Scheduling Hub
  – Parking
  – Ease of navigation around medical complex
  – Spine Clinic proximity to building entrance
  – Cleanliness of facility
  – Delays unrelated to provider
  – Staff interactions with patient
What is the Clinic Satisfaction Tool trying to accomplish?
Patient Centered Goals

• Opportunity to verbalize all concerns without pressure
• Limits stress of visit for patient ("white coat phenomena")
• Improved safety through clearer communication
Provider Centered Goals

• Efficient and focused descriptions of patient concerns and goals of care
• Rapid & targeted feedback and reports of satisfaction to physician
• Ability to improve encounter
Physician-Patient Partnership

• Most productive visit possible through direct articulation of goals
• Build mutual trust
• Limit errors & miscommunication
Avoid the kind of drama that pops up on
### CST design driven by CG CAHPS limitations

<table>
<thead>
<tr>
<th>CG CAHPS Limitation</th>
<th>Clinic Satisfaction Tool feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Aggregated data limits association with particular patients</td>
<td>Every form is associated directly with the patient &amp; encounter</td>
</tr>
<tr>
<td>2. Few free text responses</td>
<td>Single sheet reduces form fatigue and free text is easy to use for every patient and clinician</td>
</tr>
<tr>
<td>3. Large delay between visits and results</td>
<td>Immediate feedback and actionable content</td>
</tr>
<tr>
<td>4. Low Percent of Patients completing survey</td>
<td>Form given to every patient</td>
</tr>
</tbody>
</table>
What is the clinic satisfaction tool? How is it used?
Clinic Satisfaction Tool given to every patient at check in

Patient fills out chief complaints before visit

Physician reviews chief complaints during visit

Patient gives clinic feedback

Satisfaction Questions answered Suggestions for improvement

Nurse and doctor reviews CST before patient leaves

If patient is unsatisfied or questions were unanswered, physician returns to address patient concerns with attempt to rescue visit

DUKE SPINE CENTER

To ensure that you get the most benefit from your visit today, please tell us three things you wish to have addressed. (These can include questions about medication, tests, physical activity, treatment options, etc.)

1. 

2. 

3. 

Please keep this form with you and have it available when you speak to your provider. At the conclusion of your visit, please complete the questions below:

How could we support your care better?

Were all of your questions addressed today?  

☐ YES  ☐ NO

Are you satisfied with your visit?  

☐ YES  ☐ NO

Physician initials __________

THANK YOU for helping us to provide you with excellent care today at the DUKE SPINE CENTER! Please ask about MyChart to get access to your doctor and their team outside of the clinic (also see your after visit summary for more details).
Pre-encounter before doctor enters room

Date: ________________

Patient Name ___________________  Physician: ___________________

DUKE SPINE CENTER

To ensure that you get the most benefit from your visit today, please tell us three things you wish to have addressed. (These can include questions about medication, tests, physical activity, treatment options, etc.)

1. __________________________________________
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________ 

2. __________________________________________
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________ 

3. __________________________________________
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________
Clinician Role

- Doctor reads concerns and goals of visit upon entering room
- Doctor specifically addresses these issues during visit
- Doctor uses patient’s thoughts and descriptions to guide treatment and care recommendations
- Attention to choice of words facilitates communication
Post-encounter after doctor leaves room

Please keep this form with you and have it available when you speak to your provider. At the conclusion of your visit, please complete the questions below:

How could we support your care better?

Were all of your questions addressed today? □ YES □ NO
Are you satisfied with your visit? □ YES □ NO

Physician initials _______

THANK YOU for helping us to provide you with excellent care today at the DUKE SPINE CENTER! Please ask about MyChart to get access to your doctor and their team outside of the clinic (also see your after visit summary for more details).
Immediate Feedback to Team and Clinician

Nurse collects CST at visit end

Provider reads comments immediately

Return to room if
- Negative comments
- Questions unanswered
- Satisfaction = “No”

24h phone call for unresolved “No” responses

We work hard to have every patient leave satisfied!

