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Breaking Barriers: Data Collection Strategies for Success

February 21, 2023

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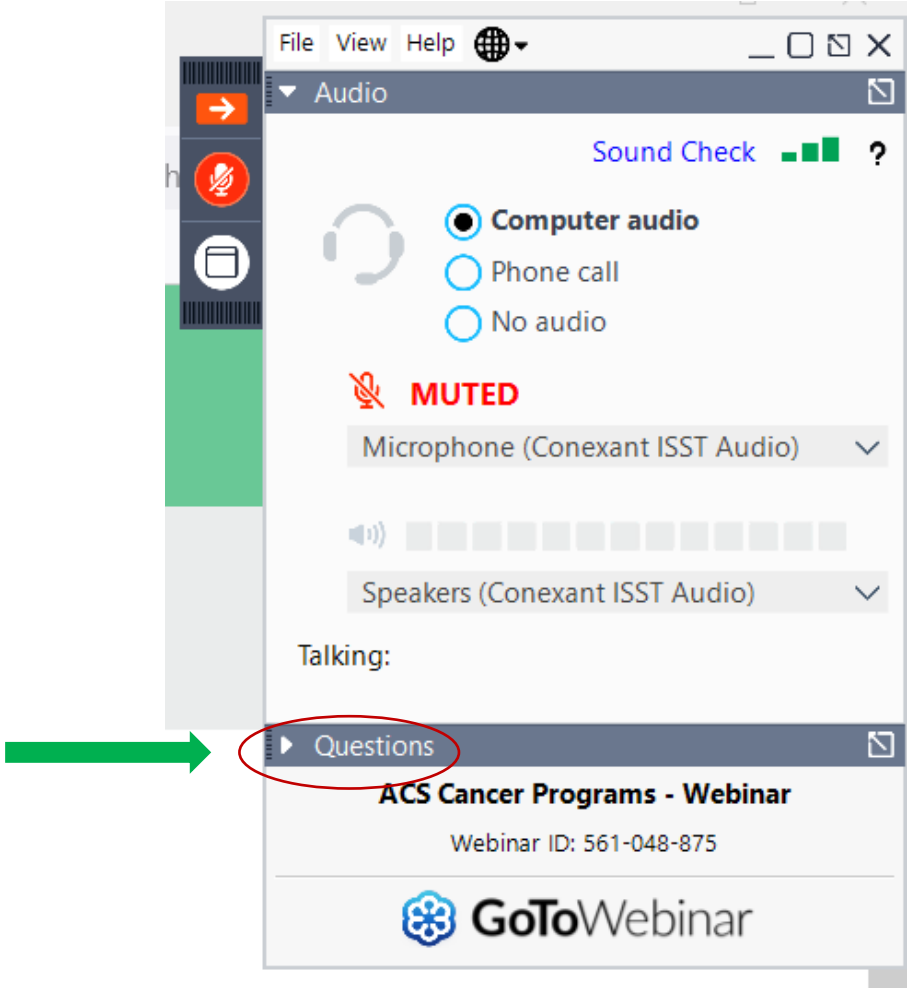

Introducing our Moderator and Panelists

Dr. Anthony D Yang, MD, MS
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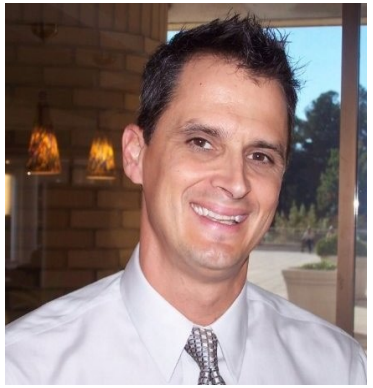

Chris Wood, MBA
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Agenda

Quality Improvement in Breaking Barriers

Common model for facilitating QI

Data Collection Strategy

Real time examples of data collection and tracking

Why use QI to address barriers to care?

