A few extra minutes can lead to improved quality care and patient experience

Abstract

Healthcare institutions today are revising their common practices by placing more emphasis on quality over quantity—to comply with a new set of incentives and penalties. One way respiratory departments can improve quality is by giving respiratory care practitioners more time at the bedside. A few extra minutes with patients can be used for one-on-one therapy with an emphasis on patient and caregiver education. This practice can help reduce readmissions and improve overall patient satisfaction and experience.

Introduction

One of the challenges many healthcare institutions face is the transition from fee-for-service to value-based service with emphasis on quality and cost.

Responding to passage of the Affordable Care Act in 2010, the Centers for Medicare and Medicaid Services *(CMS)* created a set of quality goals across the healthcare continuum that included: effective, safe, efficient, patient-centered, equitable and timely care.[1] With reimbursements and penalties now tied to value and quality, respiratory care and other departments struggle to find such balance while being cost efficient.[2-4] How can respiratory care departments improve quality measures while adding and/or maintaining value?

Factors that can impact the delivery of quality care

The delivery of aerosolized medication is an essential job performed by all respiratory care practitioners. Depending on the assigned work area, it can account for up to 90 percent of workload. During an aerosol medication therapy session, a respiratory care practitioner has the ability to demonstrate value to patients and provide quality care through one-on-one interaction. These interactions provide opportunities to perform bedside education, assess for proper technique with treatments, introduce new equipment and/or therapy, and address any questions or fulfill other patient needs, thereby building trust with patients while enhancing quality of care.

Figure 1: Factors that can impact the quality of care due to time constraints

However, many respiratory departments are asked to do more with a lot less time, thus impacting the quality of patient care. According to the American Association for Respiratory Care *(AARC)*, for example, "unscheduled respiratory care activities, such as emergency department procedures, patient transports, rapid response call, etc. may account for up to 40 percent of the workload."[5]

Other factors that can impact the quality of treatment sessions include inadequate staffing, high census, meal time, unnecessary treatments and having to fight for time with other members of the healthcare team *(Figure 1)*. As a result, concurrent therapy is often practiced, which can pose patient safety issues as well as poor quality of care due to the lack of time spent at the bedside.[5]

Lack of time at the bedside also increases utilization of an aerosol face mask to administer aerosolized medication. While considered clinically appropriate for patients unable to do the treatment via a mouthpiece, this method can be an added cost for the department. Lack of time prevents respiratory care practitioners from performing much needed education to patients and caregivers at the bedside *(Figure 2)*. According to a report published by FierceHealthcare, "at least 20 percent of all patients who are admitted to a U.S. hospital make a repeat visit within 30 days of discharge" with "Medicare currently spending $15 billion a year on rehospitalizations."[6]

Patient education is a vital component of healthcare delivery and will remain a focus as more emphasis is placed on out-patient management and readmission prevention. Respiratory care professionals can play a significant role in adding value and providing quality care through effective education *(Figure 3)*, thus improving patient adherence and compliance to prescribed medications and treatment plans.[6-9]

Another issue impacting quality of care is the lack of tools available to help respiratory care practitioners be more efficient without compromising the delivery of care. In a recent survey of 75 respiratory care professionals commissioned by AARC, more than 41 percent of respondents agreed having the ability to deliver inhaled medications in less time would be extremely beneficial in both adult and pediatric patients.[10] Currently in the clinical setting, standard nebulizers similar to the Misty Max 10® take an average of eight to 10 minutes to nebulize a given medication *(data based on a non-controlled environment)*. Faster, more efficient nebulizers are available, but some respiratory departments have argued that the costs outweigh the benefits. However, even though the short-term cost is more, the long-term increase in patient satisfaction and decrease in readmission rates may offset the cost of the nebulizer.

"Respiratory care professionals can play a significant role in adding value and providing quality care through effective education"

