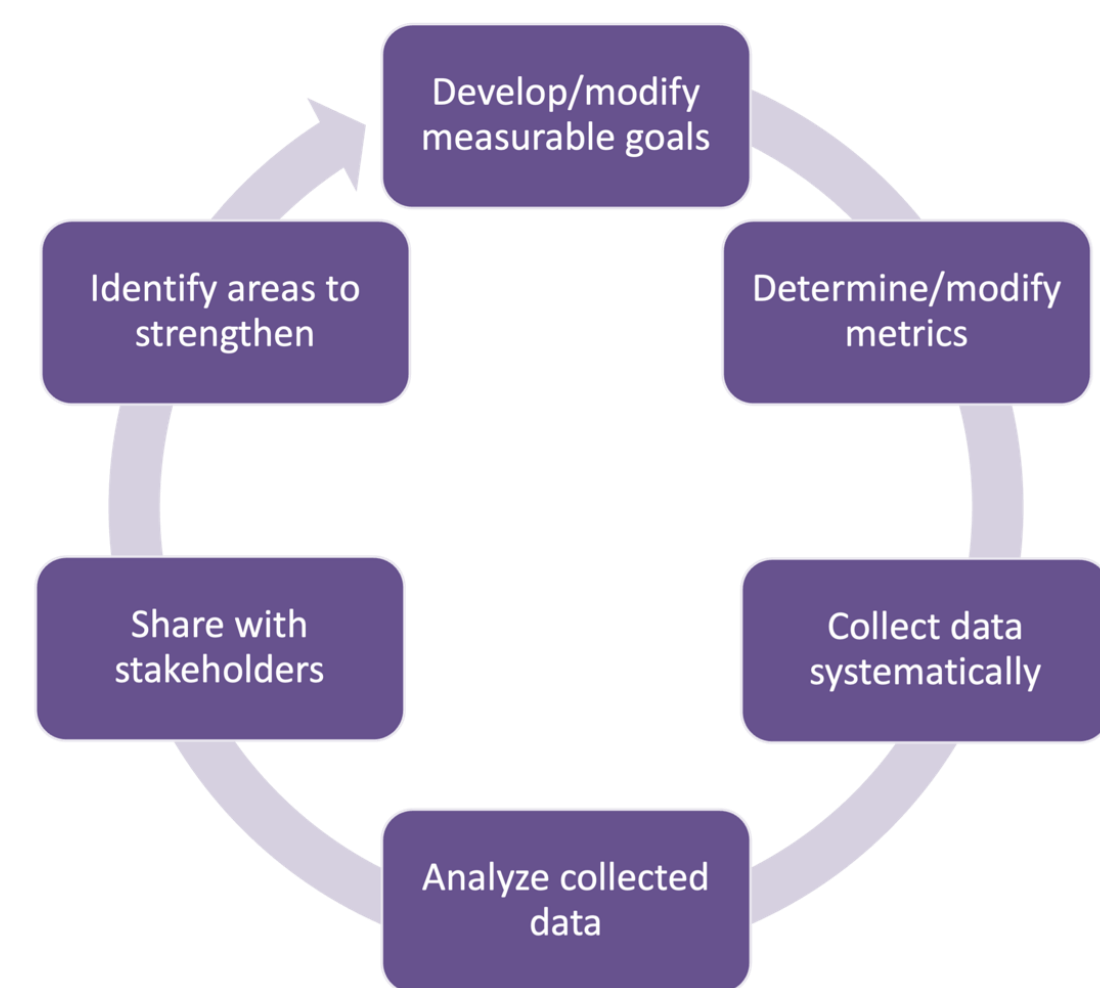# Assessing Continuous Quality Improvement in a Pediatric Dentistry Residency Program

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Introduction:

- Continuous quality improvement (CQI) is the cyclic progression towards improvement in the quality of different processes working towards an end goal
- CQI is required by CODA for program accreditation
- This qualitative study was conducted to assess the resident quality improvement process in a pediatric dentistry residency program

A graphical representation of the steps in continuous quality improvement as outlined by the Commission on Dental Accreditation

Methods:

- 13 semi-structured interviews of residents, faculty and administrators were conducted between August 2022 and November 2023

- Participants were asked about various questions regarding quality and elements of the CQI process in the residency program

- Responses were recorded, transcribed. Content analysis was used to identify themes.

Results/Discussion:

Three themes were identified
- Elements of a high-quality residency program
  - Diverse clinical experiences
  - Robust didactics
  - Faculty caliber
  - Program culture
- Elements of current CQI process
  - Formal feedback process
  - Informal feedback process
- Opportunities for CQI
  - Increased feedback frequency
  - Improved formative feedback
  - Faculty training on providing feedback
  - Recognition of resident accomplishments

Proposed recommendations
- Using the definition of quality derived from this study, key performance indicators (KPIs) were formed. KPIs can be used to create CQI projects and initiatives, assess program CQI process and create CQI metrics
- Implementation of an annual CQI review involving all stakeholders where annual KPIs, results of CQI initiatives can be reviewed and new initiatives for the subsequent year can be planned.
- A CQI review committee, consisting of individuals responsible for collecting and analyzing CQI data should be formed. A resident specific role in the committee would ensure resident involvement in the process.

Key performance indicator (KPI)	Purpose	Proposed metrics
Resident performance	To formally assess performance	% of faculty agreement on resident progression
Diverse clinical experience	To identify and quantify resident clinical experience.	Report on # of procedures completed by residents (Example: composite restorations, SSCs and Zirconia crowns, pulpotomy, permanent and primary extractions, orthodontic cases completed, interdisciplinary cases and dental emergencies)
Medically complex patient/patient with SHCN encounters	To quantify and ensure resident experience working with medically complex patients and patients with SHCN	# of days working in the Medically Complex Clinic # of hospital shifts
Robust didactics	To quantify resident involvement and opportunities in academic education	Formal grades # of resident publications
Program culture	To assess resident experience within the program and promote a culture of excellence, inclusivity and continuous improvement	% of residents report feeling safe to provide feedback to program % of residents report feeling supported by the program and/or report being provided resources for support.
Faculty caliber and scholarly activities Resident scholarship	To identify faculty involvement within academia and educational setting and ensure faculty are provided opportunities for academic involvement.	# of faculty and resident publications # of faculty involved with resident courses
Resident perception of preparedness for practicing pediatric dentistry	To assess resident experience and satisfaction. Quantifying resident preparedness after completion of residency requirements.	% resident satisfaction upon graduation % resident reporting feeling prepared for practicing pediatric dentistry upon graduation Alumni survey
Feedback documentation	To assess how both formal and informal resident feedback is being documented and used in the program	# of daily resident reports Resident perception of actionable formative feedback provided by the formal assessment process
Resident participation in CQI program	To identify and assess current quality improvement projects and resident involvement. To quantify resident improvement and progression.	Resident participation at annual CQI review % residents meeting improvement goals after formal reviews

Proposed key performance indicators

Conclusions:

In this qualitative study we
- Defined quality in a pediatric dentistry residency program
- Distinguished the current CQI process including a close examination the role of formal and informal feedback
- Identified areas of opportunity for CQI
- Proposed adoption of KPIs, an annual CQI review and the incorporation of a resident specific role in the process.