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Is there less restraint and isolation of students after TCI quality improvement and fidelity assessment?

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Background

- Children with disabilities are restrained and isolated much more often than children without disabilities.
- TCI (Therapeutic Crisis Intervention) is designed for programs that serve children
 - TCI is evidence-informed
 - TCI reduces need for high-risk interventions like physical restraints
 - TCI still tells users how to restrain
- TCI team offers QIFAP (Quality Improvement and Fidelity Assessment Process)
 - QIFAP asks how well TCI is being implemented
 - Two 2-day site visits
 - Staff interviews with care workers, teachers, supervisors, directors
 - Records review: Incident reports, training records, procedures like post-crisis debrief, restraint guidelines, discipline guidelines, suspension procedures, incident review meetings
 - Observe
 - Meet with leaders
- A program in Maine has two schools for children with disabilities and several residences for children with disabilities.
- They use TCI in all their schools and all their residences.
- They wanted to reduce restraint and isolation.

Research Question

Did restraint and isolation go down after QIFAP visits?

Research Design

- QIFAP visits scheduled for Aug 3, 2020, and Nov 24, 2020
- Schools
 - One school had no QIFAP visits (“control” schools)
 - One school had two QIFAP visits (“treatment” schools)
- Residences
 - About half the residences had no QIFAP visits (“control” residences)
 - About half the residences had two QIFAP visits (“treatment” residences)
- We used admission and discharge dates to calculate # of children in each setting each day. We accounted for reduced attendance during covid lockdowns
 - 03/16/2020-07/06/2020: treatment schools in-person only twice a week
 - 11/30/2020-01/19/2021: treatment schools in-person only for children not in an agency residence
 - 04/23/2021-05/15/2021: treatment schools in-person only for children not in an agency residence
- We read incident reports and measured # of incidents (restraint or isolation) per child per month

Results Over Time

- Total of 2,426 incidents of restraint/isolation over 22 months (3.6 incidents per day)
- More restraint/isolation in residences than in schools
- Less restraint/isolation over time, even in control condition, even before treatment visits, even before pandemic started!

