

Wireless Care Management System

Lyndoch Warrnambool Inc.

Implementing a wireless clinical care management system across a residential aged care facility in regional Victoria has produced a high level of staff and management satisfaction with the related improvements in documentation quality and efficiency.

Case Study Setting

Lyndoch is the largest provider of aged care residential and community services in the South West of Victoria and serves the greater Warrnambool area. It is a not for profit, incorporated organisation. Lyndoch provides services to 87 residents with high care needs, 107 residents with low care needs plus 44 independent living units for retirees. Lyndoch provides both nursing home and hostel care offering general, dementia specific and psychogeriatric care. Complementing the residential programs are a range of community based and in-home services. Lyndoch currently employs over 300 staff members.

Situation

With the increasing complexity of clinical documentation, health assessment, management and evaluation, the Director of Nursing at Lyndoch recognised the need to implement processes that would assist in these tasks and achieve a consistency of outcome. The solution also needed to be accessible to the varying skill mix of staff.

Solution

A clinical care management system (CMS) was perceived to offer a long term solution to the ongoing collection, collation and management of clinical and health information.

Lyndoch went through a process of identifying the internal processes that were inefficient and that produced inconsistent or poor results.

A list of needs was identified that formed the basis of determining a solution.



The following issues were also identified as being required to be addressed by the implementation of a CMS:

- ***Capture of health data*** – the need to capture data at the point of care or close to the point of care.
- ***Reduction in data duplication*** – the need to enter resident demographic data once only.
- ***Health data retrieval*** – the need to simply and efficiently find and review specific health data in any given resident record.
- ***Data integration*** – to have the capacity for health data collected in one process to be available to other processes to allow more efficient use of staff time and improved consistency of documentation and reporting outcomes.
- ***Remote access*** – to have the ability for residents' general practitioners and allied health professionals to have remote access to relevant health data for the purposes of review or updating as required.

Following a period of review, the iCare CMS product was selected by Lyndoch, due to its ability to meet both current and future needs.



Australian Government
Department of Health and Ageing

This case study was prepared as part of the Australian Government Department of Health & Ageing's Clinical IT in Aged Care Project. The case studies are one of several components of this project and are designed to provide examples of the benefits of clinical IT applications in aged care. The use of the IT product in this case study should not be taken as an endorsement of the product by the Australian Government Department of Health & Ageing.

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AIMS AND OBJECTIVES

Identify key activation and installation issues at trial site.

Commence trial at Lyndoch and undertake training of care staff.

Review progress of trial and identify any additional change required.

Implement change management and further monitor trial.

Implementation

The CMS implementation began on a limited basis at the hostel in March 2004. Subsets representing a critical mass of beds (approx 60% of total capacity) were chosen across functional areas. A total of 68 residents and ~45 staff were involved in the trial.

The following modules were implemented for use by those involved in direct resident care:

- **Progress Notes** – a daily diary of care delivery and health information;
- **Assessment Forms** – purpose designed tools that focus on a specific area of health assessment;
- **Care Plans** – the summary of care needs, goals and interventions;
- **Handover Sheets** – these are a summary of entries made into progress notes, assessment forms or care plans that can be viewed at any time by the end user. This module is typically utilised at shift changeover to facilitate the process of the sharing of pertinent health information.

Other modules which were implemented at an administrative level are:

- **Scheduling** – allows senior staff to schedule and assign specific tasks with timeframes to groups or individuals;
- **Resident Classification Scale (RCS) Management** – allows senior staff more efficient access to relevant health information in the process of determining the RCS category of a resident for funding purposes.

Initially PDAs (personal digital assistants or hand-held computers) were trialled. In evaluating this process it was found that despite a concerted effort, the use of PDAs was generally poor due to low user acceptance of the PDA screen size and compromised physical security of the devices (some were damaged and lost). As a result it was decided to *implement touch screens as an alternative user interface*. The screens (or data entry stations) were strategically located throughout the workplace to make them accessible, visible and to integrate with work flow. Staff were encouraged to utilise the touch screens throughout their working day to enter health information as required or as it occurs. Whilst it is acknowledged that this is not at the point of care, Lyndoch's experience revealed that *the critical part of information recording is not where it is collected but how much time has elapsed between observation and recording*.

A total of 4 touch screen data entry stations were utilised. A wireless network (computers connected without cables) was implemented to provide the flexibility to move the stations to different locations or to easily introduce further data entry stations as required.

Resident demographic data was uploaded from Lyndoch's existing administrative information technology (IT) systems into the CMS via a Microsoft Excel file. This information was then manually checked and expanded within the CMS to fill in any gaps. The process of importing, updating and finalising this data took less than a day.

To effect a transfer from a purely paper based CMS to an IT based CMS, Lyndoch's approach was to gradually reduce reliance on the paper based system whilst at the same time increasing the reliance on the IT based system. The transition took place one module at a time until the paper-based system and associated processes ceased to be utilised.