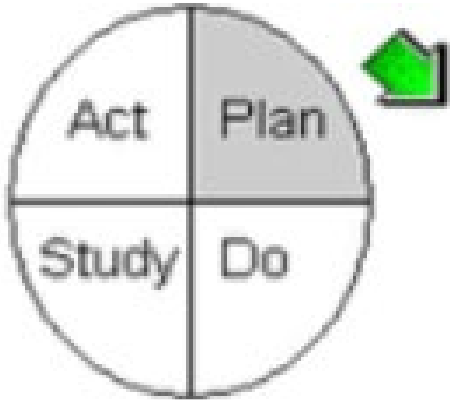
- Lag between new knowledge and routine practice
- Complexity of practice system environments
- Systematically use data and methods to understand root causes of problems and where to focus efforts for maximal positive impact
- Considers local resources and adapts to meet local context

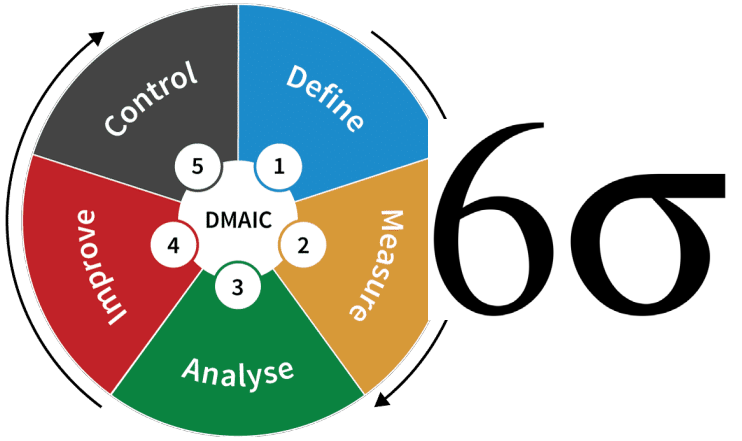
What is Quality Improvement?

- **Systematically** apply what is **already known** to a local program, intending to improve patient care or a system in a specific setting

- An **iterative** process, with modifications along the way

- Model for Improvement
  - What are we trying to accomplish?
  - How will we know that a change is an improvement?
  - What change can we make that will result in an improvement?





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"Every system is perfectly designed to get the results it gets."

-Paul Batalden, MD

The recognition that a gap exists between evidence base and present practice is insufficient.

Instead, it takes a process that includes testing & feedback before changes to the system can be made to alter those outcomes.

Process Improvement: make doing the right thing the easiest thing to do

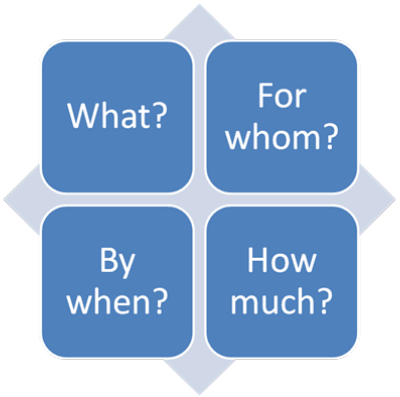
Breaking Barriers Aim is SMART

SPECIFIC	Who and what?
MEASURABLE	By how much?
ACHIEVABLE	How?
RELEVANT	Why?
TIME-BOUND	When?

What are we trying to accomplish?

- By the end of the improvement period, reduce the rate of “no-shows” to radiation therapy appointments by at least 20% relative to each participating program’s individual baseline

- Example: No show rate is 10%- by the end of participation, no show rate is reduced to 7.5%



Measures

How will we know the change is an improvement?

- Measures link directly to stated aims and numeric goals
- Measure provide ongoing feedback about the change process
  - Learning- not judgement
  - “You can’t improve what you don’t measure”
- Different types:
  - Outcome: Impact on patients
  - Process: Changes in practice system
  - Balancing: Unintended changes

Breaking Barriers Measures 1

Numerator: Total number of patients that missed 3 or more visits in the time frame

← Relevant Patients from Sample

Denominator: Total number of patients that completed treatment during the time period

← Eligible Sample

Breaking Barriers Measures 2

Numerator: Reasons why patients missed 3 or more visits (selected from checkbox; can be multiple reasons per 1 patient)

← Relevant Patients from Sample

Denominator: Total number of patients that missed 3 or more visits in the time frame

