

## Commentary

# Lean thinking and more: Development of patient needs types in psychiatric intensive care

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## Abstract

Although psychiatric intensive care is a relatively new speciality, it has been well defined. The use of lean management techniques in association with accurately defining services lends itself well to treating patients in an effective and efficient manner. This paper summarises the development of lean management, its use in health services, and its early application within psychiatric intensive care units (PICUs) when examining quality of care provided. It then discusses its possible function in conjunction with robustly describing needs of patients within psychiatric intensive care and how this further enhances patient care by grouping these needs into different types.

## Keywords

Lean; psychiatric intensive care; improvement pathways

## INTRODUCTION TO LEAN

Comparatively high investment in UK health services over the past few years has not proved to be the solution to widespread financial difficulties faced by trusts. NHS funding has increased over the last decade from £47 billion to almost £100 billion per year but financial hardship and accountability will only increase in the future as planned investment in the NHS from 2008 is set to be much lower than previous years (Westwood & Silvester, 2006). Lean thinking has become increasingly popular as a medium to scrutinise the efficiency and

efficacy of processes underpinning the delivery of care.

‘Lean’ has been met with a wide variety of responses in its pandemic application across the NHS (Ward, 2006). It has been acclaimed for undoubted success but criticised for potential industrialisation of professional caring. However, the origins of lean couldn’t be further from healthcare: it was pioneered by Toyota and Tiachi Ohno (Womack & Jones, 2003). Lean was seen as a very clear process which always starts with defining value to customers, standardising processes to reduce variation, making systems flow by driving out waste (elements that add nothing to the result) and creating pull in the system i.e. meeting demand as it arises efficiently and striving towards perfection.

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Reduction in waste and the expert understanding of every part of their industrial processes led Toyota to grow exponentially into the second largest car manufacturer in the world (Ward, 2006). The lean refining of processes has transferred to many successful organisations. The most obvious organisation in the UK being Tesco which has been an exponent of lean techniques since the late 1980s, carefully studying its customers' need and creating pull within its system.

### USE OF LEAN WITHIN HEALTHCARE AND EMBRYONIC PICU WORK

Although Tesco continues to be one of the main exponents of lean in the UK, its potential impact within health services has been well publicised: correctly applied it has the ability to free up staffing resources, refine and create clearer systems and improve staff morale through involvement and empowerment. This coupled with the drive for closer performance management within health services has created a greater interest in process improvement methodologies. Many staff have suspected that lean processes are primarily concerned with saving money and/or cutting services, this is not the case – customers' (i.e. patients') needs are at the forefront of the lean process.

The power of lean reform is generated through thorough investigation and mapping of processes, eliminating waste e.g. waiting times, duplication in steps and aspects of care which unless absolutely necessary by law or safety issues can be removed. This streamlining of care pathways concentrates on what adds value to the patient, which in most instances will be quality and efficiency (Jones & Mitchell, 2006; Westwood, 2007; Westwood & Silvester, 2007).

Pioneering healthcare organisations have seen benefits from lean initiatives in a number of different areas including: hospital theatres, health records, human resources and finance departments. For example, in one hospital, improved laboratory performance reduced errors, enabled clinicians to receive quicker results and patients

