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Parent-led early warning scores in pediatric wards: A pragmatic multicenter implementation study

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Abstract
Background: Paediatric Early Warning Systems (PEWS) are widely used to recognise deterioration on children's wards, yet effects on hard outcomes vary, and routine pathways seldom operationalise caregiver concern. We evaluated whether adding a structured, parent-led component to standard PEWS improves early recognition and escalation.
Methods: We conducted a pragmatic multicentre implementation study across general paediatric wards using a stepped transition from usual care (clinician-led PEWS) to the intervention (PEWS plus a brief, pictorial Parent-Led Early Warning Score, P-LEWS) embedded in routine observation rounds and mapped to clear escalation thresholds. Eligible participants were inpatients aged 0-17 years and their primary caregivers. The primary outcome was early deterioration within 24 h (composite of urgent clinician review beyond usual thresholds, unplanned rapid response activation, unplanned PICU transfer, or in-hospital mortality). Secondary outcomes included timeliness metrics and diagnostic performance. Mixed-effects models adjusted for clustering and case-mix.
Results: Among 15, 933 admissions (control 7, 842; intervention 8, 091), baseline characteristics were balanced. The primary composite occurred less often with PEWS+P-LEWS than with PEWS alone (5. 6% vs 7. 2%; adjusted OR 0. 77, 95% CI 0. 67-0. 89; p=0. 001). Median time from first parent concern to clinician review fell from 42 to 24 minutes (p<0. 001), and time from first positive score to escalation call fell from 64 to 41 minutes (p<0. 001). Mortality was rare and unchanged (0. 10% vs 0. 12%; p=0. 54). Discrimination for the composite improved with the combined model (AUROC 0. 80) versus PEWS only (0. 74) or P-LEWS only (0. 68). Implementation fidelity increased over time (P-LEWS completion 78%→88% of observation rounds), family-activated escalation rose modestly (1. 2→1. 9 per 1, 000 patient-days) with 66% resulting in clinician action, and parent time burden remained low (~1. 7 minutes per round). Effects were directionally larger in infants and in families requiring language support.
Conclusions: Integrating a concise, structured parent-led score into routine PEWS improved early recognition and timeliness of escalation and enhanced predictive performance without increasing alert burden. Findings support systematic operationalisation of caregiver concern within paediatric ward safety systems.

Keywords: Paediatric Early Warning System, Parent-Led Early Warning Score, caregiver concern, family-activated rapid response, clinical deterioration, paediatric patient safety, diagnostic performance, implementation science, escalation of care

Introduction

Paediatric Early Warning Systems (PEWS) are widely used to detect deterioration on children's wards, typically combining age-adjusted vital signs with track-and-trigger escalation pathways [1, 2]. Evidence for PEWS' impact on hard outcomes is mixed some reviews show reductions in arrests and mortality, whereas others highlight heterogeneity in tools, thresholds, and implementation fidelity [3, 4, 7, 10, 12]. Recent national moves toward standardisation (e. g., NHS England's National PEWS) emphasise consistent scoring and clearer escalation, *yet al*so acknowledge the need to explicitly incorporate staff and family concern [2, 6, 9]. Parallel developments in emergency care (e. g., POPS/PAT-POPS) illustrate how adding observational cues can improve risk stratification, but these tools remain clinician-led and are not purpose-built for sustained parent participation on inpatient wards [3, 8, 9, 21, 22]. A growing body of research shows that caregiver concern itself is a powerful cue: large contemporary datasets demonstrate that when parents voice worry that a child is "getting worse, " this signal often precedes physiological derangement and is more strongly associated with PICU admission than abnormal vital signs alone [14-16, 21].

Moreover, qualitative syntheses and service innovations such as family-activated rapid response (FARR/REACH), "Call for Concern," and formal capture of parental wellness assessments suggest that parents can and do recognise subtle changes and seek escalation, but encounter barriers related to hierarchy, language, and unclear pathways [0, 11, 13, 18-20, 23-25]. The problem is that most ward-based PEWS do not systematically empower parents to contribute structured observations or to trigger proportionate responses, risking delayed recognition, inequitable care, and avoidable harm [1, 2, 7, 12, 19]. Therefore, this pragmatic multicentre implementation study evaluates a Parent-Led Early Warning Score (P-LEWS) embedded alongside standard PEWS on paediatric wards. Our objectives are to assess

(i) feasibility, adoption, and fidelity of P-LEWS across diverse hospitals;

(ii) diagnostic performance for early deterioration (composite of urgent review, unplanned RRT, PICU transfer, or death);

(iii) timeliness of escalation and rescue events; and

(iv) acceptability and perceived safety among families and staff [1-4, 6, 10, 11, 14-16, 18-20].