← Eligible Sample

Breaking Barriers Measure 2 (Continued)

- Reasons why patient missed appointment:
  - Checkbox with opportunity for numerical write in

a. Unreliable Transportation/Transportation Barrier
b. Patient sick (not due to treatment)
c. Patient toxicity concern (due to clinical concern from treatment)
d. Patient is hospitalized
e. Financial concerns
f. Psychosocial concerns (feelings of anxiety, depression)
g. Caregiver responsibilities interfere with treatment, or Childcare cancelled or closed
h. Conflict in appointment with another provider/appointment
i. Patient employment conflicts with treatment
j. Patient did not want to wait for treatment after arrival (wait time)
k. Decided to seek treatment elsewhere
l. Does not wish to continue treatment
m. Does not wish to answer reason for no show
n. Outreach attempted; unable to reach patient
o. We do not have a system that tracks reasons for missed visit
p. Other [specify]

Inclusion Criteria

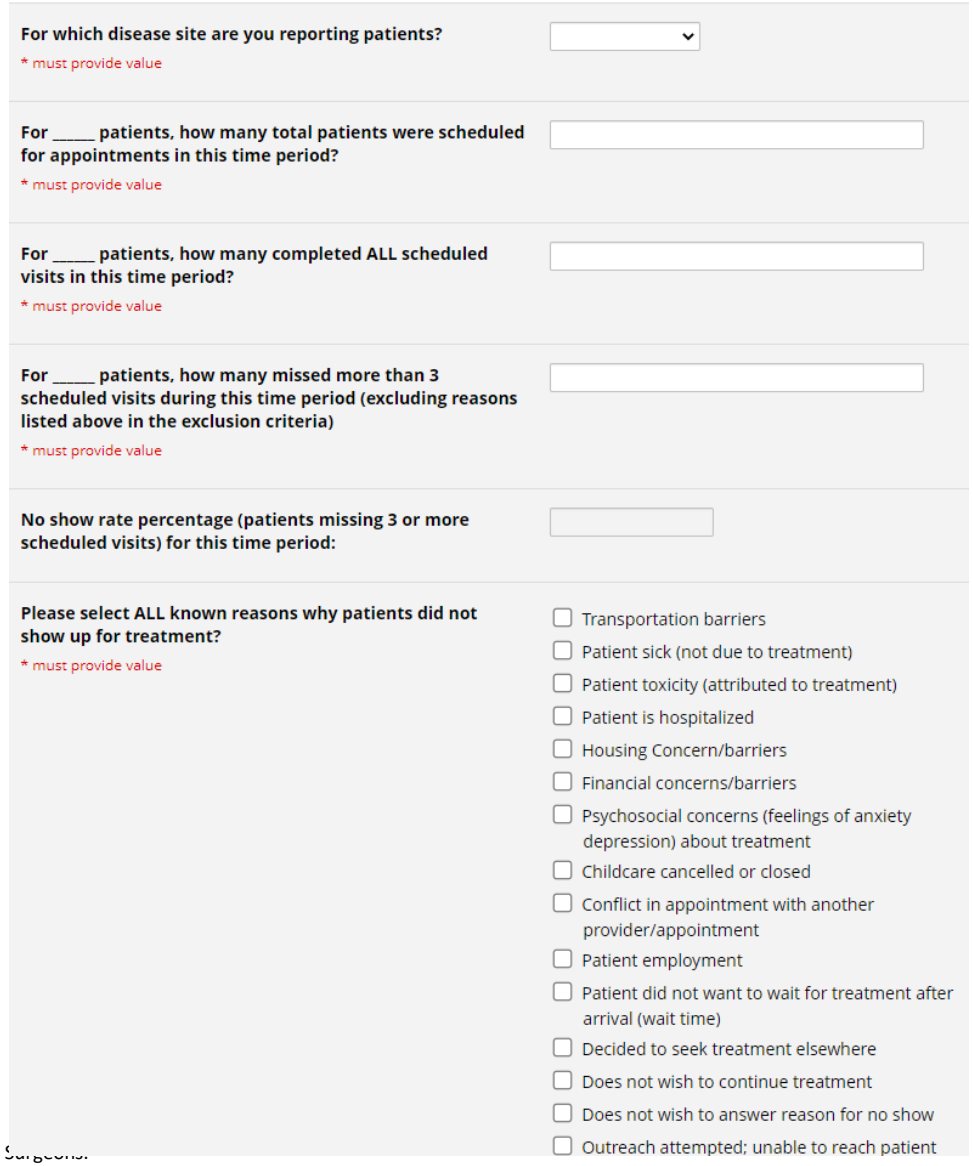
- Patients that had a radiation therapy visit scheduled for the selected time period with a treatment plan of 15-45 fractions
  - SBRT patients exlcuded
- Examples of specific scenarios:
- Patients that do not attend any appointment (even if advance notice is given)
- Patients that will miss treatment due to a clinical concern/toxicity.
- Patients receiving treatment due to a recurrence
- Patients that are receiving concurrent chemo/radiation treatment
- Patients receiving hyper-fractionated treatment (each fraction is considered an “appointment” even if occurring on the same day.
- Patients receiving treatment for curative intent (the intent of treatment is long-term curative. Teams will need to more closely define this for themselves)
  - Palliative excluded

