



# Implementation of an Electronic New Patient Intake Questionnaire (e-NPIQ) in a Child Development Clinic

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## Introduction

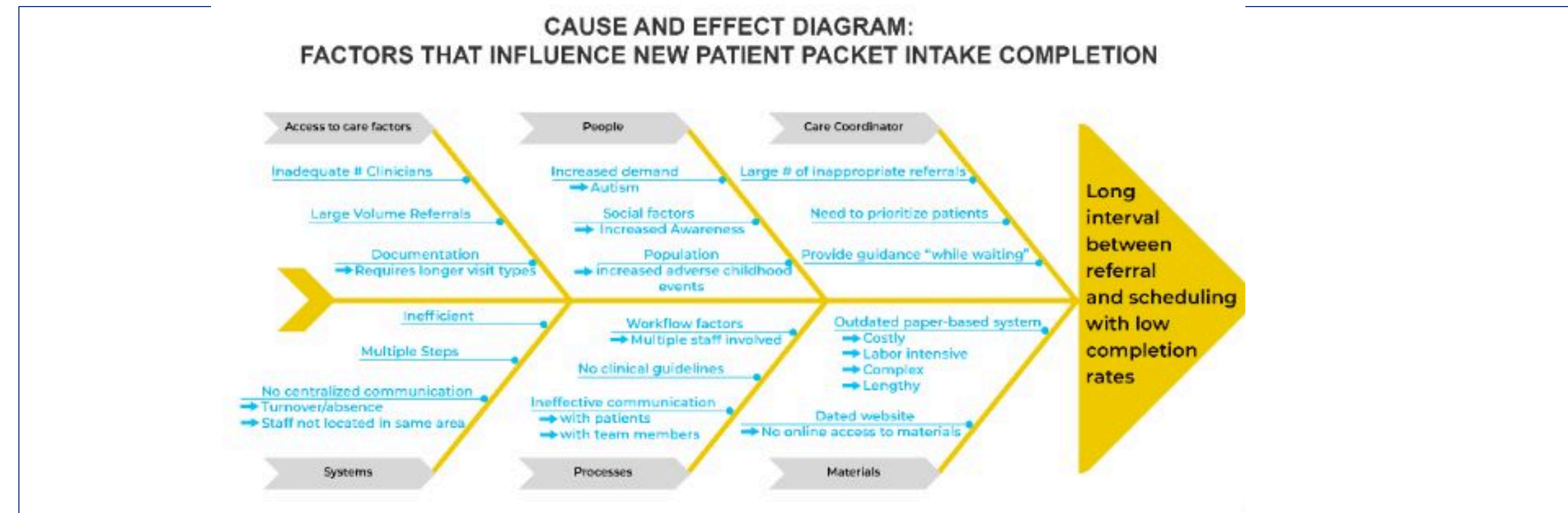
**BACKGROUND:** A rural academic medical center child development clinic in New Hampshire experienced high volumes and inefficient workflows, causing delays in care. With a referral rate at 5-fold capacity, the need to create an efficient intake process that allowed for triage and data collection was apparent.

**PROBLEM STATEMENT:** The rate of completion and interval between referral until time to schedule low as compared to other departments.

