

The impact of an Emergency Care Access Point on pediatric attendances in the Emergency Department: an observational study

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Background

Overcrowding is a growing concern internationally in both general and pediatric Emergency Departments (EDs) ^{1,8-11}. The Emergency Care Access Point (ECAP) – a collaboration between a General Practitioners Cooperative (GPC) and the ED – has been established to reduce the number of self-referrals and non-urgent ED visits ¹⁻⁶. In the adult population an ECAP has led to a decrease in ED utilization and waiting time, as well as to an increase in admission rate ^{1,4}. The aim of this study is to determine the impact of an ECAP on pediatric ED attendances.

Methods

We retrospectively analyzed data of 3,997 pediatric patients who visited the ED of a regional teaching hospital in the Netherlands one year before and after the implementation of an ECAP (April 2014-2015 and April 2015-2016). We compared patient characteristics, presented complaints and diagnoses, throughput times and follow-up between the study groups, and between office hours and after-hours. Mann-Whitney U and chi-square tests were used for continuous and categorical variables, respectively.

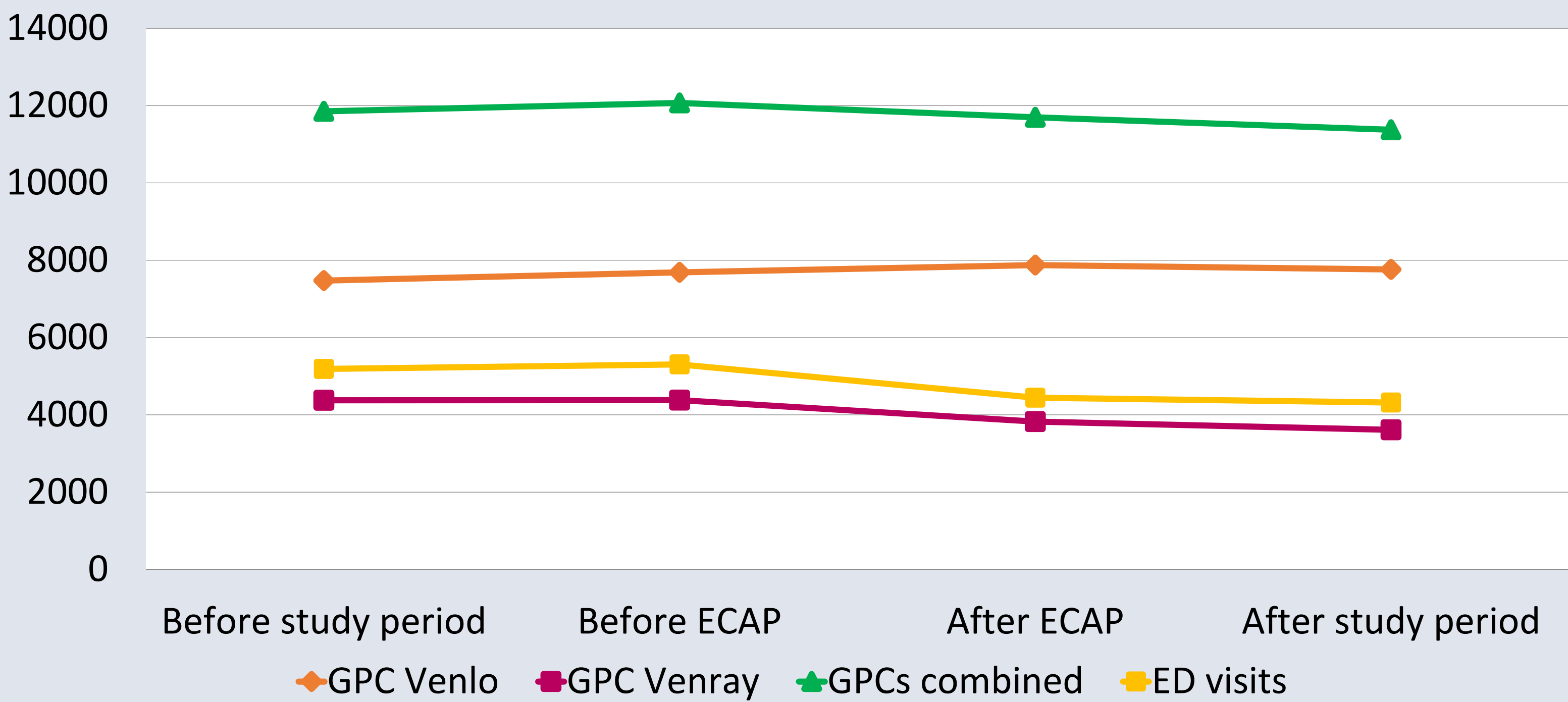
Results

After ECAP implementation, a sharp reduction by 16.3% of ED visits under the age of 18 years was observed. ECAP implementation led to a decline of self-referrals by 97.2%. Whilst median waiting time decreased (-1 min), median treatment time increased (+6 min); resulting in a similar median length of stay. Presenting complaints and ED diagnoses were similar. Consultations and follow-up were required more frequently. The admission rate during nights increased (49.3% versus 64.0%). Overall admission rates were similar.

