Data from electronic medical records (EMR) were retrieved and de-identified for all pediatric patients who scheduled an asthma clinic visit between September 2015 and March 2016 (n=226). 48 charts were randomly selected from the same period. One chart was removed because the patient was not a child. The remaining 47 were reviewed for spirometry, evidence of an asthma action plan, asthma clinic attendance, and attendance for other types of appointments at Optimus Health Care.

Data were analyzed using SAS 9.4. Following the patient record analysis, a recorded focus group was conducted with 3 of 4 current members of the asthma team.

56.6% of patients who had scheduled an Asthma Teaching Program appointment attended at least one appointment during the study period.

Nearly 75% of patients canceled, rescheduled or “no-showed” at least once.

Attending an appointment at the asthma clinic was a significant predictor of having spirometry or an asthma action plan documented.

Age group was a significant predictor of spirometry administration, even controlling for clinic attendance.
Assessing An Asthma Care Intervention At Optimus Health Care

Of the 47 eligible charts selected for analysis, 17 patients (36%) missed at least one scheduled asthma clinic appointment.

Of age-eligible patients who came to their appointments 16 (64%) had spirometry results documented.

33 of 34 patients (97%) who attended asthma appointments reviewed action plans during their visit.

More than 50% of patients missing an action plan and 42% missing spirometry had missed their asthma program appointment but did attend other types of appointments.

Results: Focus Group

Poor patient “health literacy” was an overarching theme in the focus group discussion. Providers attributed the lack of spirometry or action plan implementation to the lack of patient and parental health literacy.

Providers did not believe that patient age, race, or ethnicity influenced spirometry or action plan rates.

Providers disagreed about the role that EMR design played in spirometry and action plan rates, although all expressed frustration with the flow of the EMR system for asthma patients.

Providers believe that asthma management is perceived as an acute, not chronic disorder, by most patients.

Conclusions

The asthma care quality improvement project at Optimus has had significant successes.

Almost all (97%) patients who attended the clinic received or reviewed asthma action plans.

More than half of the patients seen in the asthma clinic had spirometry administered (64%).

However, many Optimus pediatric patients still lack an asthma action plan or recent spirometry results—largely because they did not attend their asthma appointment.

The asthma team at Optimus may need to extend services beyond the asthma clinic to integrate the asthma intervention into other appointment types. This could help the asthma team deliver enhanced quality of care to a larger number of the most vulnerable patients.
Recommendations

- **Target the asthma no-shows when they show up for other appointments.** A large proportion of patients never attend their scheduled asthma appointment, but these patients can be reached in other ways.

- **Making time for asthma care during other types of visits could reach many more patients.** Nearly two-thirds of “no-show” patients at the asthma clinic attended a subsequent non-asthma appointment at Optimus during the study period (shown in black at right.) Most of these patients never received complete asthma care..

- **The integrated EMR and scheduling system at Optimus could be used to identify these patients when they schedule other types of appointments, such as school physicals or wellness visits.**

- **Asthma “supplement” appointments could be added to routine physicals.** This targets patients in need of the intervention at appointments they are less likely to miss and give providers the time necessary to generate an asthma action plan and administer spirometry. It could also provide a further opportunity for patient education, addressing provider concerns about patients’ health literacy.

Limitations

- We used spirometry and action plan documentation to evaluate provider compliance to the asthma protocol and did not investigate possible associations between protocol compliance and patient outcomes. We were unable to systematically extract evidence of patient outcomes such as spirometry scores from the EMR data.

- Our interpretation of the focus group data is thematic and may be subjective.

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