How would we have known dissatisfaction without Clinic Tool?
Comments make clinic more rewarding for clinicians too!
Can CST improve clinician resiliency?

Frequently cited causes of physician burnout:
- Bureaucratic tasks associated with medicine
- Loss of control over work
- Lack of work-life balance
- Increasing complexity of medical care

Physician Burnout Now A Top Concern Across the United States
Comments

Provider
- Wait time
- Comments about the visit or their care

Clinic
- Wait time
- Comments about nursing staff
- Accessibility (calls, appointments)

Systems
- Clinic location
- Parking
- Maestro/MyChart

Other
- medical complaints outside our scope of practice
Clinic Satisfaction Tool is Cheap!

- An expensive service for free!
- CST provides much more detailed and focused real time feedback than other methods
- Like “Happy or Not” it is simple and does not slow down clinic
CST Hall of Fame

DUKE SPINE CENTER

To ensure that you get the most benefit from your visit today, please tell us three things you wish to have addressed. (These can include questions about medication, tests, physical activity, treatment options, etc.)

1. Reduce Pain and Back!

2. Find out what is wrong with your lower back.

3. What is the future back health look like?

Please keep this form with you and have it available when you speak to your provider.

At the conclusion of your visit, please complete the questions below:

How could we support your care better?

More care (1 year, 6 months, again,)

Were all of your questions addressed today?  □ YES □ NO

Are you satisfied with your visit?  □ YES □ NO
DUKE SPINE CENTER

To ensure that you get the most benefit from your visit today, please tell us three things you wish to have addressed. (These can include questions about medication, tests, physical activity, treatment options, etc.)

1. LOWER BACK PAIN

2. MRI - ELIMINATE PROBLEMS

3. TRUMP PRESIDENCY - WILL IT WORK OUT?

Please keep this form with you and have it available when you speak to your provider. At the conclusion of your visit, please complete the questions below:

How could we support your care better?

Were all of your questions addressed today? [ ] YES [ ] NO

Are you satisfied with your visit? [ ] YES [ ] NO
More Feedback

• Weekly, all comments are sent by email to all providers
• Monthly results are sent to providers showing month and YTD performance
  – Percent utilization of form/total visits
  – Comments about each provider
  – Yes/No response rates on questions answered and satisfaction

<table>
<thead>
<tr>
<th>Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>A McDonald's in the middle of the reception</td>
</tr>
<tr>
<td>Shorter wait (over 1 hour in very cold exam room)</td>
</tr>
<tr>
<td>Well done</td>
</tr>
<tr>
<td>Dr. *** answered all of my questions and we came up with more injections</td>
</tr>
<tr>
<td>Excellent care and professional!!! Thanks for being great!!!</td>
</tr>
<tr>
<td>Dr. *** was wonderful and so was his assistant - just keep doing what you are doing</td>
</tr>
<tr>
<td>Excellent experience</td>
</tr>
<tr>
<td>Dr. *** can empathize with a patient's pain. She is super</td>
</tr>
<tr>
<td>All questions were answered and educated about injections and surgery option</td>
</tr>
<tr>
<td>Dr. *** is amazing!!</td>
</tr>
<tr>
<td>There is a need for better valet parking in front. There were so many cars waiting to be parked we could not use the valet service.</td>
</tr>
</tbody>
</table>

Also presented at M&M
Simple Clinic Flow = Easy Implementation!

1. Clinic Satisfaction Tool given to every patient at check in
2. Patient fills out chief complaints before visit
3. Patient gives clinic feedback
4. Nurse reviews CST before patient leaves

GO
METHODS & RESULTS:
Basics

• **Pre intervention period**: Jan 2015 – Dec 2015
• **Intervention period with CST**: Jan 2016 – Dec 2016
  – 14,690 patients seen
  – 14,044 CRTs returned
  – **95.6% utilization rate**
Did the CST achieve its objectives?