Impact of an ECAP on pediatric attendances during ECAP hours

Outcome	Before ECAP	After ECAP	P-value
Patient characteristics			
Number of patients (No.)	888	716	0.038
After-hours self-referrals (%)	20.2	0.7	<0.001
After-hours referred patients (%)	79.8	99.3	<0.001
Variables of acuity			
Median waiting time (min)	4	3	<0.001
Median treatment time (min)	82	88	0.042
Median length of stay (min)	92	93	0.288
Total follow-up rate (%)	65	70.7	0.016
Total admission rate (%)	49.6	52.2	0.285
Admission rate during nights (%)	49.6	64	0.032
Consultation rate (%)	2.5	4.9	<0.001
Mortality (%)	0.1	0.0	0.369

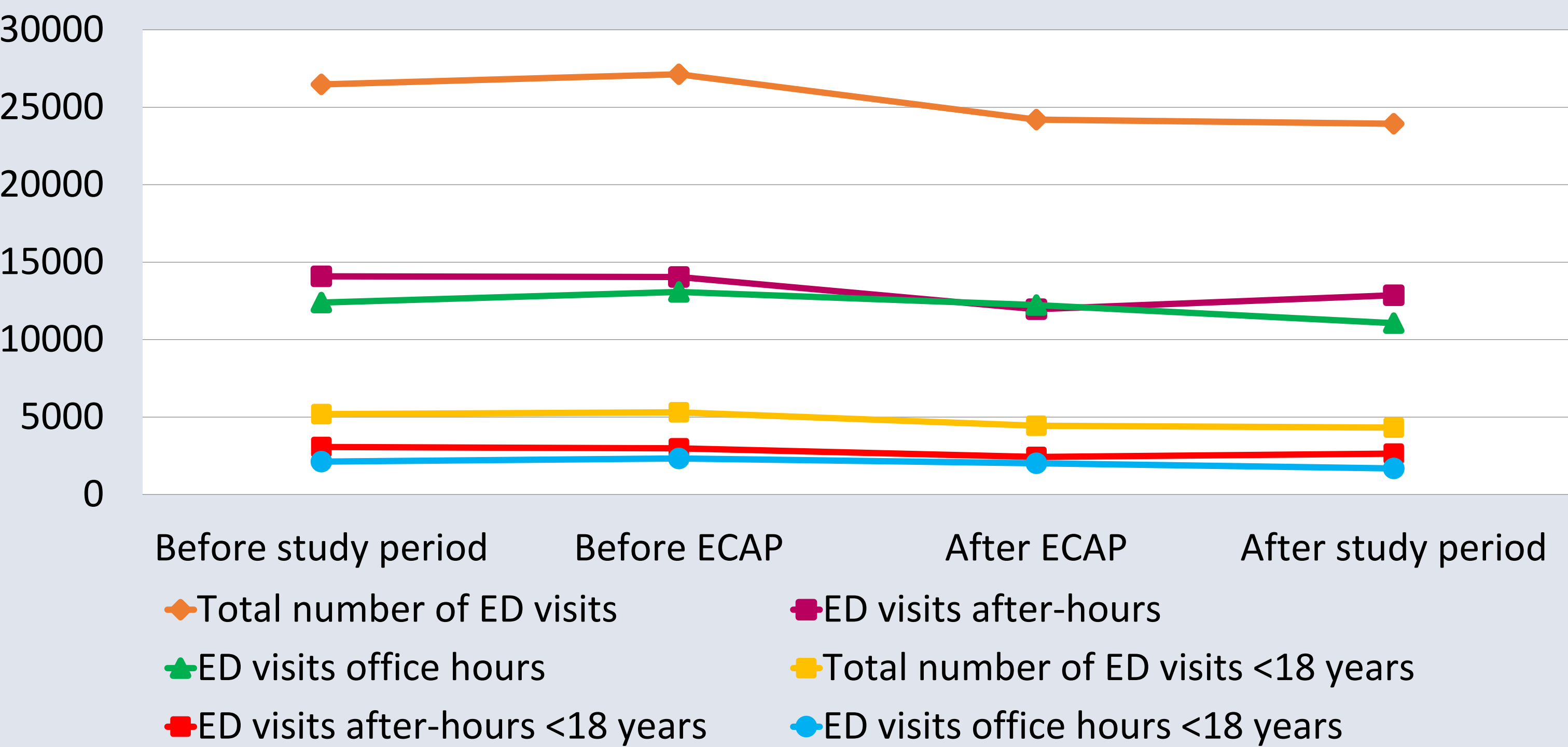
Number of physical contacts aged <18 years in the GPCs and ED



Conclusion

The implementation of an ECAP resulted in a reduction of pediatric ED consumption, including a massive decline of pediatric self-referrals and a successful redirection of non-urgent patients to the GPC. Our results also suggest that the mean acuity of pediatric ED visits increased. In conclusion, an ECAP might be an effective tool to reduce the workload in the pediatric ED and it possibly helps tackling the problem of crowding in the ED.

Number of ED visits



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