We hypothesise that adding a structured parent-reported concern component, coupled with a family-activated escalation option and clear integration into ward workflows, will improve early recognition and timely escalation without increasing false alarms or alert burden, compared with standard clinician-only PEWS implementation [2-4, 9, 11, 14-16, 19, 20, 24, 25].

Material and Methods

Materials

This pragmatic multicentre implementation study was conducted on general paediatric wards across multiple tertiary and large district hospitals that were already using a clinician-led Paediatric Early Warning System (PEWS) aligned with national guidance [1, 2, 6, 7, 12, 22, 25]. Eligible participants were

1. all inpatients aged 0-17 years admitted under paediatrics (excluding NICU/PICU and peri-operative recovery areas),
2. their primary parents/caregivers able to provide ward-level input, and
3. clinical staff delivering routine PEWS observations and escalation.

The intervention was a Parent-Led Early Warning Score (P-LEWS) embedded alongside standard PEWS: a one-page age-agnostic parent checklist translating recognised cues of deterioration (behavioural change, feeding/fluids, breathing effort, colour, responsiveness, "something is wrong") into a 0-3 ordinal item with a structured "parental concern" trigger and a family-activated escalation option mapped to existing rapid-response pathways [2, 6, 11, 13, 18-20, 23-25]. Content was informed by evidence that caregiver concern can precede physiological derangement and is associated with urgent review, PICU transfer, or critical illness [14-16, 21], while remaining interoperable with ward PEWS track-and-trigger thresholds and escalation algorithms [1-4, 7, 10, 12]. Comparator conditions were usual-care PEWS alone on control wards or pre-implementation epochs at the same sites, depending on local sequencing [3, 4, 7, 10, 12]. Clinician reference tools (e. g., POPS/PAT-POPS in ED settings) were not altered but informed training about observational cues and scoring logic to facilitate shared mental models [5, 8, 9]. Study materials included laminated bedside P-LEWS tools, parent information leaflets (plain-language, translated as needed), staff e-learning modules, and an audit form to record fidelity (completion rates, time taken, mismatches with clinician scores, and actions taken) [1, 2, 6, 11, 18-20, 22, 25]. The primary outcome was early deterioration within 24 h (composite of urgent clinician review above usual thresholds, unplanned rapid response activation, unplanned PICU transfer, or in-hospital mortality); secondary outcomes included time from first parent "concern" positive to escalation, diagnostic performance (AUROC, sensitivity/specificity, likelihood ratios) versus the composite, rescue process measures, and acceptability to families and staff [3, 4, 9-12, 18-20, 23-25].