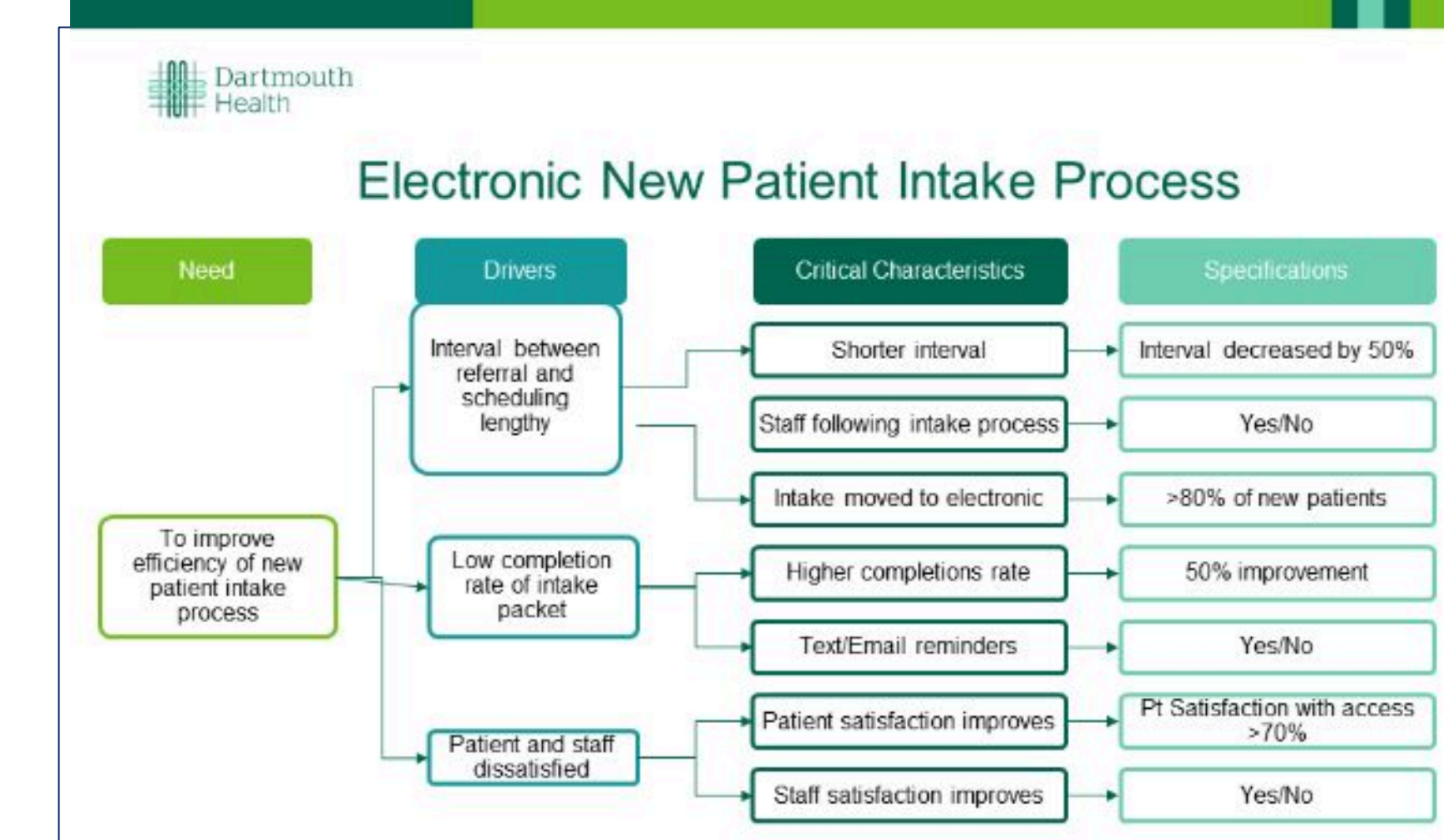
**AVAILABLE KNOWLEDGE:** The demand for Child Development visits exceeds resources and creative solutions are needed. Electronic Health Records have enhanced functionality allowing for integrated patient questionnaires to improve efficiency and allow for population health data collection.

**SPECIFIC AIMS:** Improve access to care, reduce non-value added steps, decrease interval between time of referral and time of scheduling, and create a work flow process that creates patient, staff and clinician satisfaction.

## Pre-intervention paper based system with numerous inefficiencies



## Need/Drivers/Goals



## Methodology

Literature review of the barriers and enablers for patient uptake of electronic questionnaires guided best practices for workflow redesign. The project instituted an integrated e-NPIQ while simultaneously creating a standardized framework. A mixed methods approach analyzed pre- and post-intervention cycle times and completion rates, and analyzed themes from clinicians and staff interviews over a 6-month period.

**CONTEXT:** Practice site is a specialty clinic in an academic medical center in central New Hampshire providing care for children with developmental and behavioral differences. Due to the complexity of diagnosis and overwhelming demand, new intake packets must be completed prior to being scheduled.

**COST BENEFIT ANALYSIS:** Cost of using e-NPIQ significantly lower than traditional paper packet. Savings include cost of mailing, cost of associated testing materials, and cost of personnel.

**INTERVENTIONS:** Pivot from paper based to electronic based new patient intake process with associated framework to support patient, staff and clinician ease of completion.