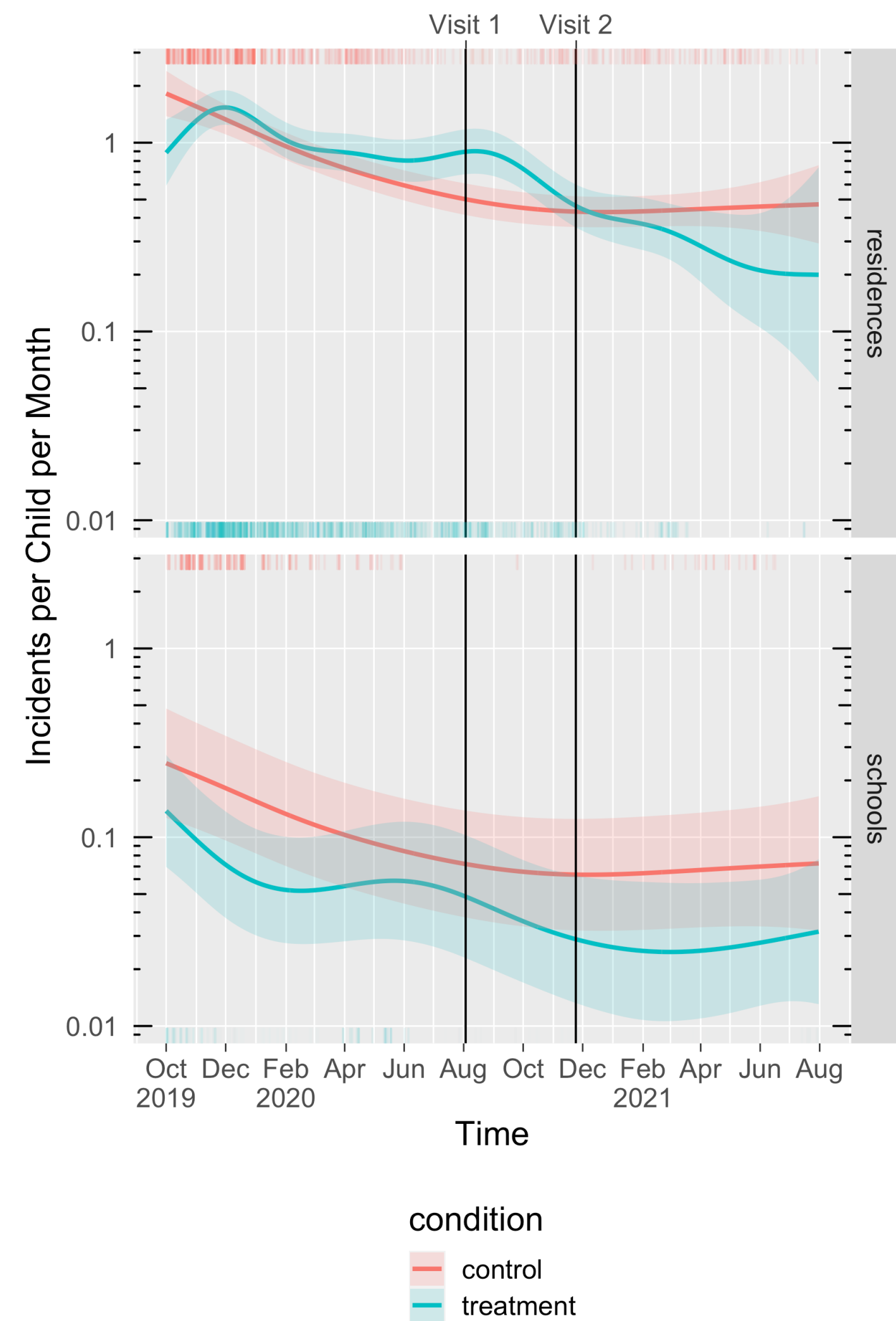


Figure 1. Incidents Rate Over Time. “Rug plots” show actual incident times (more opaque when fewer children at risk), with curves showing rates of incidents estimated by a poisson generalized additive model (Wood, 2017, 2022). In residences, incident rates start at about 1-2 per child month in Oct 2019. By Aug 2021 (time of Visit 1 in treatment sites) falls to about 0.5 per child per month in control residences, briefly rises before falling to about 1 per child per month in treatment residences. In control schools, incident rate falls from 0.25 per child per month in Oct 2019 to 0.7 by Aug 2021; in treatment schools, incident rate falls from 0.14 per child per month in Oct 2019 to 0.05 by Aug 2021. Overall, incident rates fell about 2.5-fold from Oct 2019 until Aug 2020 (when Visit 1 occurred, only in treatment condition), then leveled out in control condition but continued to decline in treatment condition.

Results After Each Visit

- Residences
 - Incident rate fell more than 2-fold after 1st visit (fell 2.4-fold in control condition, fell 2.2-fold in treatment condition)
 - Incident rate leveled off after 2nd visit, but kept falling in treatment condition (another 5.7-fold!)
- Schools
 - Incident rate fell right after 1st visit in control condition by 27.0-fold (!), by 7.3-fold in treatment condition
 - Incident rate rebounded after 2nd visit in control condition, leveled off in treatment condition