• Facilitate patient communication
• Improve visit satisfaction
• Provide real time feedback

• Outcomes
  – Was CST utilized?
  – Did we improve communication and quality of the visit measured by satisfaction?
  – Did the form produce meaningful feedback?
  – Did we impact CG CAHPS?
  – Did doctors have high satisfaction with CST?
Data Collection

CG CAHPS

• Responses per month
• Monthly Global scores
• Monthly Physician Communication scores

CST

• Patients seen per month
• Forms returned per month
• Fully satisfied forms
  – yes on satisfaction and questions answered
• Comments
  – Positive
  – Negative
  – Unrelated
Inclusion Criteria

- Physician provider
- In practice for entire study period
- 12 providers had sufficient data for analysis
- 1 physician was excluded based on these criteria

Navy = Orthopedics
Blue = Neurosurgery
Cyan = Physiatry
Physicians in our Study

12 Physicians

- 6 Neurosurgery
- 3 Orthopedics
- 3 Physiatry
Provider Demographics

Utilization

Total Patients Seen During Study

Overall CRT Utilization by Provider

Patients Seen During CRT Implementation

Duke Neurosurgery
CST Utilization

Department

Overall CRT Utilization by Department

Month

CST Utilization 2016

Percent of CRTs Returned

Ortho 0.958
NSU 0.942
PM&R 0.973

Duke Neurosurgery
Statistical Protocol

• Subsets were created based on year, department, and provider
• Univariate and multivariate regression was performed for 3 outcome measures (monthly)
  – Global CG CAHPS top box rate
  – Physician communication top box rate
  – CST Satisfaction “Yes” rate
• \( \alpha = 0.05 \), FDR corrected using Benjamini-Hochberg-Yekutieli method for individual providers
• All analysis performed with RStudio

CG CAHPS Global Score 2015-2016

Neurosurgery: CG CAHPS Global Score 2015-2016

Orthopedics: CG CAHPS Global Score 2015-2016

Physiatry: CG CAHPS Global Score 2015-2016
CG CAHPS Physician Communication Score

Neurology: CG CAHPS Communication Score 2015-2016

Orthopedics: CG CAHPS Communication Score 2015-2016

Psychiatry: CG CAHPS Communication Score 2015-2016

P = 0.0348
CG CAHPS Satisfaction Scores

• **Global Improved**
  • Rate provider 0-10

• **MD Communication Domain Stable**
  • Doctor explains in a way you understand
  • Doctor listens carefully to you
  • Doctor gives easy to understand instructions
  • Doctor knows important info medical history
  • Doctor shows respect for what you say
  • Doctor spends enough time with you
CST Satisfaction Score

Neurosurgery: CST Satisfaction Score 2016

Orthopedics: CST Satisfaction Score 2016

Physiatry: CST Satisfaction Score 2016
CST Unsatisfied Responses

- Two providers are responsible for most of the negative comments at end of year
  - Oct: Provider 4 (3/5)
  - Dec: Provider 4 (4/6)
A Tale of Two Neurosurgeons

Selected Providers: CST Scores 2016

Legend: Provider 2 Provider 4
Individual Providers – CG CAHPS Quarterly

Legend:
CG CAHPS Global
CG CAHPS Physician Communication
### CG CAHPS Global

#### Univariate

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coeff</th>
<th>P value</th>
<th>Sig?</th>
</tr>
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<tbody>
<tr>
<td>Dept</td>
<td>-</td>
<td>0.09123</td>
<td>N</td>
</tr>
<tr>
<td>Month</td>
<td>-</td>
<td>0.418</td>
<td>N</td>
</tr>
<tr>
<td><strong>Pts Seen</strong></td>
<td>-0.00053</td>
<td>0.0241</td>
<td>*</td>
</tr>
<tr>
<td>CST Util%</td>
<td>-</td>
<td>0.449</td>
<td>N</td>
</tr>
<tr>
<td><strong>CST Yes%</strong></td>
<td>1.1798</td>
<td>0.0299</td>
<td>*</td>
</tr>
<tr>
<td>CST + comment %</td>
<td>-</td>
<td>0.664</td>
<td>N</td>
</tr>
</tbody>
</table>

#### Findings

- **CST Satisfaction:** positive predictor of global score
- **Quantity of patients seen:** more patients seen correlated with slightly worse scores.
Global

Monthly Patient Volume

Patient Volume predicts Global Scores

CST Satisfaction

CST Satisfaction predicts Global Scores

Monthly Patient Volume

p = 0.0241

CST Satisfaction

p = 0.0299
### Findings

- **CST Satisfaction** and **Patient Volume** both remain in multivariate analysis.