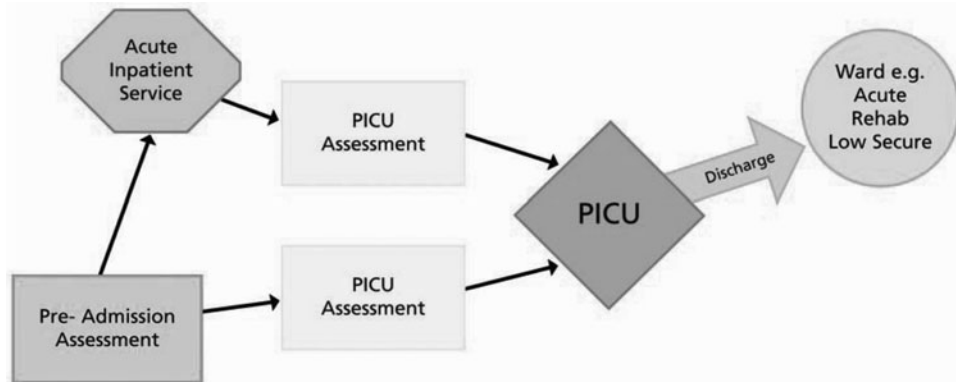
to receive quicker diagnoses (Audit Commission, 2009; p.39). Many initiatives have been in conjunction with the NHS Institute for Innovation and Improvement, which is leading the 'lean change agenda' and incorporates lean six sigma methodologies heavily into the reform recommendations it is advocating for services. Within mental health (and other domains) this has resulted in the creation of *The Productive Ward* (NHS Institute for Innovation and Improvement, 2008) – a modular series that guides ward teams in examining their own processes.

In 2008, the NHS Institute for Innovation and Improvement concentrated upon PICUs as part of their workstream programme of quality and value, and subsequently produced a document to guide PICU services in improving care (NHS Institute for Innovation and Improvement, 2008a). The aim of the project was to build upon previous findings from their 'high volume care acute admissions in adult mental health project' (NHS Institute for Innovation and Improvement, 2007) by answering the following question: "What therapeutic and managerial interventions, actions and processes contribute to the patient's journey through psychiatric intensive care and demonstrate a safe, effective, cost efficient pathway which delivers a high quality service?"

Using NHS Institute work methodology, the following areas were concentrated upon:

- mode of admission
- how care is escalated/de-escalated to meet patient needs
- planning for discharge
- user and carer involvement
- appropriate use of the clinical area
- organisation of processes
- information given throughout the patient journey.

The resulting publication aimed to aid sustainable service improvement firstly by identifying current best practice in psychiatric intensive care and the benefits this yields and secondly by working with a range of stakeholders to develop



**Figure 1.** An ideal patient pathway (NHS Institute for Innovation and Improvement, 2008a)

practical and usable tools that will help speed up the spread of such practice.

A number of PICUs that had a range of important characteristics were observed: they were widely recognised as demonstrating good and innovative practice; they served a range of inner city, urban and rural populations; they included a unit operating in the private sector; one that was managed by a nurse consultant; and a ‘comparator’ unit in Norway was also chosen. Apart from the first characteristic these are all factual statements, but to ‘be recognised as demonstrating good practice’ is a term that was ill defined and not elaborated upon within the publication.

An ideal patient pathway was outlined (Fig. 1) and a ‘recipe’ for high quality care that underpins the pathway was given. The ‘ingredients’ for such a recipe were then described as follows:

- a. a well trained and well motivated multidisciplinary workforce (including occupational therapy and clinical psychology)
- b. an ethos that is user and carer centred and highly responsive to feedback
- c. good and consistent leadership exercised within a well managed organisation
- d. a physical environment that is modern, in good order and fit for purpose with regard to managing risk
- e. clear lines of communication (both within and outside of the unit) particularly in relation to the processing of referral and discharge
- f. clear criteria for admission and discharge that are widely accepted and followed.

The document states that, where these ingredients are active: services will use relatively low levels of seclusion, restraint and rapid tranquillisation; staff and service user injury will be rare; recruitment, retention and sickness rates will be among the best in the organisation; feedback from service users, carers and their representatives will be largely positive. These statements are based upon findings from the units that were visited but were not benchmarked using other units and thus, although they may well have been true within the local organisations, it is difficult to effectively validate these statements unless a methodology such as the one used for a recent audit is used (Brown et al., 2008).