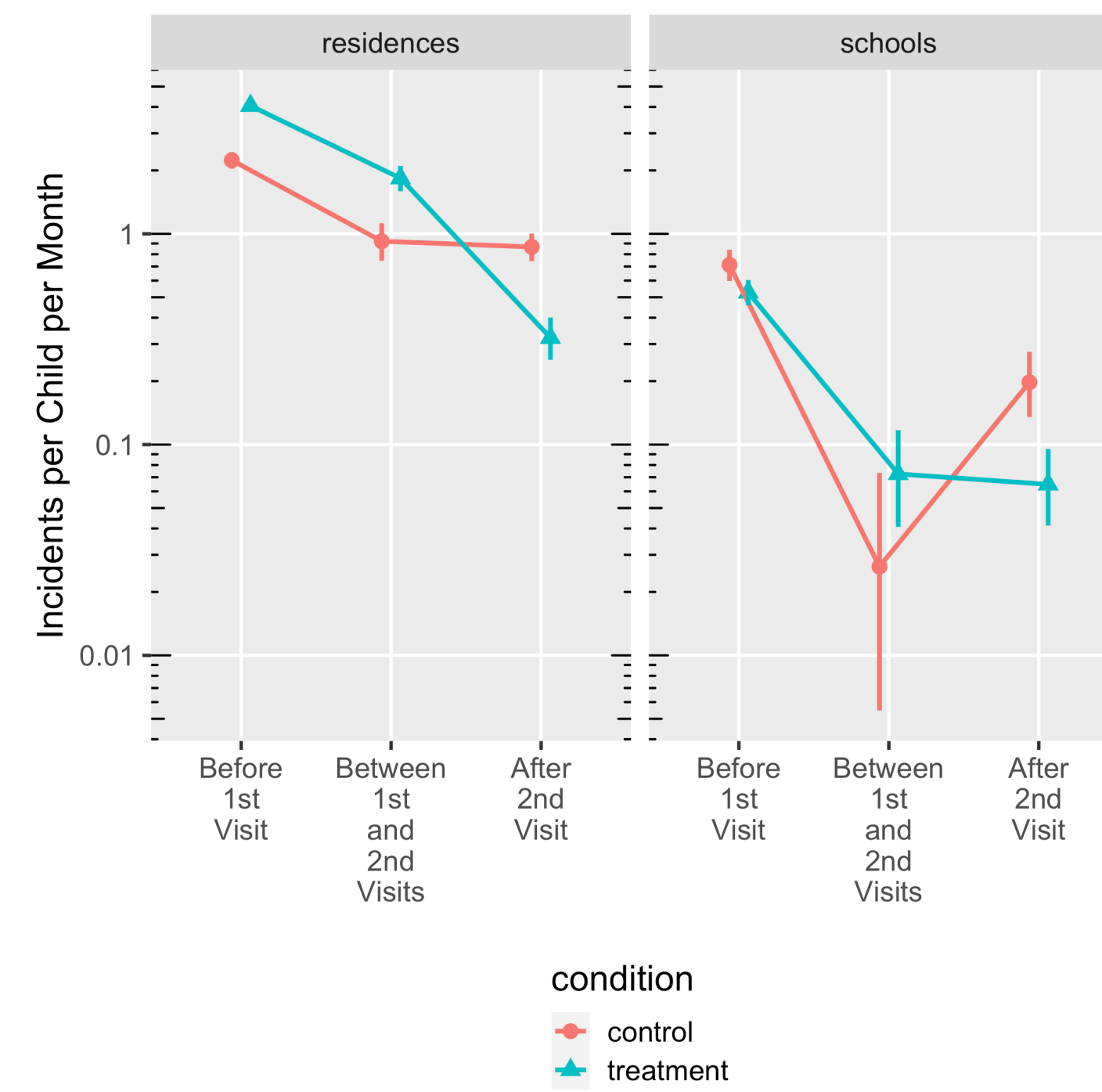


Figure 2. Incident Rate Before 1st Visit, Between 1st and Second visits, and After Second Visit (model-free estimates). Left panel: In control residences, incident rate fell from 2.2 per child per month before 1st visit to 0.9 between 1st and 2nd visit, still at 0.9 after 2nd visit. In treatment residences, incident rate fell from 4.1 per child per month before 1st visit to 1.8 between 1st and 2nd visit, fell further to 0.3 after 2nd visit. In treatment schools, incident rate fell from 0.7 per child per month before 1st visit to 0.03 between 1st and 2nd visits (but with large bars) before rebounding to 0.2 after 2nd visit. In treatment schools, incident rate fell from 0.5 per child per month before 1st visit to 0.07 between 1st and 2nd visits, about the same at 0.06 after 2nd visit.

Results Before vs After 1st Visit

- Residences
 - Incident rate in control fell 2.5-fold
 - Incident rate in treatment fell 4.9-fold
 - Incident rate in **treatment fell by more than in control** (fell twice as much)
 - Estimate 255/523 incidents avoided (48% reduction)
- Schools
 - Incident rate in control fell 5.1-fold
 - Incident rate in treatment fell 7.8-fold
 - Incident rate in **treatment fell by more than in control** (fell 1.5 times as much)
 - Estimate 17/52 incidents avoided (33% reduction)
- Overall, estimate 272/575 incidents avoided (47% reduction)

