TABLE 1 Alder Hey pre-implementation system strengths and weaknesses identified by the improvement team

Strengths	Weaknesses
Detect	
• Use of the PEWS tool • Nurse in charge or medics good at reviewing • Nursing staff good at assessment • Training for new nursing staff on PEWS and monitoring • Policy for observations frequency, which can be adapted at ward level • Condition-specific pathways do exist • Staff concern included in PEWS • Family concern included in PEWS • Staff felt that nurses listen to families	• MEDITECH-6: time-consuming to input observations • Access issues for computers on wheels or sign-in process timely, delay in inputting data • PEWS tool insensitive tool cardiac unit patients • Layout of ward: precludes communication among staff • MEDITECH-6 and PEWS system = difficulty for using locums/bank staff/junior staff, high barrier • Fairly poor at empowering parents – no formal process • Cubicles – isolated from finding staff, visibility of staff • No formal involvement of parents in ward rounds
Plan	
Bed management huddles to identify high-risk patients and children to be discharged	• MEDITECH-6: difficult to review trends and cannot break down components of the PEWS score • Ward rounds bypass trends on MEDITECH – just discuss verbally • Handovers – juniors and consultants not good at handing over, especially at night • Nursing and medical handovers fragmented; information not available to everyone • Variable quality of ward rounds – rarely nurse involvement • Nurse in charge tendency to get patient load when pressures – expectation that they will take load rather than close beds or change staff-to-patient ratios • Whiteboard (electronic) not always functioning on some wards • Nurse in charge unable to get ward review (knowledge of beds and patients due in) because of duties • Risk not managed at trust level – reactionary rather than preventative • No specific care plans (SOPs) for certain complex children who follow similar pattern (rescue plan) • Handover interruptions
Act	
Good communication with ward/HDU, regarding bed availability	• Recurrent problem of getting the right person to see a child at the right time (HDU) • No consultant available on weekends • Not clear who to escalate to – no flow diagram or clarity about responsibility for patients or who to telephone if someone says no • Nurse in charge should be responsible for tracking down person to review, not SHO or nurse on telephone • Nurses in charge do not typically co-ordinate and filter bleeps/queries – anyone can bleep • Mobile phones and bleeps do not work consistently • Surgical SHO can be very junior/in theatre

TABLE 2 Arrowe Park pre-implementation system strengths and weaknesses identified by the improvement team

Strengths	Weaknesses
Detect	
• PEWS – specific to different areas • Have improved blood pressure monitoring – clear policy • Good learning culture – data collected; lessons learned within team. But staff change can mean lessons lost • Critical incidents – weekly meetings ('stand up solutions' and 'message of the week') • Communication good; good team dynamics • Induction – medics told to listen to nurses • Families present during ward round, asked to share concerns • Nurse present to act as an advocate for parents • Staff value parental concern	• Paper based – not matched with rest of system; data not so easily accessed, no remote access to data • Availability of laptops • Not enough vital signs monitors • Staff not sure what and why observations done • Staff not sure of roles and responsibility. Cover sheet not always completed (but nurses trying to make this happen) – not easily revisable • PEWS not easy to follow (does not include staff and family concern) • Paper form does not have effort of breathing • Staff concern recognised on PEWS form, but only a sentence • Family concern not on PEWS • Could be more formalised processes for encouraging parent input • Parents may not understand why observations are important
Plan	
• The SBAR tool used to hand over patients between assessment unit and ward • Staff good at interpreting PEWS and sharing • Information shared at post ward round – reflective handover, more time to think and discuss • Watcher system – safety huddle, whiteboard • Safety huddle attended by all doctors and ANPs and one senior nurse • Scottish Children's Acuity Measurement for Paediatric Scores (SCAMPS) – collecting data to support staffing levels	• Separate doctors' and nurses' handovers • Different handover sheets used for each group • Single occupancy makes it difficult to have overview • Separate ward and assessment unit – communication challenges • Staff in assessment unit do not attend ward round or safety huddle • Staffing levels – no supernumerary, has bleep
Act	
• Organisational policy on how to escalate (promptly, without delay) • Good communication • Clear escalation process	• Staff not sure what to do with PEWS regarding staff concern • Anaesthetic department not involved soon enough with at-risk patients • Need to improve relationship with anaesthetic team • Some staff may not take concerns seriously, but can be bypassed • Information-sharing between specialties could be improved

TABLE 3 Noah's Ark pre-implementation system strengths and weaknesses identified by the improvement team