More detail surrounding these ‘ingredients’ is given in the guidance, again with difficult to argue with statements but without providing proof to demonstrate their effectiveness (such evidence is undoubtedly lacking but hopefully innovations such as this journal will provide an impetus to demonstrate effective and high quality care). Individual units then give examples of good practice and how this has helped local services. Although this method of reporting has proved extremely popular in recent publications from the Institute and the National Institute for Mental Health in England (NIMHE)/ Care Services Improvement Partnership (CSIP) (e.g. CSIP, 2007) and provides other services ideas and elements to draw upon to improve practice, the examples may not be applicable to each service (one that was highlighted by the media at the time of publication

was the introduction of trampolining and line dancing for service users).

In conclusion, although this document provided some publicity for PICUs and aimed to help improve services by using a lean type methodology, it did not demonstrate specifically improved service outcomes and was a very high level document that added little to the knowledge of service improvement within PICUs. Perhaps this has been recognised by the fact that since publication little has been heard of its second aim: 'to develop practical and usable tools that will help speed up the spread of such [best] practice'. This is a challenge for NAPICU to create guidance for the implementation of lean methodology and tools to apply within psychiatric intensive care environments.

Although the Institute's publication outlined a pathway for PICU care, it did not necessarily feel that the process of describing such care pathways was one that fitted psychiatry: '*...adequately describing the process of care for acute mental illness is more problematic. There are identifiable stages between referral for care and discharge, but the 'pathway' metaphor, while still useful, does not fully reflect the complexities of inpatient psychiatric care*'. This statement may reflect the lack of clinical expertise within the Institute's team and the lack of management finesse within the clinical teams that were visited or participated within the co-production day to validate findings. Our paper aims to show that both patient pathways and the tools to meet each step of the pathway can be a reality within PICU care.

### **PATIENT NEEDS TYPING: A COMPLEMENTARY TOOL**

Beneficial patient outcomes rely upon identifying what is needed to improve patients' health. If this need can be identified, labelled in a proactive manner and in a fashion configured around the individual, outcomes will improve. Introduction of patient needs typing to refine and crystallise care pathways has been alluded to by the Department of Health for several years (e.g. Department of Health, 2007). This has been described as the ability to provide care as