Exclusion Criteria

- Patients receiving radiation for palliative purposes
- Patients receiving SBRT or Ultra-fractionated treatment (1-14 treatments)
- Patient visits that not related to an actual XRT treatment (i.e., to see the clinician during the treatment period)

Data Collection Frequency

- Bi-Monthly, on the 30th of each month
- Via REDCap
  - Link sent directly to primary contact email by the 15th of each data collection month
- Aggregate data
- Consider keeping your own internal, case-level data



For which disease site are you reporting patients?
* must provide value

For ____ patients, how many total patients were scheduled for appointments in this time period?
* must provide value

For ____ patients, how many completed ALL scheduled visits in this time period?
* must provide value

For ____ patients, how many missed more than 3 scheduled visits during this time period (excluding reasons listed above in the exclusion criteria)
* must provide value

No show rate percentage (patients missing 3 or more scheduled visits) for this time period:

Please select ALL known reasons why patients did not show up for treatment?
* must provide value

- Transportation barriers
- Patient sick (not due to treatment)
- Patient toxicity (attributed to treatment)
- Patient is hospitalized
- Housing Concern/barriers
- Financial concerns/barriers
- Psychosocial concerns (feelings of anxiety depression) about treatment
- Childcare cancelled or closed
- Conflict in appointment with another provider/appointment
- Patient employment
- Patient did not want to wait for treatment after arrival (wait time)
- Decided to seek treatment elsewhere
- Does not wish to continue treatment
- Does not wish to answer reason for no show
- Outreach attempted; unable to reach patient

Tests of Change

What change can we make that will result in improvement?

Example:

Key Driver	Interventions	Tools and Resources
Ensure patients attend radiation therapy appointments	Develop tracking system to capture/flag “no show”	Resource 1
	Implement reminder system	Resource 2
		Resource 3
		Resource 4

PDSA Measures ≠ Project Measures

- More frequent
- Less formal
- Small scale
- Quick indicator of whether a change is working
- **Goal is to ultimately improve project-level measures**
- **Additional focus on sustaining improvements**

Improvement Teams: Recommended Roles

- **Physician champion**: serves as a conduit between leadership and frontline staff
- **Clinician project leader** supports the day-to-day activities of the QI project
- **A member(s) of the radiation clinic team:** grounds the team in the day-to-day processes of the radiation clinic
- **Data analyst/data support:** a dedicated person to analyze, interpret, and submit data
- **Nurse navigator, social worker, behavioral health clinician**: facilitates internal and external referrals, can provide behavioral counseling, and is familiar with local, state, and national resources
- **Community outreach person:** Support relationship with the community, identify local resources
- When possible, an **individual(s) with lived experience** (i.e. a current or former patient): this person will be invaluable to helping shape systems for outreach and informing interventions

*Note: one person may serve in more than one role, but a minimum of 3 people on the core QI team is required.