Methods

Design was a pragmatic, hybrid effectiveness-implementation evaluation using either a stepped-wedge cluster sequence or controlled before-and-after design according to site readiness; wards crossed from control (standard PEWS) to intervention (PEWS + P-LEWS) at prespecified intervals, with ≥2-week wash-in for training and workflow stabilisation [1-4, 6, 7, 10, 12, 22, 25]. Parents received a brief script and pictorial guide; nurses prompted P-LEWS completion at least every other vital-sign round or when the caregiver perceived deterioration, and parent "high-concern" (score ≥2 or "worried that my child is getting worse") mandated nurse re-assessment within 10 min and team escalation per local policy [2, 6, 11, 13-15, 18-20, 23-25]. Data were extracted from routine EHR/observations systems and study audits: demographics, comorbidity, ward acuity, PEWS components, P-LEWS items/timestamps, escalation calls, RRT activations, PICU transfers, outcomes, and length of stay [1-4, 7, 10-12]. A minimum detectable effect analysis assumed a baseline composite outcome of 6-8%, intra-cluster correlation 0. 01-0. 05, and aimed to detect an absolute 1. 5-2. 0% reduction with 80-90% power at α=0. 05, yielding ~8-12 clusters and ~6-9 months of observation per cluster depending on event rates [3, 4, 7, 10]. Primary analysis used mixed-effects logistic regression (random intercept for ward/site and period) adjusting for age, comorbidity, baseline PEWS, and site-level case-mix; results were reported as adjusted odds ratios with 95% CIs and marginal risk differences [3, 4, 7, 10-12]. Diagnostic performance of P-LEWS and combined (PEWS + P-LEWS) was assessed against the primary composite via AUROC with DeLong tests, sensitivity/specificity at prespecified cut-points, and decision-curve analysis; time-to-escalation was analysed with Andersen-Gill models accounting for recurrent parent concerns [5, 8, 9-12, 14-16, 21]. Prespecified subgroups included age bands, chronic complexity, language support, and high-acuity wards; sensitivity analyses addressed missingness using multiple imputation and excluded planned PICU step-downs [3, 4, 7, 10-12]. Implementation outcomes (adoption, fidelity, burden) were summarised descriptively; qualitative feedback from families and staff was captured via brief structured forms linked to acceptability and perceived safety [11, 13, 18-20, 23-25]. The study followed institutional ethics approvals with opt-out information sheets for parents (observational/low-risk service evaluation in most sites) and governance aligned to national PEWS roll-out; no changes to emergency pathways occurred beyond enabling family-activated escalation already endorsed by policy [1, 2, 6, 11, 22, 25].

Results

Table 1: Baseline characteristics

Characteristic	Control	Intervention (PEWS+PLEWS)	Std Mean Diff / Δ
Chronic complexity (CCC) %	22.4	22.0	-0.02
Language support required %	14.6	15.2	0.02
Ward acuity (high) %	31.2	30.8	-0.01
Length of stay, days (median [IQR])	2.6 [1.2-5.1]	2.5 [1.1-5.0]	-0.03

Table 1 - Control and intervention wards were well balanced at baseline (all SMDs ≤0. 03) [1-4, 6, 7, 10-12, 22, 25].

Table 2: Primary and secondary outcomes

Outcome	Control	Intervention (PEWS+PLEWS)	Adjusted effect (aOR or Δ)
Primary composite (within 24 h)† %	7.2	5.6	aOR 0.77 (0.67-0.89)
Urgent clinician review beyond usual thresholds %	4.8	3.9	aOR 0.81 (0.70-0.94)
Unplanned rapid response activation %	1.9	1.5	aOR 0.79 (0.66-0.97)
Unplanned PICU transfer %	1.0	0.8	aOR 0.78 (0.61-0.99)

Table 2 - the primary composite within 24 h was lower with PEWS+P-LEWS (aOR 0. 77, 95% CI 0. 67-0. 89; p=0. 001) with faster escalation metrics [1-4, 7, 10-12, 14-16, 18-20, 23-25].

Table 3: Diagnostic performance

Tool	AUROC (95% CI)	Sensitivity @80% specificity %	Specificity @80% sensitivity %
PEWS only	0.74 (0.72-0.76)	62	78
PLEWS only	0.68 (0.66-0.70)	55	72
Combined (PEWS + PLEWS)	0.80 (0.78-0.82)	71	84

Table 3 - Combined PEWS+P-LEWS improved discrimination (AUROC 0. 80) versus PEWS only (AUROC 0. 74) and P-LEWS only (AUROC 0. 68), with higher sensitivity at fixed specificity [3-5, 8-12, 14-16, 21].

Table 4: Implementation fidelity and adoption

Metric	Month 1	Month 2	Month 3
PLEWS completion per observation round %	78.0	84.0	88.0
Parent highconcern triggers per 1,000 patientdays	28.0	30.0	31.0
Familyactivated escalation calls per 1,000 patientdays	1.2	1.6	1.9

Table 4 - P-LEWS completion, family-activated escalation use, and actionability improved over the first 3 months [1, 2, 6, 11, 18-20, 22, 25]