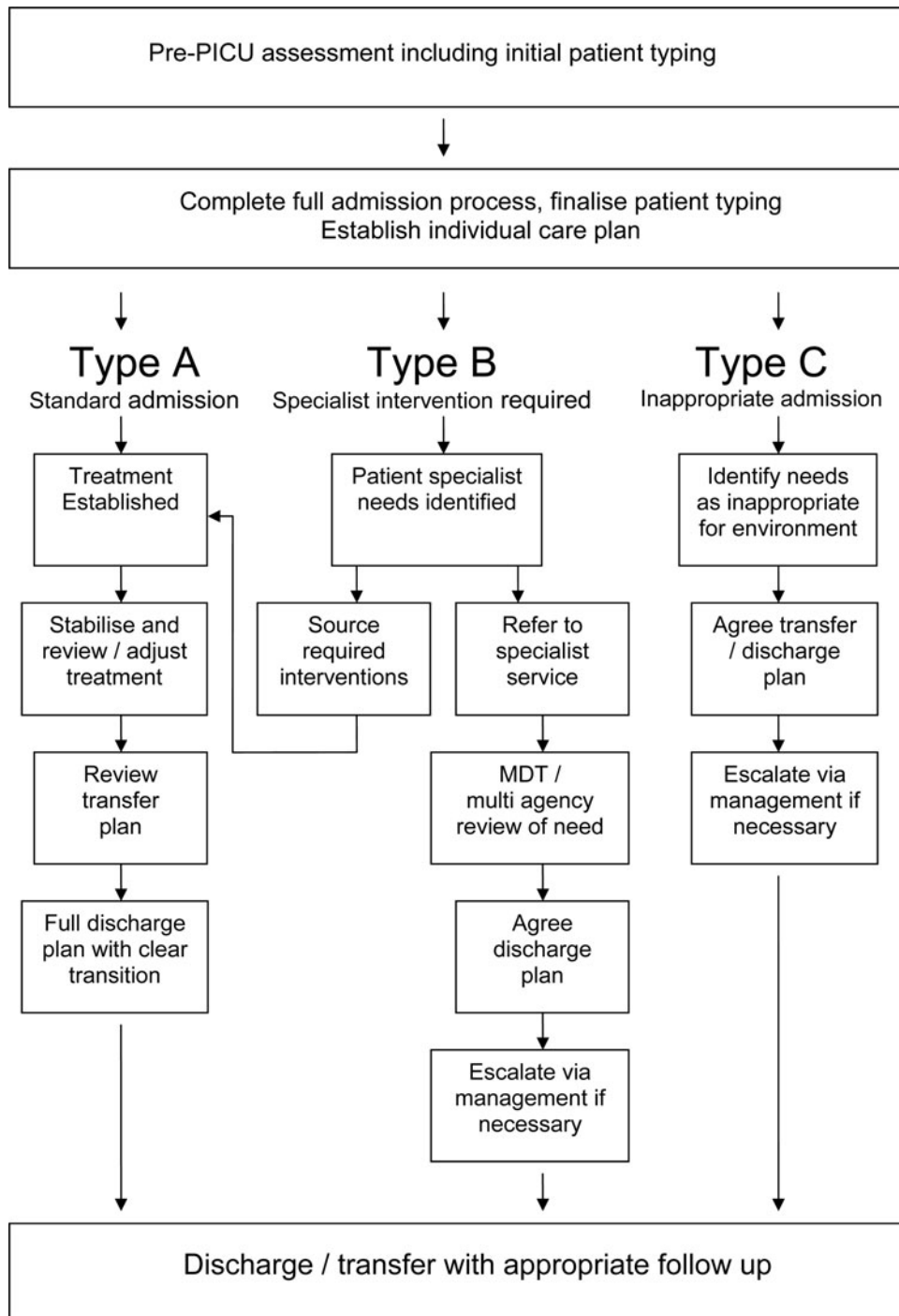
needed for patients on point of contact and as needed through their journey, in a timely way to create efficiency and attach costing to each of the steps of care outlined within the pathway. Thus by outlining different patient types based upon differing needs, pathways can be developed to meet these needs and refined using lean techniques. This will enable the journey through the pathways to be seamless, as each step is dependent upon completion of the previous one. This methodology brings together lean management and product family analysis and it falls naturally into progression towards payment by results models that will become increasingly important within UK mental health with the introduction of national tariffs etc..

Patient need types have been defined, tried and tested in Community Acute Services, Community Mental Health Teams and, most recently, open acute wards. Their introduction has helped shape patient care and create flow and confidence in a system that desperately needs limitations and in some cases (e.g. a community acute service; Allen et al., 2009) clearer strategic integration.

Despite the publication of policy implementation guidance in the form of National Minimum Standards (NMS; Department of Health, 2002), it has been shown that PICUs remain diverse in operation and function (Brown et al., 2009; Dye et al., 2009). However, although management strategies differ substantially, the patients admitted tend to be similar in presentation (Pereira et al., 2006, Brown et al., 2008). Thus patient needs typing seems easily transferable to PICUs because, as a specialist service, it is possible to define only a small number of patient needs types and care pathways. Describing patients by using different patient types could help not only in defining needs but also provide each unit with a common definition of services required. The use of different patient need types may prove helpful in other spheres: the recent debate surrounding definition and function of low security has polarised academics, clinicians and policy makers alike. Patient needs typing in conjunction with providing effective and competent services for each type may help crystallise the discussion.

One suggested framework for PICU patient need types/care pathways can be seen in Fig. 2. Although these specific types were devised following analysis of current and past patients treated within one specific PICU, for reasons given above, the types may well apply to most PICUs.