Strengths	Weaknesses
Detect	
• Generally right observations, taken at right time (despite no fixed guidance) • Always when new on ward – also general feeling that these are recorded in a timely manner • There are different requirements for some patients (e.g. those with diabetes), which do have clear guidance • There is an All Wales transfusion chart that is in use • Used to have 11 different charts (now four or five) • Senior nurse can input into frequency of observations • Used to having to do other sets of observations (e.g. neuro); a specific booklet is available for these • Nursing handover occurs at every bedside – visual and verbal • There are good examples of when parents are listened to and appropriate responses occur • Some nurses direct parents to use the buzzer	• Some differences in approaches to forms (surgeons have required a clear bold temperature line) • Different charts in different places and not always easy to find • Do not appear to have set times for observations (e.g. 02.00, 06.00, 10.00) • Some children fall through the net and do not have regular observations • It can be difficult to establish frequency for a new patient to the ward, for example surgeons may refuse to specify • Doctors do not appreciate the time it takes for nurses to take observations • Variability in nursing skills in taking observations (i.e. using saturation probe to get heart rate instead of taking pulse, cannot take blood pressure without Dinamap) • Reliance on technology. New nurses already need a lot of training, so challenging to give them more • Doctors unaware of frequency of observations performed by nurses • Do you have to have had a bad experience to learn? • Potentially some deficits in training? • Nurse concern is on observation form, but is not generally used
Plan	
• Aim for 'SIGHT' boards across hospital to show ward capacity and expectations • Senior nurses/doctors may ask 'who are you most worried about?' at start of shift • During winter, extra doctor overnight – 1 = emergencies, 1 = chronic • Safety briefings occur regularly twice a day (but for nurses only) • Regular handovers (doctors/nurses separate) • Regular bed availability • Huddles	• No joined-up meetings between nurses and doctors • All Wales acuity tool not in place/not completed • Big differences between medical and surgical teams • Often have to 'rob Peter to pay Paul' to cover nursing gaps – not always communicated to junior staff; band-6 staff may alter plans • Doctors can feel unwelcome at nursing handover • Some individuals are difficult to escalate care to
Act	
• Small hospital so easy to know who to contact to get help; senior nurses sometimes feel able to escalate to doctors, including consultant, if response from registrar is felt to be inappropriate • If the child is seriously deteriorating, the response is proportionate and appropriate	• 'Depends on who is on . . .' Both from medical and nursing perspectives • At night, cannot always be confident in appropriate escalation processes – particularly difficult to get hold of consultants • Formal escalation process is not generally used (informal good relationships make it unnecessary during the day), which can result in poor response when it is relied on • Senior nurses feel that they could escalate informally only (rather than formally) • No direct line that escalates up from communication point of view • Sense of failure in some registrars at telephoning consultant

TABLE 4 Morriston pre-implementation strengths and weaknesses identified by the improvement team

Strengths	Weaknesses
Detect	
• Routinely use chart • Nurses have training on observations during induction and continuous (less than once per year) • Policy information (observations) displayed on posters and regularly audited • Observation charts kept at end of bed • Everyone verbally encouraged to call – and policy states that most feel confident to raise concerns • Nurse intuition • Training (European Paediatric Life Support and paediatric passport) • Parents verbally encouraged to raise concerns – during introduction to ward and reiterated throughout • Buzzer • Nurse advocate • Encourage regular feedback from families and children	• Some guidelines for frequency, but not for all patient groups – no pro forma • No definition of 'routine' (relies on clinical judgement) • No normal ranges on charts • Potential lack of awareness of policy (definition of policy/poster) • Equipment not always available (e.g. saturation probes, cuffs) • Ward layout – unable to scan a room to assess children • Not everyone aware of policy • Inexperienced staff • Workload • Not sure if parents always receive/understand information • Buzzer not often used (are parents aware of it?) • Nurse not always able to share this information with others
Plan	
• Try to allocate nurses to patients when feasible • Use standardised form (SBAR) • Nurse in charge for each shift • Some staff check to see who are watchers (but is this done routinely?) • Board round • Senior-level communication	• Nurse in charge of patient not available for ward rounds • Staff shortages • Separate nurse and doctor handovers • Weekend and night issues: lower-grade staff • Staff not always able to go on training for identifying risk • No supernumerary • No training on risk management • Ward layout • Junior-level communication could be improved
Act	
• Most staff feel that they receive guidance about when to escalate	• Some do not (is that interpretation of guidance?) • Many not sure of roles and responsibilities • Staff feel that they need more training on communicating critical information • Do board rounds and ward rounds need to be improved?