**STUDY OF INTERVENTIONS:** Interventions evaluated using EMR data and through semi structured interviews.

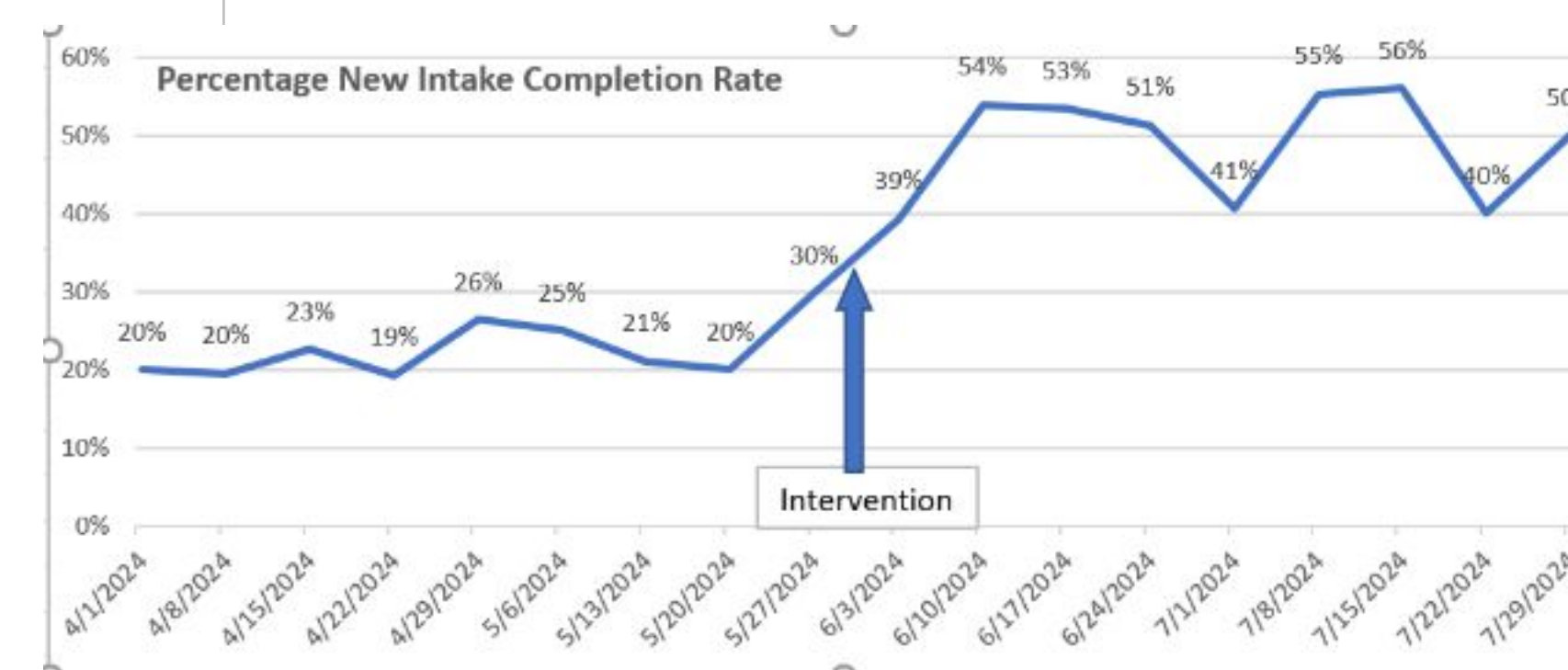
**MEASURES:** EMR reports on number of referrals, time from referral to being scheduled, and number of referrals that were ready for scheduling within 2 months.

**ANALYSIS:** Mixed method of quantitative and qualitative data collection

## Results: Completion rate pre- and post-intervention

Percentage of completed new intake questionnaires/packets more than doubled.

Completion rate increased from 22.7 % per-intervention to 47.7% post-intervention.