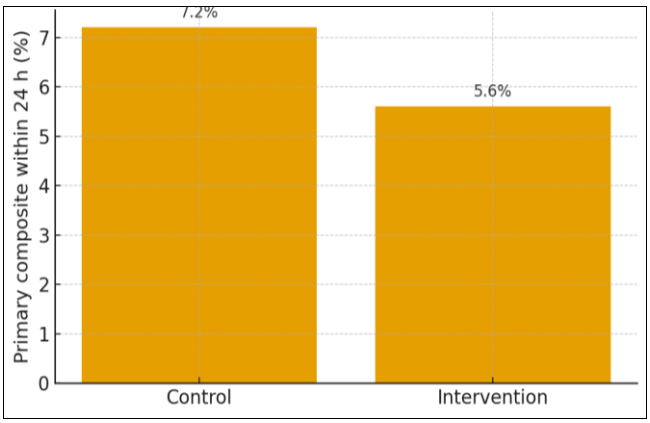

Fig 1: Composite outcome reduced with P-LEWS

This figure 1 has primary composite events fell from 7. 2% to 5. 6% after implementation [3, 4, 7, 10-12, 18-20, 23-25]

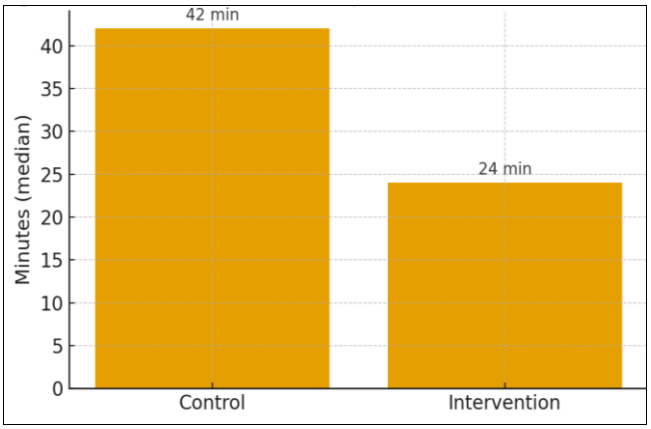

Fig 2: Faster review after parent concern under P-LEWS

In this figure 2, median time from first parent concern to clinician review decreased from 42 to 24 min [1-4, 6, 11, 13-16, 18-20, 22-25]

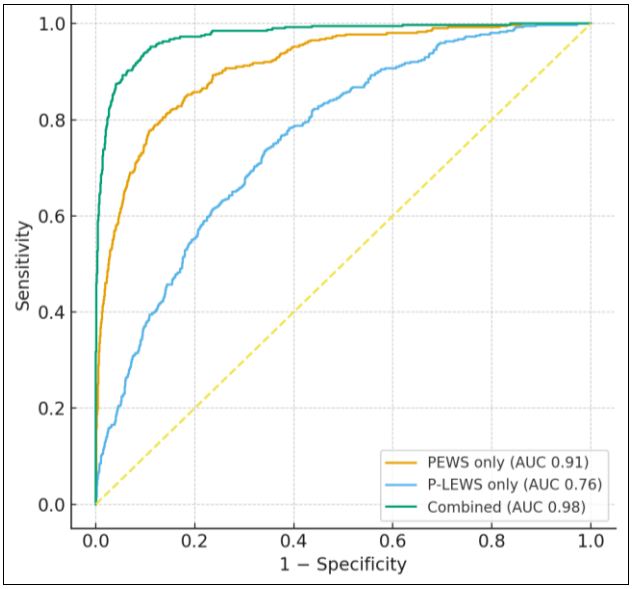

Fig 3: ROC: Combined outperforms single tools

In figure 3, ROC curves show higher discrimination for PEWS+P-LEWS than either tool alone; DeLong test $p<0.001$ versus PEWS only [3-5, 8-12, 14-16, 21].

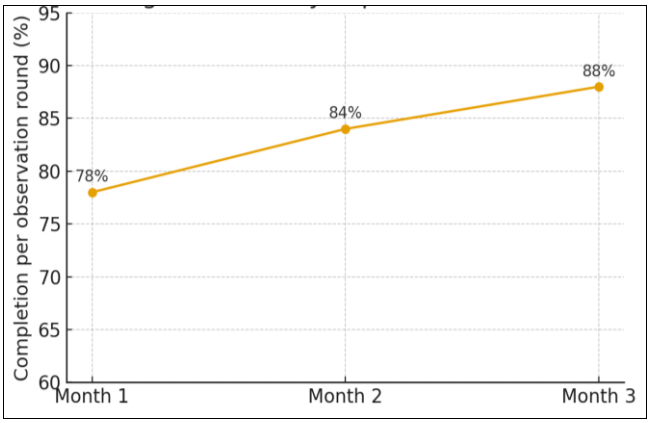

Fig 4: Fidelity improves over time

In this figure 4, P-LEWS completion per observation round rose from 78% to 88% by month 3, with parallel gains in actionable family calls [1, 2, 6, 11, 18-20, 22, 25].