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Examples from the field


THE OUTER BANKS HOSPITAL
20 Years of Growth & Innovation
2002-2022
Future site of
The Outer Banks Hospital

Our background

- We have had barriers to therapy since opening a hospital on a barrier island
- We have significant access issues rurally and began to notice how this can affect outcomes early on
- We are a critical access facility
- RT compliance with certain cancers for example was problem for us at baseline due to lack of resources on an island.

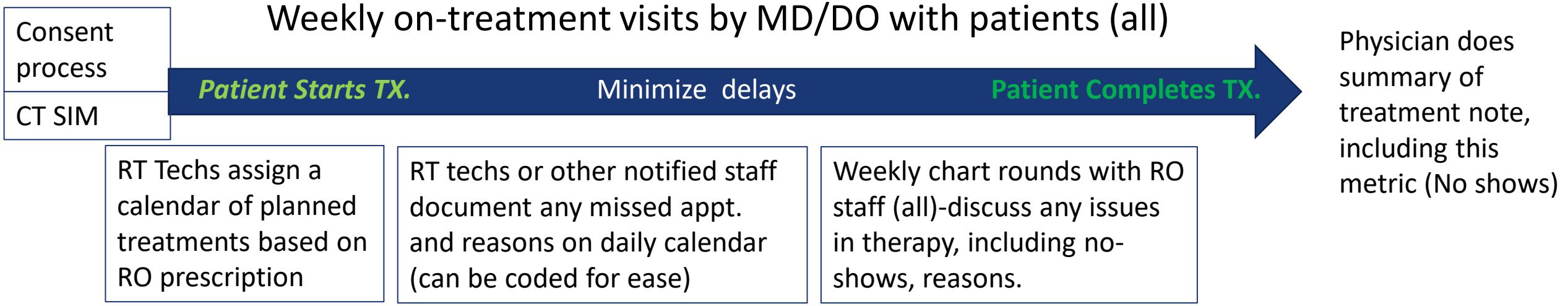
1. Members to consider including on your team
2. A system to pull data
3. Any tools we had to create
4. Best practices or lessons learned
5. What we plan to focus on first
6. Any other tips/tricks, etc.

A small community cancer center perspective

Team Members to help with Breaking Barriers:

- Team Champion (leader in this project design and implementation)
- Rad Therapy Techs (usually first to know why/when)
- Radiation Oncologist (usually last to know)
- Radiation Nurse (usually second to know)
- Nurse Navigator (helpful to contact patients/integrate improvements)
- Oncology Social Worker (who we plan to integrate into Community Map phase)
- Community Outreach Navigator (who we plan to integrate into Com Map)
- Cancer Registry Abstractors (helpful for abstracting charts- give them privileges)
- Administrator for Radiation Oncology (interested in ramifications)
- Medical Physicist (helpful to determine clinical relevance of number of no-shows)
- Scheduling Point of Contact Person (often the first to receive notification)

OUR WORKFLOW:



All of these are potential sites for an intervention

Our process in 2023

- We use ARIA as parallel electronic system for RT records
- Some of this data is shared with EPIC, but majority is not
- We track missed appointments several ways:

    1. Any canceled visit is recorded by Rad techs in calendar daily
    2. Weekly chart rounds with Rad Onc staff
    3. On-treatment visits are weekly with patients, and this is another point where this is documented prospectively by provider
    4. Physician/Provider Summary of Treatment reports include this at end of RT (consider adding a task in your work queue)
    5. Quarterly CQI reports now include no-shows as a metric along with M&M reports, or unexpected breaks/failures to complete intended tx
    6. We also granted our CTR abstractors login credentials to be able to abstract data

Summary of Treatment Example (template tool created in EPIC):

History of Present Illness: Ms. Katherine Jones (MRN, DOB) recently completed a course of radiation therapy for her stage IA breast cancer. This is a summary of her treatments:

Treatment plan: Curative (postop) radiation therapy, intact breast

Site: Breast, left

Technique: 3D Conformal EBRT

Energy: 6MV

Dose per fraction(s): 267cGy x 15 whole breast, then boost of 250cGy x 4

Number of planned treatments: 15, 4 (total of 19)

Number of delivered treatments: 19

Elapsed days: 26

Missed appointments : she missed 1 appointment due to severe weather (which was clinically irrelevant)

Total Radiation Dose(s): 5005cGy lumpectomy site, 4005cGy whole breast

Special technical considerations: The patient underwent CT-based treatment planning. She was treated with hypo-fractionated technique daily, M-F, 5 days per week, with breast-only volumes (no regional nodes included specifically). Planning took into account doses to the lung, heart, and unaffected breast tissues. Custom immobilization was created and used daily for treatments. IGRT was used to help facilitate her setup.

