PERSONAL PRACTICE

Integrated care pathways

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Integrated care pathways specify and evaluate clinical practice and can improve patient care.¹ They use multidisciplinary guidelines to develop and implement clinical plans which represents current, local best practice for specific conditions. They may also incorporate national guidelines,² evidence based medicine,^{3 4} and benchmarking.⁵ Pathways are divided into time intervals during which specific goals and expected progress are indicated, together with guidance on the optimal timing of appropriate investigations and treatment (fig 1).⁵ Pathways are usually unique to the institution in which they are developed. This is partly because they reflect details of care which vary between institutions, but also because the development of the pathway allows evaluation of current practice and results in clarification and coordination of the overall plan of care. However, exchange of information between health professionals using similar pathways can be extremely valuable to improve and extend the use of pathways. They have been used in paediatric surgery, cardiology, neonatology, and for medical conditions such as asthma, diabetes, and leukaemia.^{1 6}

Development and implementation of pathways

Pathways are developed by members of the multidisciplinary team involved in patient care and facilitate the introduction of multidisciplinary guidelines into routine practice.^{7 8} They are based on the experiences of patients recently treated for the same condition. Pathways usually reflect clinical events on a daily basis. Hourly intervals may be more appropriate in emergency care, and weekly intervals may be indicated for a chronic condition.

The pathway forms part of the clinical record of every patient. In some cases, it replaces other documentation, providing a single multidisciplinary patient record. In other settings, it replaces some of the documentation such as nursing care plans, while medical notes are recorded separately. The choice will depend on the length of the episode of care, the likely variability between patients, and the preferences of the multidisciplinary team. In conditions such as day case surgery, a single patient record is easy to introduce. In an intensive care setting, where variations are more common, a pathway together with freehand documentation may be more suitable.

While the patient's progress follows the pathway, the care given is signed for by the appropriate person. When the patient's progress or care varies from the pathway this is recorded, together with the reason and the action taken.⁹ Members of the team may choose to deviate from the pathway, but this must be clinically justified. This encourages staff to adhere to the guidelines specified on the pathway,¹⁰ thus reducing variations in the care provided. A clinical coordinator develops and facilitates the introduction of the pathways, educates staff, reviews the patient's progress, and explains the plan of care to the parents and the child when appropriate. Parents usually have access to the pathway throughout the child's stay. The coordinator is also involved in analysing the causes of variation from the pathways and revising the pathways so that they represent current best practice.

Analysis of variation from the pathways

The management of any clinical condition involves a number of sequential steps which should be achieved in the correct order, to facilitate recovery. Analysis of this process provides valuable data on which to base improvements.^{1 5} Positive variation occurs when goals are achieved more quickly than expected, and negative variation indicates goals that are not achieved on time. The causes of negative variation may be avoidable or unavoidable. Information on the causes and frequency of potentially avoidable variations in care allows the multidisciplinary team to develop solutions to unnecessary variations in clinical practice. Pathways are dynamic documents and improvements in care, together with any specific recommendations or guidelines, can be incorporated by revising the pathways.¹¹ These changes can be rapidly implemented, as they are included in the pathways used in the care of all subsequent patients. Changes in practice are re-evaluated, resulting in continuous improvement in the quality of care provided.¹² Analysis also provides valuable information on the clinical outcomes in all patients.¹³

Role of integrated care pathways in patient focused care

Integrated care pathways provide a number of benefits which are orientated towards ensuring patient focused care.¹⁴ Their use reduces errors and ineffective practice,^{1 15} thus improving clinical outcomes.¹⁵⁻¹⁷ Pathways identify pa-

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tients who fail to progress as expected, allowing early and appropriate intervention.¹⁷ Coordination between disciplines prevents duplication of clinical care. Delays in investigation and treatment are minimised and their causes identified.⁹ Discharge planning begins on admission, so related problems can be resolved early.¹⁸ Pathways can also be used to provide seamless care during transfer of the patient from the hospital to care in the community.