Within every step shown, there are specific underlying processes that underpin achievement of that step. These processes should be agreed and owned by the staff group within the PICU and each process designed to be as value driven as possible and to achieve standards outlined by the



**Figure 2.** Proposed PICU patient types and pathways

NMS. The pathways outlined are therefore intentionally without specific detail, as truly lean pathways will define value in each of their clinical areas. Even within individual PICUs this will mean defining value in their patients' eyes as staffing resources, environmental factors and local protocols will influence how these pathways take shape. Making the pathways relevant to the localities they serve would affirm the idea of patient need driven services and reaction to service demand where appropriate.

A brief summary of the different patient types is given below.

### **A Standard admission**

Standard PICU admissions are for focused interventions, stabilising the patient on medication and reducing the potential risk to themselves or others in a more controllable environment. They are accompanied by agreed outcomes that are achievable within the resources and skills provided by the PICU. Once the patient is stable and an improvement in mental state and reduction in risk has been achieved, step down mechanisms and discharge plans created are followed rapidly in keeping with the proposed admission outcomes.

### **B Specialist intervention required**

Although at times similar to patients who are admitted inappropriately, those who require specialist intervention may have specific needs that are discovered whilst within a PICU (e.g. previously unidentified neurological complications, autistic spectrum disorder, the need for low secure rehabilitation to complete recovery process etc.). These needs require input from other services and may be best met either within the PICU or in another more specialised environment. Thus liaison with others in formalising a discharge plan is essential. The specialised interventions are not within the skills or resources normally available within a PICU but sometimes needs may be met whilst the patient is within a PICU by bringing services to the patient. At other times an environmental change is necessary,

for example with higher risk patients. Forensic or high risk patients do occasionally get admitted to intensive care units on presentation, this is usually a short term measure or for reasons that their risk is seen as too great to be managed on an open acute ward. Although inability to manage this risk on open acute wards is a principal referral rationale, admission would not necessarily diminish risk levels greatly but would be an environment to assess further and gauge appropriate treatment needs e.g. medium security or low secure longer term rehabilitation.

### **C Inappropriate admission**

Despite pre-admission assessment, at times inappropriate or reactionary admissions do occur. If care needs and reaction to secure environment are not defined quickly, this can have a negative impact upon treatment outcomes. For example, patients with a primary diagnosis of learning difficulties, substance misuse or, most commonly, those who have a significant personality disorder may react poorly to a PICU environment. Following identification and clarification of needs, the primary requirement is to manage a safe and effective discharge/transfer to more appropriate environments. This may need escalation through local management systems to facilitate in an effective manner.

Through identifying the specific needs required and matching individual patient requirements in a timely fashion, journeys and recovery time are shortened, patients receive more appropriate care and staff are more aware of, able to effectively meet requirements and thus have the ability to function in a harmonious and 'lean' fashion. If patient journeys through PICU are more predictable and services owned by staff in an empowering manner, waste is reduced and time more effectively spent with patients. This is in keeping with the aims of a 'productive ward'. The use of patient typing in association with lean should now be analysed within each PICU to help unlock and validate potential improvements to services.

## SUMMARY AND CONCLUSIONS

This commentary has outlined the principles of lean management techniques, how they have been used in health services and how specific organisations have adapted them for use in psychiatry and attempted to aid psychiatric intensive care services. It has discussed patient needs typing which can be used in conjunction with lean techniques to help provide effective care planning, to improve services provided, reduce waste, accurately define needs and meet them efficiently. This can only be of benefit to patients and will improve journeys and outcomes within psychiatric intensive care.

Patient needs typing depends upon defining both patients and the services that care for them. The robust definition of psychiatric intensive care, may enable organisations to plan for service improvement in order to meet the currently unmet needs of some patients. With more accurate classification of patient requirements, more appropriate services can be provided. Lean management and patient needs typing may go some way to help achieve this.

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