Percentage completed new intakes within 2 months

## Results-Semi Structured Interviews of Staff

**POSITIVE:** "Step in the right direction", "Nice to have a clear process"

**NEGATIVE:** "Still too complicated", "Workload has not lessened"

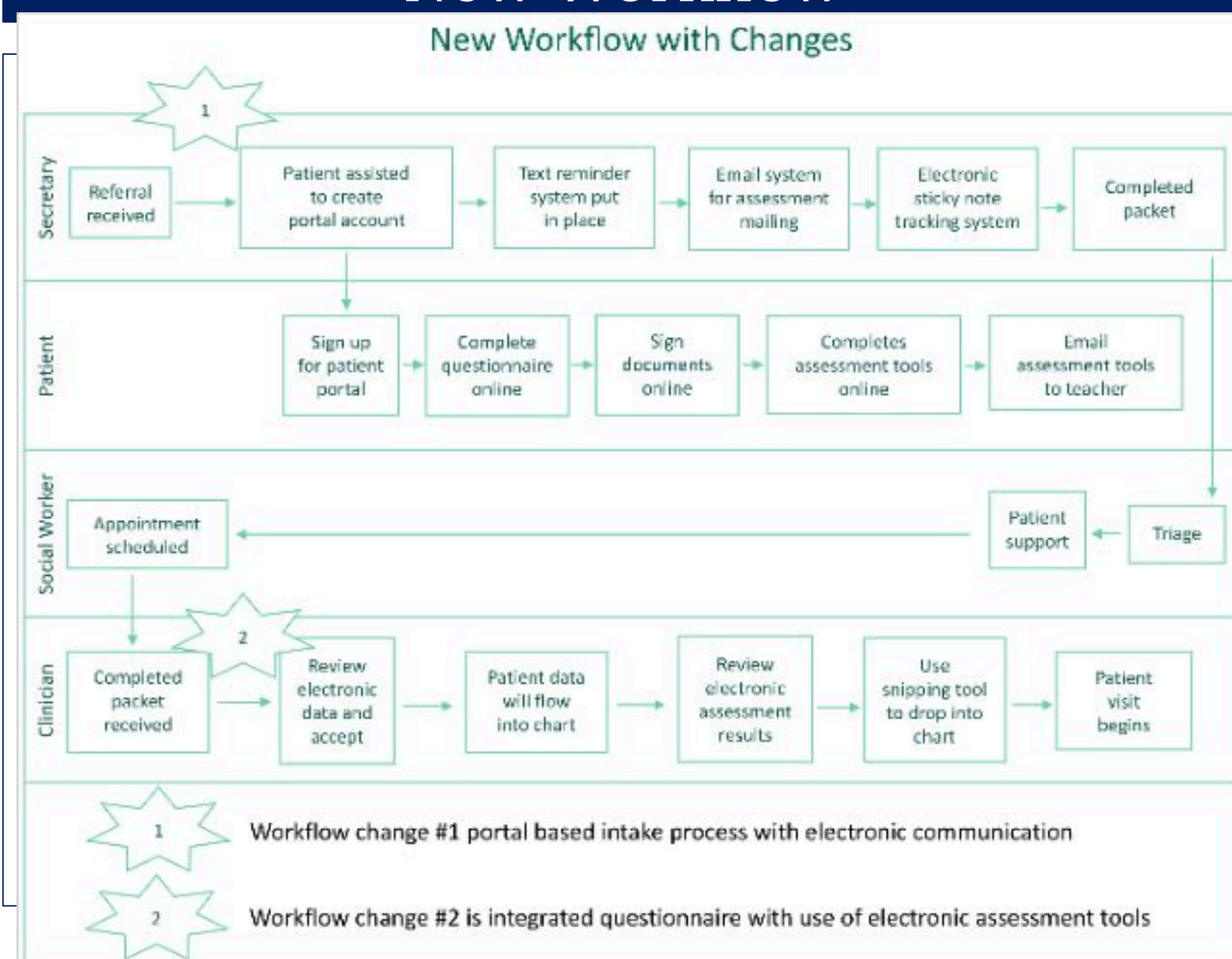
## Conclusions

While there were not enough data points to conclude with certainty that the improvements were due to the intervention, this project demonstrated a trend toward a higher completion rate over a shorter period of time for patients hoping to be seen in a Child Development Clinic.