### Multivariate

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coeff</th>
<th>P value</th>
<th>Sig?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pts Seen</td>
<td>-0.00056</td>
<td>0.0167</td>
<td>*</td>
</tr>
<tr>
<td>CST Yes%</td>
<td>1.24</td>
<td>0.0207</td>
<td>*</td>
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</table>
Univariate

<table>
<thead>
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<th>Variable</th>
<th>Coeff</th>
<th>P value</th>
<th>Sig?</th>
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<tr>
<td>Month</td>
<td>-</td>
<td>0.523</td>
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<tr>
<td>Pts Seen</td>
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<tr>
<td>CST Util%</td>
<td>-</td>
<td>0.529</td>
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<tr>
<td>CST Yes%</td>
<td>1.1002</td>
<td>0.00629</td>
<td>**</td>
</tr>
<tr>
<td>CST + comment %</td>
<td>-</td>
<td>0.735</td>
<td>N</td>
</tr>
</tbody>
</table>

Findings

- **CST satisfaction** was a predictor of CG CAHPS Physician Communication, with **better CST scores** correlating with **better PC scores**.
- No other variable had a significant relationship.
- No multivariate relationship.
CST Satisfaction vs CG CAHPS Physician Communication

CST Satisfaction predicts Communication Scores

CST Satisfaction

Communication Score

$p = 0.00629$
### Findings

- **CST utilization & Positive Comment Rate** were both significant predictors of satisfaction.
- Others were not predictive.

### Univariate Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coeff</th>
<th>P value</th>
<th>Sig?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dept</td>
<td>-</td>
<td>0.7761</td>
<td>N</td>
</tr>
<tr>
<td>Month</td>
<td>-</td>
<td>0.595</td>
<td>N</td>
</tr>
<tr>
<td>Pts Seen</td>
<td>-</td>
<td>0.591</td>
<td>N</td>
</tr>
<tr>
<td>CST Util %</td>
<td>0.08725</td>
<td>0.000354</td>
<td>***</td>
</tr>
<tr>
<td>CST + comment %</td>
<td>0.014933</td>
<td>0.0409</td>
<td>*</td>
</tr>
</tbody>
</table>
CST Satisfaction

Utilization

CST Utilization predicts CST Satisfaction

P = 0.000354

Positive Comment Rate

Positive Comment Rate predicts CST Satisfaction

P = 0.0409
### Multivariate Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coeff</th>
<th>P value</th>
<th>Sig?</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST Util</td>
<td>0.261066</td>
<td>&lt;0.0001</td>
<td>***</td>
</tr>
<tr>
<td>CST + Comm Rate</td>
<td>0.012864</td>
<td>0.0486</td>
<td>*</td>
</tr>
</tbody>
</table>

### Findings

- **Both utilization and positive comment rate remained as positive predictors of CST satisfaction**
Are effects preserved within departments?
Neurosurgery

• **Global**: no significant predictors

• **Communication**: patient volume is negatively predictive ($p = 0.0449$)

• **CST**: positive comment rate is a positive predictor ($p = 0.00386$)
Orthopedics

Findings
• **Global:** **CST satisfaction** is a positive predictor
• **Communication:** **Patient volume** and **CST satisfaction** are positive predictors
• **CST:** **Utilization** is a strong positive predictor

Phyiatry

Findings
• **Global:** no significant predictors
• **Communication:** **patient volume** is positively predictive
• **CST:** no significant predictors
Best case scenario: Provider 2
Next up: Is the Clinic Satisfaction Tool a ?