Parents are usually actively involved in the care given to their child. The pathway gives them guidance regarding expected progress and what they can do to help achieve it.¹⁶ Pathways provide parents with more information on the details of care that the child is likely to receive and the expected length of stay. This gives parents the knowledge that they need to confidently explain to the child what is likely to happen. Pathways have been shown to reduce the length of hospital stay.^{15 19} Pathways also allow assessment of family satisfaction with the care provided.

MEDICAL ASSESSMENT PRE-DISCHARGE

Date: ___/___/___

Clinical findings: _____

Results of investigations (if required)

FBC: _____

CXR: _____

ECHO: _____

Other: _____

DISCHARGED Y ☐ N ☐ Date of Discharge ___/___/___

If No, document reason and information given to family:

Medication:

Doctors Signature: _____

PRE-DISCHARGE ASSESSMENT DATE ___/___/___		
Nurse to complete	Variance, Reason & Action taken	Signed
Patient taking and tolerating fluids and solids	☐	
If child discharged on day of cath wound checked	☐	
No haematoma / bleeding	☐	
Dressing removed day after catheter by Nurse or Parent	☐	
Limbs well perfused - warm, pink, pulses present	☐	
4 hourly obs within acceptable range	☐	
Abnormalities reported to Dr	☐	
IVT & monitoring discontinued	☐	
All requested investigations carried out	☐	

DISCHARGE INFORMATION		
Discharged on ___/___/___		
Give post catheter advice sheet to parents	☐	
Give TTO and drug advice sheet to parents	☐	
Ensure patient / family's understanding of the above	☐	
Address any other concerns that family may have	☐	
Health Visitor / School Nurse referral via HISS system	☐	
OPA Date given ___/___/___ (See Drs info to ward staff)		

This record is for Cardiac Catheterisation only. If the child remains an in-patient for any reason, a full clinical assessment must be carried out and a care plan written.

Figure 1 Example of a page from an integrated care pathway for cardiac catheterisation. It combines the nursing care plan with the medical notes in a single patient record. It provides a checklist of all necessary actions and investigations, together with indications of the patient's expected condition before discharge. It also addresses issues such as patient information and communication with community services. Information on variation from the pathway is recorded and is available for analysis.

Benefits to the multidisciplinary team

Integrated care pathways allow team members to learn appropriate care for individual conditions. They provide a means of updating knowledge and enhance the educational opportunities for junior doctors. They are particularly useful to new staff of all disciplines. Team members learn to identify key interventions and to appreciate variations.⁵ The team approach to developing and using pathways encourages communication,²⁰ and a single patient record further enhances the sharing of information. Documentation can be reduced by recording only variation from the pathway.

Evaluation and improvement of clinical practice

The critical assessment of clinical practice is an integral part of patient care.²¹ This includes the development and implementation of guidelines, together with continuous evaluation and improvement of clinical practice and outcomes. The use of integrated care pathways facilitates all aspects of this process. Pathways incorporate guidelines of good practice and can include evidence based medicine. They also facilitate the implementation of guidelines as they are constantly available for review with the patient's record and all deviations must be clinically justified. Analysis of variation from the pathways allows for the continuous evaluation of clinical practice. This makes it possible to implement the audit cycle²² as part of routine clinical care in the majority of patients, and allows all members of the multidisciplinary team to become involved in clinical audit. Pathways are also of value in risk management²³ as potentially avoidable problems are identified and solutions found. By revising the pathway, systems can be put in place to decrease the likelihood of recurrence.

Research opportunities

Integrated care pathways can be used to identify and address research questions. Standardisation of many aspects of care facilitates research, including randomised controlled clinical trials. The pathway can include information required for research and the analysis of variation can provide the relevant results.

Conclusions

Integrated care pathways provide patient focused care with benefits to the patient, family, and members of the multidisciplinary team. Pathways allow for the continuous evaluation and improvement in clinical practice and research can be stimulated. The use of integrated care pathways represents a new approach to patient care, fulfilling many of the demands of modern medical practice.

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