Treatment session Misty Max 10

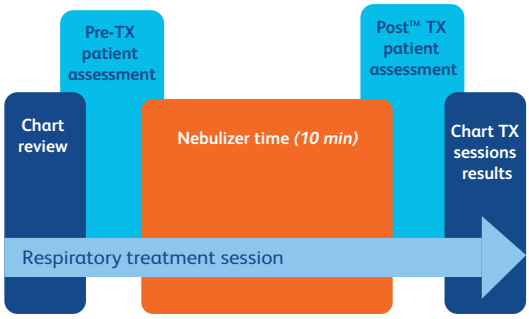

Figure 2: Treatment (TX) session time with the Misty Max 10 nebulizer

Treatment session Misty Max

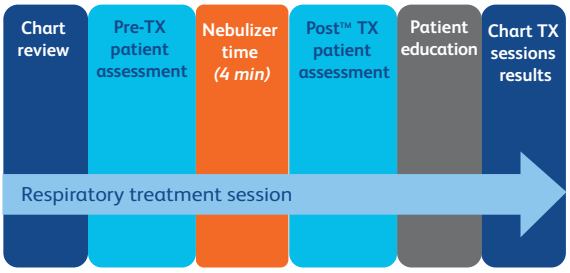

Figure 3: Treatment session time with the Misty Fast nebulizer

Nebulizer time and quality observation: Misty Max 10 vs. Misty Fast™

To understand the impact on quality when respiratory care practitioners were given more time at the bedside, Misty Fast performed 272 direct patient observations comparing Misty Max 10 and Misty Fast nebulizers. The Misty Max 10 is a standard nebulizer with an average run time of 6.5 minutes in a controlled lab environment. The Misty Fast nebulizer is a high-efficiency nebulizer that gives consistent medication delivery in half that time. Observations were conducted in long-term as well as acute-care settings, ranging in size from 142 to 586 beds. The hospitals observed also varied from government to private to nonprofit.

The study was conducted over a two-day period. Data was collected on total treatment and nebulizer time, and also on quality parameters, such as AIDET® *(Acknowledge, Introduce, Duration, Explanation, Thank You)*, handwashing and patient education.[11] AIDET is a communication tool created by the Studer Group to help improve communication among healthcare providers to raise both staff and patient satisfaction.[11] The session time was defined as the total time the therapist was in the patient room. The nebulizer time was defined as the total time the flowmeter powered the nebulizer.

A change of practice was implemented in some cases where concurrent therapy was practiced as respiratory care practitioners were asked to do one-on-one therapy on day two, and the same metrics were observed using the Misty Fast nebulizer. The time observations were unblinded and the quality observations were blinded to the staff.

The potential impact of time on quality

Based on direct observations, the findings showed that giving staff more time at the bedside has the potential to make a positive impact on quality parameters such as AIDET, patient education and handwashing. After switching to Misty Fast from Misty Max 10, observations of AIDET increased from an average of 16 percent to 36 percent, observations of patient education increased from an average of 34 percent to 60 percent, and observations of handwashing increased from an average of 87 percent to 92 percent *(Figure 4)*.

As previously mentioned, these quality measures are now tied to reimbursement and can have a significant impact on outcomes such as readmission rates, patient satisfaction scores and length of stay.

Figure 5 shows the average nebulizer run time noted during the quality observations with Misty Max 10 and Misty Fast. As observed in a

clinical, non-controlled environment, Misty Fast delivers the medication in significantly less time compared to the Misty Max 10.

Possibly the two most significant data points observed were in relation to time savings with the utilization of the Misty Fast nebulizer, as noted in Figure 6, and an increase in the ability to practice one-to-one therapy as a result of faster nebulizer run time. After switching from Misty Max 10 to Misty Fast in a clinical environment, average nebulizer run time was reduced from 10.22 minutes to 4.67 minutes, while average total treatment session time went from 14.44 minutes to 9.22 minutes. Based on these observations, with the decrease in nebulizer run time, therapists were then able to provide one-to-one therapy resulting in a decrease in the practice of concurrent therapy from 43 percent on day one to 29 percent on day two.

However, it should be noted that, according to AARC, a proper treatment session should last 15 minutes regardless of the nebulizer run time.[12] Even with the decrease in average session time, the Misty Max 10 run time accounted for 71 percent of treatment sessions in which it was used, compared to the Misty Fast run time which accounted for only 53 percent. If a proper treatment session of 15 minutes is followed, Misty Fast would run for 33 percent of the session, leaving 10 minutes to provide one-on-one treatment and education.