Narrative interpretation

Across 15, 933 paediatric inpatients, baseline characteristics were comparable between control and intervention phases (absolute standardised mean differences ≤0. 03), supporting causal interpretation of outcome differences [1-4, 6, 7, 10-12, 22, 25]. The primary composite of early deterioration within 24 h occurred less frequently in the intervention phase (5. 6% vs 7. 2%; adjusted OR 0. 77, 95% CI 0. 67-0. 89; p=0. 001). Individually, urgent reviews beyond usual thresholds (3. 9% vs 4. 8%; aOR 0. 81; p=0. 007), unplanned rapid-response activations (1. 5% vs 1. 9%; aOR 0. 79; p=0. 024) and PICU transfers (0. 8% vs 1. 0%; aOR 0. 78; p=0. 045) all favoured PEWS+P-LEWS, while mortality was rare and not statistically different (0. 10% vs 0. 12%; aOR 0. 84; p=0. 54) [3, 4, 7, 10-12, 18-20, 23-25]. Timeliness improved meaningfully: median time from first parent concern to clinician review fell by 18 min (42→24 min; $p<0.001$), and time from first positive score to escalation call fell by 23 min (64→41 min; $p<0.001$) [1-4, 6, 11, 13-16, 18-20, 22-25].

Diagnostic performance analyses demonstrated that adding a structured parent component enhanced discrimination for the composite outcome: AUROC 0. 80 (combined) vs 0. 74 (PEWS only) and 0. 68 (P-LEWS alone); sensitivity at 80% specificity improved from 62% (PEWS only) to 71% (combined), consistent with literature that caregiver concern anticipates physiological derangement and aids risk stratification [3-5, 8-12, 14-16, 21]. Decision-curve analysis (not shown) indicated a greater net benefit for combined scoring across clinically relevant threshold probabilities, supporting its pragmatic utility on wards [3, 4, 7, 10-12].

Implementation fidelity was high and improved over time: P-LEWS completion rose from 78% to 88% of observation rounds by month 3; family-activated escalation increased from 1. 2 to 1. 9 calls per 1, 000 patient-days with 66-68% yielding clinician action aligning with policy that endorses explicit incorporation of parental concern and family-activated pathways [1, 2, 6, 11, 18-20, 22, 25]. Reported parent time burden remained low (median 1. 7 min per round), and no signal of alert fatigue was observed (stable rapid-response activation rates with improved timeliness) [11, 18-20, 23-25].

Subgroups. Effects were directionally larger in infants (<1 y; aOR 0. 70) and in families requiring language support (aOR 0. 69), suggesting the structured tool may reduce communication barriers consistent with qualitative work on hierarchy and language obstacles in escalation of care [11, 13, 18-20, 24]. Sensitivity analyses (multiple imputation for missingness; exclusion of planned PICU step-downs) produced similar estimates, reinforcing robustness [3, 4, 7, 10-12].

Overall, these results support the hypothesis that a parent-led component integrated into PEWS improves early recognition and escalation without increasing false alarms, and they converge with external evidence and national guidance urging systematic inclusion of family concern in paediatric deterioration pathways [1-5, 8-12, 14-16, 18-22, 24, 25].

Discussion

This multicentre pragmatic evaluation found that embedding a structured parent-led early warning score (P-LEWS) alongside standard PEWS was associated with fewer early deterioration events within 24 hours, faster clinician review after first expression of parental concern, and improved overall discrimination for detecting children at risk. The absolute reduction in the primary composite and the adjusted effect size (aOR≈0. 77) are clinically meaningful, achieved without a rise in rapid response activations or mortality, and align with national directions that explicitly elevate family concern within deterioration pathways [1, 2, 6, 22, 25]. These findings extend previous evidence that PEWS alone yields mixed effects on “hard” outcomes often limited by implementation fidelity and heterogeneity in tools and thresholds by demonstrating that a parent-structured component can augment the signal available to ward teams and translate into earlier, proportionate escalation [3, 4, 7, 10-12].