Other therapies done prior to or coordinated with RT: Chemo preceded RT; HT to follow

Treatment tolerance: The patient's initial ECOG PS was 0. Treatment was well-tolerated. Side effects consisted of mild (expected) dermatitis (RTOG G1) in the area we treated at the completion of therapy, and mild fatigue. *She completed all intended therapy.* Her final PS was unchanged.

Follow-up: The patient was given a follow-up for 3 months with plans to review her survivorship plan, and a follow-up plan will be given to the patient for long-term.

Charles Shelton MD

Electronically signed by CHSMD on 2/21/23

cc Surgeon; Med Onc, PCP, other

- Since this is prospective, all patients who finish RT each month are recorded as denominator, and any no-shows with ≥3 appointments are considered for the numerator (we keep list)
- Reasons for no-shows are also tabulated
- We report this at RO Quarterly Quality Meetings as metric (as part of Rad Therapy accreditation)
- Most programs with larger facilities will want to query ARIA for a report on canceled appointments, and then examine only the charts of the 5% or so that are selected by filter for 3 or more missed appointments (and inclusive criteria)

How many patients to track for this project?

- We are letting programs decide this for themselves
- We suggest including enough patients where you can gather meaningful data to make a determination of your no show rates, and unique needs
- For example, our facility is rural and small volume (we only see 150-200 analytic cases per year, of which ~100 are treated with RT with curative intent)
- We expect a no-show rate (≥3 missed appointments due to patient) of <10% (+/- 5%), based on previous analysis (and differing by site)
- So rurally, we plan to include ALL patients we treat with radiation for curative intent that meet the inclusion criteria (N=100 denominator per year) such that we have 5- 15 patients from which we can gather the reasons for repeated no-shows

While 5-10% rate does not seem like much…

- It is sufficient. Part of the reason we did this is we don't want you to have to analyze too many charts for missed appointments, as themes often repeat after a few (80/20 Principle)
- If your program wants more data, you would analyze similarly more patients. A program like Rutgers may treat 450 patients a year (denominator), and 5-10% amounts to 22-45 patients(numerator) per year.
- *Or alternatively*, you may lower your threshold of "no-shows" to see common factors.
    - For example, some may already be doing well at this ≥3 no-show metric, and may only have a 1-2% rate. What I would suggest in this case is then lowering the threshold from ≥3 no-shows to ≥2 no shows, and track data and reasons. This may provide areas for future improvements as well. For the sake of this collaborative, you would still report your low no show rate (for ≥3 no shows), but you could perhaps implement a program improvement to improve the ≥1 - 2 no-show rate (typically these are the same reasons, but it may be more relevant to show an improvement from a higher starting rate).

For NAPBC sites

- Breast as a site lends itself well to this project, and we have analyzed our own breast data
- If you are NAPBC site doing this project, I would suggest you analyze ALL Breast patients treated with RT (meeting inclusion criteria) at your site up to at least 100-200 patients in order to see a trend in missed appointments and reasons.
- You probably need some minimum of (50?) patients as a denominator for any one treatment site to see a trend in no-shows.

Barriers at Rural Small Critical Access Hospital- Breast

For background, we audited 3 years of breast patients for “no-shows”

66% of patients missed at least 1 day (including vacations, weather, machine down, network concerns, patient cancelations) !!