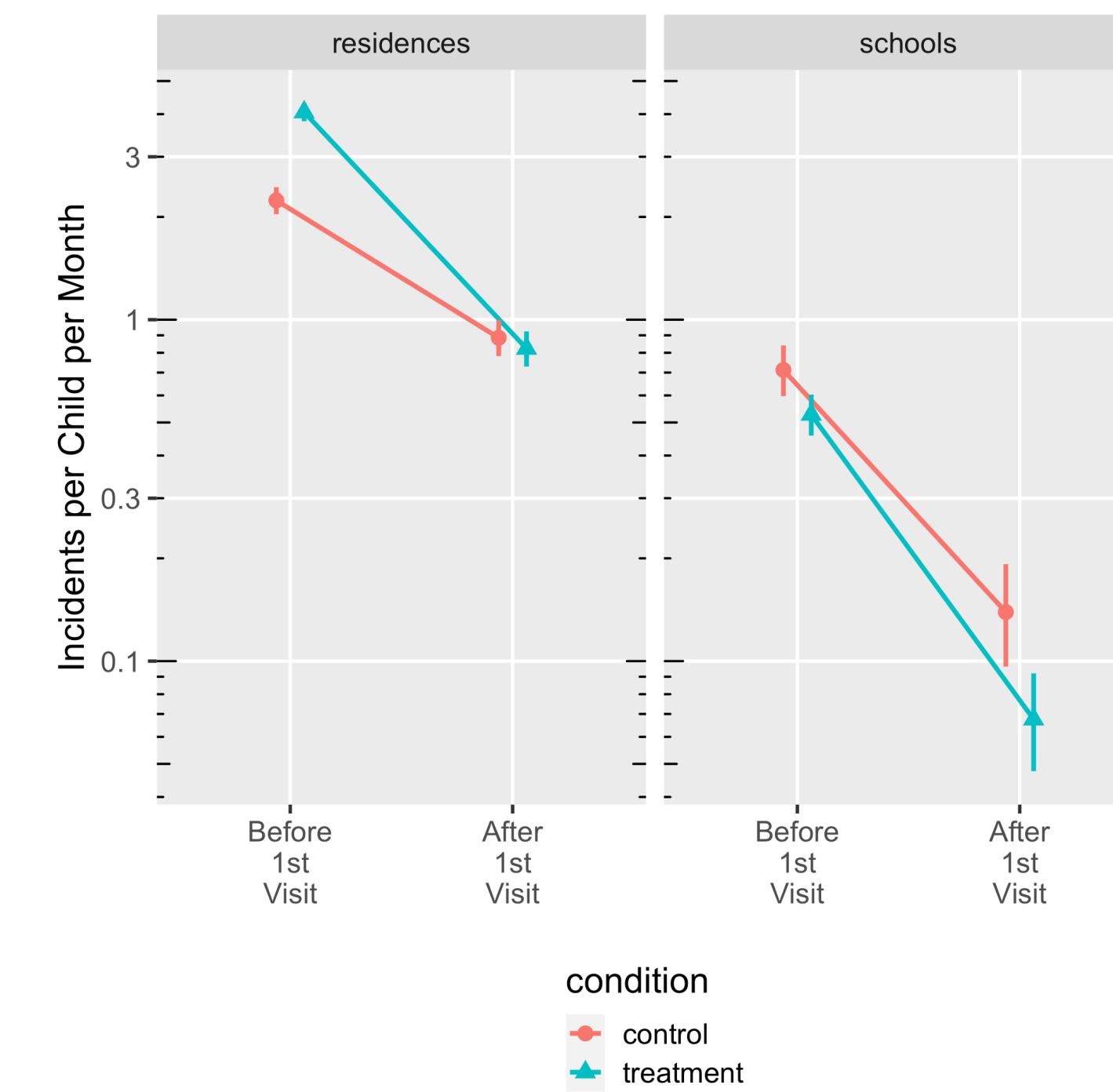


Figure 3. Incident Rate Before 1st Visit vs After 1st Visit (model-free estimates). Left panel: In control residences, incident rate fell from 2.2 per child per month before 1st visit to 0.9 after 1st visit. In treatment residences, incident rate fell from 4.1 per child per month before 1st visit to 0.8 after 1st visit. Right panel: In control schools, incident rate fell from 0.71 per child per month before 1st visit to 0.14 after 1st visit. In treatment schools, incident rate fell from 0.53 per child per month before 1st visit to 0.07 after 1st visit.

Conclusions

- Very good news that QIFAP associated with 47% reduction in incidents
- Surprising that incidents also dropped, in treatment and control conditions, even before QIFAP visits
- Not because of covid: Drops started even before the pandemic
- Senior agency leaders were very interested. Maybe there was a culture change even in the control condition against restraint and isolation?
- Drop in control as well as treatment condition makes it important to replicate.

Connection to Conference Theme “Emerging Leaders: Shaping the Future”

- Maine’s disability rights community has been pushing hard to reduce restraint and seclusion
- Goal was to shape the future by showing programs better ways forward than restraint and seclusion
- Leaders in state DD council wanted to try out and test a preferred crisis intervention system, but they couldn’t find an agency willing to try it
- DD council leaders decided to test a different system (QIFAP) that worked with a crisis intervention system (TCI) that was already used by an agency in Maine
- The UCEDD did this research to test QIFAP to inform future policy and practice

References

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