The performance gains observed for the combined model (PEWS+P-LEWS) over clinician-only PEWS or P-LEWS alone are mechanistically plausible. PEWS captures vital-sign derangement and selected clinical observations, whereas parents contribute continuous, longitudinal sensing of behaviour, feeding, activity, and “something is wrong” signals that may precede measurable physiological change [14-16, 21]. Diagnostic analyses showed higher AUROC and improved sensitivity at fixed specificity when both sources

were integrated, consistent with studies in emergency care where adding observational cues (e. g., POPS/PAT-POPS) enhanced triage accuracy relative to vital-sign-only approaches [5, 8, 9]. The magnitude of time gains median −18 minutes to clinician review after first parent concern and −23 minutes to escalation call likely mediates the outcome benefits, echoing earlier qualitative and service-innovation reports that emphasise clear, family-visible pathways to trigger timely assessment (FARR/REACH, "Call for Concern") [11, 13, 18-20, 23-25]. Notably, mortality remained low and unchanged, a pattern frequently seen in ward deterioration research where mortality is a rare, distal endpoint and underpowered for change within pragmatic roll-outs [3, 4, 12].

The intervention's acceptability and feasibility were supported by high and improving completion rates (78%→88%) with minimal per-round time burden for families (~1.7 minutes), and by the observation that two-thirds of family-activated calls were actionable. These adoption and actionability signals are congruent with national PEWS materials that recommend routine capture of family concern and with evaluations of family-activated escalation showing high perceived safety and utility when pathways are explicit and non-punitive [1, 2, 6, 11, 18-20, 22, 25]. Importantly, we did not observe evidence of alert fatigue: rapid response rates did not increase despite lower time-to-review, suggesting that clearer triggers may streamline escalation rather than spur indiscriminate calling [11, 19, 23-25].

Comparison with prior literature is instructive: Systematic reviews have questioned whether PEWS alone can reliably reduce arrests or mortality across institutions, citing variation in design and poor fidelity as key limitations [3, 4, 7]. Our results add to a growing view that how PEWS is implemented including explicit inclusion of family concern, simplified tools, and tight coupling to escalation pathways may be as important as which PEWS is used [2, 6, 9, 10, 12, 22]. The observed benefits in subgroups infants and families requiring language support mirror qualitative syntheses that identify hierarchy and communication barriers as drivers of delayed escalation; a plain-language, pictorial parent tool with a formalised "high-concern" trigger may mitigate these barriers [11, 13, 18-20, 24]. In emergency settings, POPS/PAT-POPS frameworks already legitimise observational cues; our ward-based data suggest similar advantages when such cues are systematically captured from parents and integrated into PEWS logic [5, 8, 9].

Several strengths bolster inference: First, the design was pragmatic and multicentre, leveraging routine observations and existing rapid response policies, thereby improving external validity and mirroring real-world roll-out conditions advocated by national programmes [1, 2, 6, 22, 25]. Second, risk adjustment accounted for age, comorbidity, baseline PEWS and clustering, while sensitivity analyses (missing-data imputation; exclusion of planned PICU step-downs) produced consistent results [3, 4, 7, 10-12]. Third, we report both effectiveness outcomes and implementation metrics, addressing a gap repeatedly highlighted in prior reviews where fidelity and adoption were poorly measured [3, 4, 7, 10].

Limitations merit consideration: Although stepped implementation strengthens causal inference, residual confounding by secular trends cannot be fully excluded; however, the temporal coincidence of improved timeliness and outcome reduction following P-LEWS introduction argues for a pathway effect [3, 4, 7]. Outcome ascertainment used a composite that includes urgent clinician review and rapid response activation; while composites enhance event counts and reflect clinical pathways, components differ in severity and clinician behaviour may evolve with training [10-12]. We relied on routine documentation for timestamps, which can introduce recording bias; nonetheless, the direction and magnitude of time deltas are consistent with prior family-activation evaluations reporting faster rescue after structured triggers [11, 13, 18-20, 23]. Mortality analyses were underpowered given low baseline risk, as in many paediatric ward studies [3, 4, 12]. Finally, generalisability to settings without established rapid response infrastructure or with substantially different family engagement norms requires caution; the tool presupposes that families are empowered to speak up and that teams respond within visible, agreed pathways [1, 2, 6, 11, 22, 25].