20% of patients missed/canceled at least 1 appointment for personal reasons (non technical, non-weather, non-vacation). We did not think 1 no-show was relevant for this study for various reasons, so we picked ≥3

5.6% of patients missed/canceled appointments at least 3 or more times for social/personal/health reasons. These are the “no-show” patients we are after in this study to help uncover barriers to care that we can address

In these no-show patients, reasons included:

1. Conflicts with other appointments
2. Transportation issues (cost of gas, no ride, car problems, late for appointment or couldn't make the time, distance)
3. Didn't feel well (not specified)
4. Toxicity from treatment (e.g. skin breakdown, nausea)
5. Unrelated illness (e.g. COVID, flu, injury, hospitalization)
6. Out of town for personal reasons
7. Anxiety/depression/mental health day
8. Work commitments
9. Childcare issues/parent care needs
10. Didn't know it would be important if missed a few (lack of understanding)
11. Not documented by facility (NOS)

Lesson Learned in Breast Care (A Best Practice)

We implemented hypo-fractionation of breast RT over standard fractionation to see how barriers to care in geography could be impacted (N = 130 analytic) by increased access beginning in 2017

- Shorter course therapy (15-19 days vs 25-33 days) helped patients complete therapy in timely fashion and lowered incidence of missed appointments by 50% (RR), which was statistically significant (16% vs 33% missed appointment rate, ≥1 pt.-related)
- We made less treatments with hypo-fractionation *a preferred option* in patients who are appropriate for accelerated RT, especially when greater distances to care are involved (e.g. rural)
- *As we increased access to fewer treatments rurally, our breast conservation rates increased from 48% at baseline to 79%. Correspondingly, mastectomy rates more than halved (52% @ baseline, 21% currently).*

Know your community barriers and resources

- For us, one of the big barriers is *geography*
- Patients drive anywhere from a few miles, to >80 miles
- More relevantly, the time factor is a HUGE issue, as the distance and time are not always linearly correlated
- We have learned from Breast, that when we shorten the course of therapy, we improve missed appointments related to patient barriers, and BCT rates are now better
- We are starting to do the same for other sites- Prostate, Rectal, Lung with altered fractionation schemes (= less trips) that help improve compliance with intended treatments and help minimize missed appointments
- We are also partnering with our social worker to mitigate financial/social concerns that present barriers, and also help find local housing/rooms for patients where distance is a big concern

Other Lessons Learned

- We found no-shows were more common in HNC (and esophageal patients) from predictable issues like nutrition and dehydration from therapy, and mucositis, and we added proactive symptom management clinic to mitigate no shows/breaks in this population
- We found poor communication of no-shows with our staff, including onc SW, and are adding task in ARIA to prospectively notify SW or NN when patient missed appointment
- We are adding education materials and incorporated patient education about need for compliance upfront (at time of consent for example) as part of QI after a prospective baseline period in this study
- We are partnering with community resources in areas where we had greatest barriers (e.g. gas cards for patients driving > 1hr)
- We added pre-screen at time of intake to identify potential barriers in treatments (e.g. GW tool)
- We had our RAD ONC doc discuss all missed appointments with patients at end of treatments (adding exit interviews) to tease out areas where we can do better in future
- We are considering phone-based text reminders of appointments for tech-savvy patients
- We are adding other verbal messaging reinforcements through our RAD ONC therapists about the need for compliance

Lessons learned, cont'd

- We adjusted times in our schedule to accommodate patients with geographic barriers/ time constraints
- We partnered with hotels locally to provide reduced-rate lodging
- We have increased our use of hypo-fractionation (e.g. breast/prostate/lung) to improve compliance
- We began to prospectively track distance and time in patients to get to RTC to see how this factors into no-show rates and compliance
- We added volunteers to our cancer program to help with transportation barrier
- We partnered with local resources (an academic facility) to identify and address financial toxicity as a barrier to care
- We begin to consider how these same barriers to care in RT affect surveillance and screening concerns rurally
- We extrapolate these results to other services that overlap with cancer (supporting services, missed chemo, missed follow-ups, canceled surgery, etc.) for other QI projects

Your needs are unique to *your* program

- Consider what areas you want to focus on for this project as you gather data from this prospective phase
- We suspect most providers are not aware of how many patients miss treatments in RT (which is a surrogate for barriers to care)
- You may chose to focus on social barriers, financial barriers, ethnic or cultural barriers, psychological/emotional barriers, physical barriers, toxicity barriers, site-specific barriers, and so on, depending on your data and your site

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