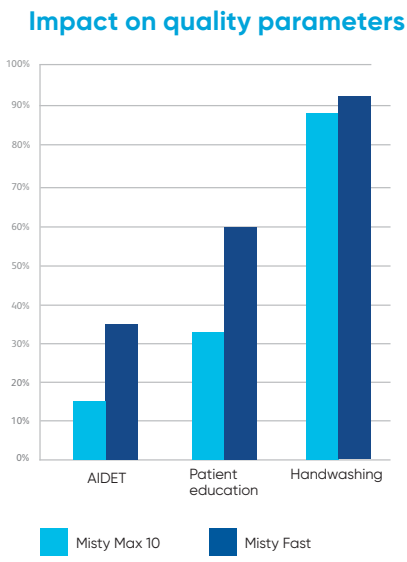

Figure 4: Overall impact on quality parameters with Misty Max 10 vs. Misty Fast

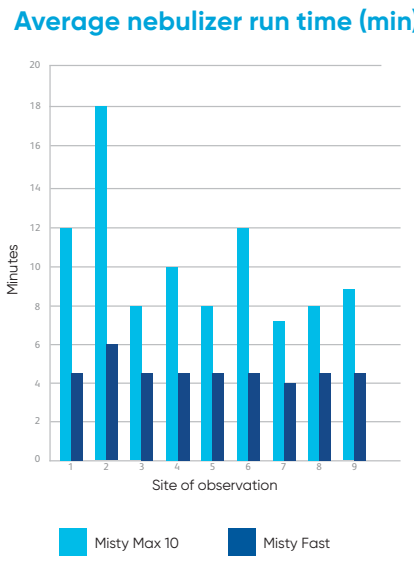

Figure 5: Average nebulizer run time in minutes

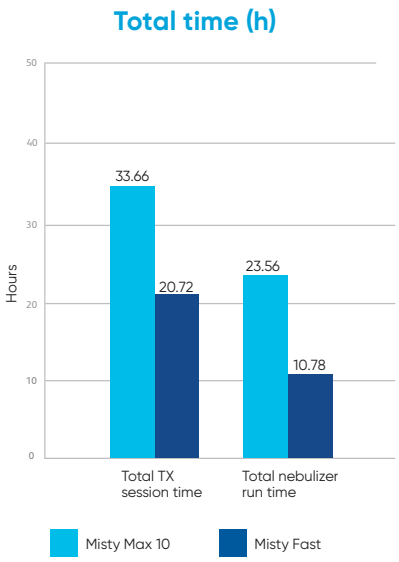

Figure 6: Total nebulizer run time in hours for Misty Max 10 vs. Misty Fast

Conclusion

Data from the observations comparing Misty Max 10 against Misty Fast shows that providing the respiratory care professional with extra time has the potential to improve the quality of care received in several ways. When all the data were combined, it was found that the average observed session had an extra 10.33 minutes of time available during a standard 15-minute session. This extra time can help a department move from the practice of concurrent therapy to one-on-one therapy. Additionally, therapists can use the time to conduct real-time charting, perform thorough patient assessments, provide additional education, and focus on AIDET and hand washing.

During heavy census and staff shortages, respiratory care professionals can employ the extra time to prioritize and be more efficient, while still engaged in the care they provide. In fact, an Employee Engagement Survey conducted by The Advisory Board Company showed that "for every one-percent increase in employee engagement, an organization's overall hospital HCAHPS rating increased by 0.33 percent, and patient willingness to recommend increases by 0.25 percent."[13]

Evidence suggests that employee experiences also have an effect on productivity, performance, job satisfaction and staff turnover. In this healthcare environment where quality and cost are paramount perhaps "the use of respiratory care protocols is one example of utilizing respiratory therapist assessment skills in an effort to maximize their job duties."[14] In a recent survey of 75 respiratory care professionals commissioned by AARC, 76 percent of respondents stated that the use of improper technique—and 68 percent stated that lack of education regarding therapy and disease state—represented their two biggest challenges with regard to delivery of inhaled medications to adults.[10] The results support the need for therapists to have the extra time at the bedside for patient education. Providing this education is crucial to the patient's adherence and compliance as they transition from hospital to home.[6-9]

"...it was found that the average observed session had an extra 10.33 minutes of time available during a standard 15-minute session. This extra time can help a department move from the practice of concurrent therapy to one-on-one therapy."

A study conducted by the Agency for Healthcare Research and Quality (AHRQ) identified that "patients who have a clear understanding of their after-hospital care instructions, including how to take their medications and when to make follow-up appointments, are 30 percent less likely to be readmitted or visit the emergency department than patients who lack this information."[9] Increasing quality can help lower penalty costs as a result of decreased readmission rates and high patient satisfaction scores. Thus respiratory care professionals and their departments can gain recognition for their value to the overall healthcare institution.

It has been noted that lack of therapist time at the bedside increases utilization of an aerosol face mask to administer aerosolized medication, potentially increasing cost. When observing other small-volume nebulizers available on the market, a drop in aerosol face mask *(AFM)* use from 46 percent on day one to 26 percent on day two was observed with Misty Fast. This could potentially lead to a cost-savings opportunity for the respiratory department while providing quality care.

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