From an implementation perspective, three practical lessons emerge. First, keep the parent tool brief, pictorial, and age-agnostic, focusing on a small set of cues parents recognise readily; this maintained high completion with minimal burden and aligns with guidance to standardise while preserving usability [1, 2, 6, 22, 25]. Second, embed a clear, proportionate "high-concern" trigger with time targets for review; converting subjective worry into an explicit step reduced delays, echoing the literature on the predictive value of caregiver concern [14-16, 21]. Third, integrate training that builds shared mental models between families and staff, leveraging ED-validated observation frameworks (e. g., POPS/PAT-POPS) to normalise non-vital cues and reduce hierarchical friction [5, 8, 9, 11, 13, 18-20, 24]. Sites reported that co-designed scripts and bedside posters reduced ambiguity about "when to call" and "what happens next," reinforcing previous qualitative insights [11, 18-20, 24].

Policy and research implications follow: National PEWS programmes increasingly mandate standardised tools and escalation pathways; our data support explicit inclusion of a parent-reported concern domain and a family-activated option as core elements of ward deterioration systems [1, 2, 6, 22, 25]. Future studies should:

1. refine thresholds and weighting of parent cues using prospective calibration against objective outcomes;
2. explore digital capture within observation systems to automate prompts, time-stamps, and feedback;
3. evaluate equity effects, given the stronger signals among families needing language support; and
4. report cost-effectiveness, given the low time burden and potential reductions in unplanned critical care [3-5, 8-12, 14-16, 18-21, 23-25].

A multicountry cluster randomised trial would help rule out residual confounding and define transportability across diverse cultural and organisational contexts [3, 4, 7, 10-12].

Conclusion

The present multicentre pragmatic evaluation demonstrates that embedding a brief, structured parent-led early warning component alongside standard paediatric early warning systems can measurably improve early recognition and accelerate escalation on children's wards without inflating

alert burden, supporting the proposition that caregiver concern is a valid and actionable safety signal. The reduction in early deterioration events, shorter intervals from first parental concern to clinician review, and superior discrimination of the combined model over clinician-only scoring together indicate that families observe cues behaviour, feeding, activity, colour, responsiveness that often precede physiological derangement and, when operationalised through simple scoring and clear thresholds, can trigger proportionate responses. At the same time, stable rapid-response rates and unchanged mortality suggest that the intervention sharpened timeliness rather than encouraging indiscriminate calling, and rising completion with minimal time cost to parents confirms feasibility in routine practice. Building on these findings, a single, integrated set of practical recommendations follows: hospitals should adopt a concise, pictorial, age-agnostic parent tool mapped to existing observation rounds and escalation pathways; configure an explicit "high-concern" trigger with time-bound review targets (for example, nurse reassessment within 10 minutes and team escalation within defined thresholds), documenting actions in the electronic record to reinforce accountability; provide a short, co-designed script at admission that normalises speaking up, clarifies what parents should watch for, and explains what happens after they signal concern; train staff and families together to build shared mental models, drawing on familiar observation frameworks so that non-vital cues are legitimised alongside vital signs; integrate digital capture into the observations platform to prompt completion, timestamp parent signals, and generate live dashboards for fidelity, workload, and equity monitoring; tune thresholds iteratively using local data so that sensitivity gains do not erode specificity, with quarterly reviews of positive predictive value, timeliness, and actionability; maintain a low-friction family-activated escalation option, with transparent governance that welcomes escalation and provides constructive feedback to both families and staff; prioritise accessibility by translating materials, using icons, and offering interpreter support, since benefits appear greater where language or hierarchy barriers are present; embed the intervention within quality-improvement cycles that include regular huddles, audit-and-feedback, and simulation of deteriorating child scenarios involving parents; and evaluate sustainability by tracking adoption, staff perceptions of burden, and unintended consequences such as missed routine care or alarm fatigue. Future work should refine weighting of parent cues, examine cost-effectiveness, and test transportability across organisational and cultural contexts, but the pragmatic signal in this implementation earlier recognition, faster rescue, and better combined predictive performance supports moving from ad hoc "listen to parents" exhortations to a standardised, measurable practice that systematically operationalises family concern as part of paediatric ward safety.

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