Spoiler: No 😊
PROVIDER SATISFACTION AND FEEDBACK
Objectives

• Determine effectiveness of CST in **providing real-time feedback** to physicians
• Elicit provider feedback on best parts of CST & areas for improvement
• Highlight difficulties/issues with implementation
Methods

- Performed in June 2017, 18 months after implementation
- All providers were emailed a Qualtrics survey
- 5 domains
  - Basic information
  - Provider POV
  - Patient POV
  - Nursing POV
  - CST evaluation
Provider Demographics

• 9 respondents (82% response rate)
  – 7 male, 2 female
• Specialty
  – 4/5 neurosurgery
  – 3/3 orthopedics
  – 2/3 Physiatry
• 89% fellowship trained
• 3 to 35 years in practice
  – 2 to 28 years at the Duke Spine Center
I use the Clinic Satisfaction Tool with each patient I see.

3.1 - I use the Clinic Satisfaction Tool with each patient I see.

89% Always

- Always
- Most of the time
- About half the time
- Sometimes
- Never
Q3.3 - I review the chief complaint on the Clinic Satisfaction Tool with each patient when I walk into the room.
Q3.7 - I find the Clinic Satisfaction Tool helpful for communicating with patients.
Q3.8 - The Clinic Satisfaction Tool adds little to no time to the length of the visit.

- 67% Probably true
- 22% Definitely false

- Red: Definitely true
- Purple: Probably true
- Blue: Probably false
- Green: Definitely false
- Yellow: I don't know
Q4.5 - I think my patients find the Clinic Satisfaction Tool helpful for communicating with me.

67% Most of the time

Always  Most of the time  About half the time  Sometimes  Never
Q6.1 - Do you use the individual Clinic Satisfaction Tools as a source of patient feedback?

- 38% Always
- 25% Most of the time
- 25% Sometimes

Always  Most of the time  About half the time  Sometimes  Never
Q6.5 - Is one report more useful than the other?

- **CST = CG CAHPS, 😊**
- **CST > CG CAHPS**
- **CST < CG CAHPS**
- **CST = CG CAHPS, 😞**
Physician open responses

Why is the CST more useful?

• more specific
• It provides immediate opportunity to improve care
• allows patients to list [their] specific questions

What kind of feedback would be most helpful for you going forward?

• direct feedback before end of visit
• All feedback is helpful
• I believe its a good tool
What changes (if any) would you like to see in the CST?

• direct feedback **before end of visit**
• I like it
• Need to make sure its **reviewed prior to entering room** and also prior to patient leaving the room
• I would like to see the **nurse/cma encourage** the patient to put feedback
• **standardize workflow** among all clinic staff on soliciting post-visit feedback
Study limitations

• Differing levels of physician buy-in: some eager, some forget form
• High CMA turnover: reduced utilization associated with new hires
• Single facility: different satisfaction scores at other practice locations
• Physician Communication has 6 categories within, some of which are not addressed by CST
Summary of findings

• CST predicts Physician Communication and Global Rating CG CAHPS responses
• CST utilization was a significant predictors of satisfaction
  – CST scores differ at baseline among departments but are predicted by utilization
  – Use it or lose it!
• CST provides real time feedback without adding significantly to clinic workload
  – Short time to fill out
• Effect is resilient
• Expense = $0, just time & commitment to good care
Is the CST useful? The answer is...
Related work

- Qualitative Analysis of Comment Data
  - All CSTs from a single month
  - Chief complaints and comments are being qualitatively coded for most frequent themes
  - Association model for chief complaints will be constructed using demographic, medical, and visit data
Future Directions

• Short term
  – January 2017 upgrade with 5 point Likert scale for satisfaction
    • Correlating with PRO’s like vas, eq5d, odi, ndi
  – Correlate CST satisfaction with specific PC questions
  – Use of iPads as alternative to paper
  – Implemented CST and similar initiative at Duke Raleigh Neurosurgery Clinic with 7 providers
THANK YOU!
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Selected References