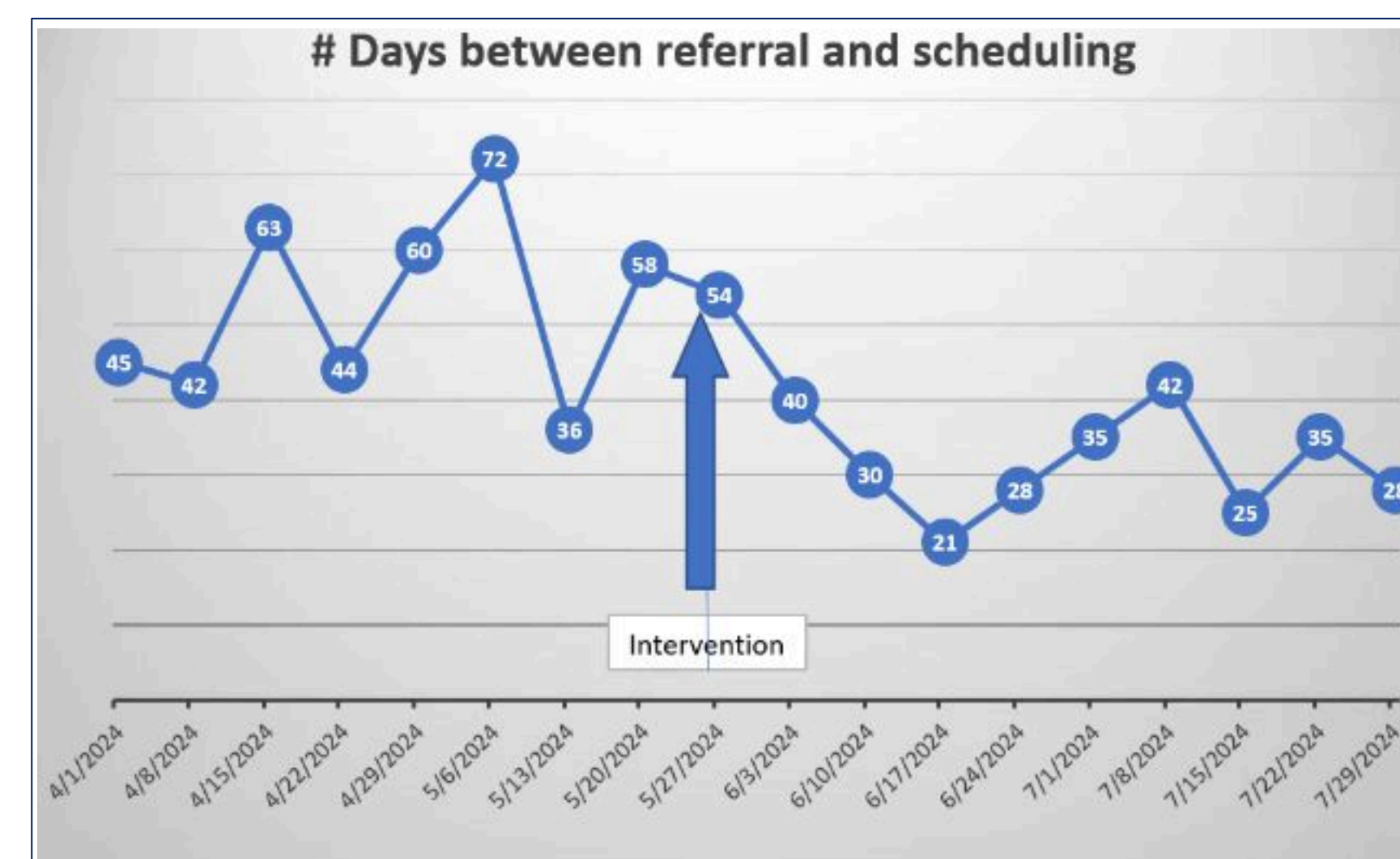
This 6 month QI project reflects one piece of a larger QI project. A more extensive project expanded to include patient panels with patient feedback is planned, with goals of population health initiatives.

An implication for practice is to consider how best to alleviate the work of data collection, and to continually question the steps in the process to remove non-value added work.

## New Workflow



## Results: Interval between referral and scheduling pre- and post-intervention



Number of days between referral and scheduling

Number of days between referral and scheduling dropped by 40%.

Interval decreased from 52.66 days pre-intervention to 31.55 days post-intervention

## Acknowledgements/References

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My DNP classmates and my family

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