Involvement of Clinical Staff

Lyndoch worked closely with the CMS provider to assist in the early development of the product.

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Training

Prior to the trial commencing, care staff had very limited access to computers and IT at work. Typically access or exposure to IT was achieved in situations outside the work environment. A small number of desktop computers were available for administrative activities and not typically accessed by care staff.



The training was conducted in small groups not exceeding 5 participants. The training was interactive with staff getting exposure to the CMS by working through a number of cases and tasks with predetermined outcomes. There were a total of 20 initial training sessions scheduled which were divided into 3 main categories:

1. Introduction to computers, covering basic skills – 4 sessions.
2. Introduction to the CMS covering product overview and basic skills – 8 sessions.
3. Advanced CMS modules/skills – 8 sessions.

Staff were required to attend one session at each level. Further training sessions were scheduled throughout the implementation which included both small group and 1:1.

Change Management

As work practices and processes had to be transferred from one system to another, there was inevitably a transition period where aspects of both systems were being utilised concurrently. This had the effect of causing confusion and uncertainty amongst some staff regarding which system should be utilised for any given process. This was managed through

the provision of additional education and training and through the documentation of processes and outcomes that staff could refer to.

Outcomes / Benefits

Due to the success of the trial, *progressive implementation of the CMS to all residential care areas at Lyndoch has occurred*. Eighteen months after the first trial began, Lyndoch now has a total of approximately 120 care staff utilising the system. Over the next 6-12 months all care staff (approximately 160) will be using the CMS on a daily basis.

“We have been using an integrated IT solution in our nursing home for over 12 months now. As a result we have found our documentation processes to be more efficient both in terms of reduced time spent on documentation and improved quality of documentation. To date we can confidently say that the time spent on documentation has reduced considerably - and these time savings have been invested directly back into caring for residents”

Mr Steve Demeye, Director of Nursing

One of the benefits from this implementation has been the *ability of general practitioners (GPs) to access the system remotely via the Internet*. Each GP that has utilised the system has a user account that allows them to view their patients only. From the convenience of their surgery GPs have read/write access to their patients' electronic files. Typically GPs utilise the progress notes module of the CMS.

(The) “integration is critical for delivering the highest possible quality of care. We have all of the GPs utilising the system and entering progress notes to provide a more complete picture of the residents' care needs. This multidisciplinary approach to care management has been a key factor in the achievement of optimal care outcomes through the sharing of relevant and vital health information in real time.”

Mr Steve Demeye, Director of Nursing

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Future Plans

In addition to expanding the use of the CMS, Lyndoch will be implementing the following new enhancements to the CMS over the next 12 months:

- Integration with *Medical Director* software
- Integration with the finance/billing, HR packages and other administrative systems.

They will also be trialling:

- Voice notes – the ability to voice record progress notes;
- Electronic diagrams – the ability to include and interact with diagrams within clinical assessment documentation.

While there is no plan to introduce PDAs, Lyndoch plan to trial the use of tablet PCs (portable computers that allow the user to write directly on the screen) late in 2005.

In conjunction with the University of Melbourne and the CMS vendor, Lyndoch are embarking on an extensive research project on the implementation of CMS within its facilities.

The project objective is to identify and overcome the barriers to IT acceptance by the individual end-user. The research objective is to provide meaningful outcomes that assist the RACF to understand the accrued benefits from the CMS implementation including acceptance by end-users and benefits reported by management. The research will be complete by February 2006.

Further Information

For further information please contact:
 Lyndoch Warrnambool Inc
 Director of Nursing
 Ph: +61 3 5561 9301
 E: don@lyndoch.org.au
 Web: www.lyndoch.org.au

TECHNOLOGY	
Product Name	iCare Clinical and Care Management Solution
Vendors	iCare Solutions Pty Ltd
Product Description	iCare is an integrated software solution which focuses upon optimisation of care, better management practices and financial viability. It automatically integrates Assessments, Forms, Progress Notes, Care Plans, Handover Sheets, Scheduled Tasks, RCS Calculation and Management Reporting supporting the goal of evidence based outcomes and personalisation of care needs. iCare has decision support capability and can be used on desktop PCs, PDAs, tablet PCs or multi-lingual touch screens.
Technology infrastructure	Six privacy compliant touch screens were each connected to a PC which were all connected to the Lyndoch LAN. Access to the iCare application was gained through an ASP/central server model. iCare is also available in a client server environment.
Operating System	Microsoft SQL with open architecture.
Interoperability	The iCare application is able to pass data securely through to third party system providers and is currently part of the e-Business working party that is trialling data transmission to the HIC. iCare also forms part of the successful consortium currently conducting the ACFI trial.
Vocabulary	SNOMED CT approved language for Care Planning when using the Clinical Diagnosis methodology
Security	The application was password protected and each separate data transaction contained its own login/password credentials and SSL encryption for the entire journey across the network.
Further Details	www.icare.com.au