

# CLINICAL SERVICES OVERVIEW

## INTRODUCTION

Mediclinic provides a wide range of hospital-related clinical services throughout its operating platforms. This includes outpatient consultation services and pre-hospital emergency services, hospital-based emergency centres, day case surgery, acute care inpatient services, and highly specialised services. Support services include laboratory, radiology and nuclear medicine.

Mediclinic strives to ensure that the clinical services provided throughout the Group are efficient, effective, appropriate, evidence-based and in line with modern technological advances. To give our stakeholders some insight into our efforts in this regard, we have been publishing this report for many years. To get a better view of more of the information that we have available regarding this topic, we recommend that the full **Clinical Services Report** on our website should also be read. Interpreting and acting on this clinical information are regarded as essential for the Company to live its slogan of "Expertise you can trust." as well as for growing the Company.

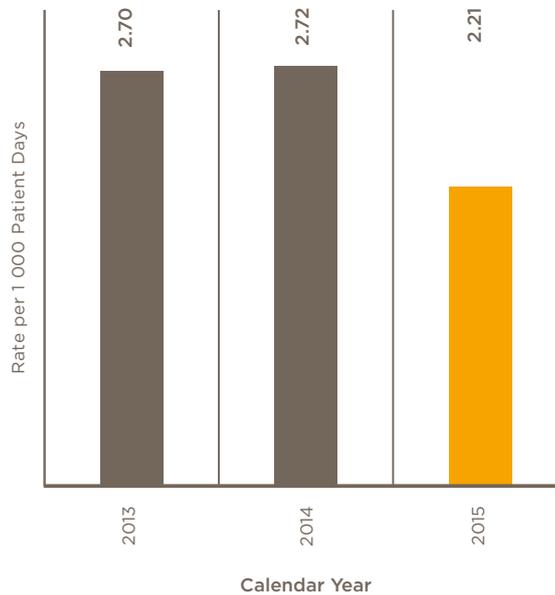
During the year under review, the focus at Mediclinic Clinical Services has mainly been on improving safety and quality of care in support of the Mediclinic goal of "Patients First", and clinical services development in support of the Mediclinic goal of "Transforming from a facility to healthcare systems provider". Satisfactory progress has been made, and many of the initiatives will be continued in the new financial year.

All indicators included in this Clinical Services Overview are reported per calendar year to ensure completeness and consistency, as a significant time lag needs to be provided for in the collection of clinical data.

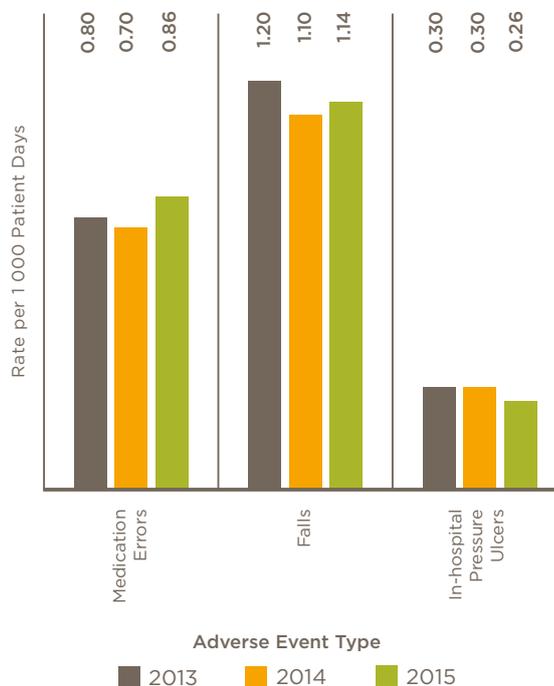
## CLINICAL PERFORMANCE HIGHLIGHTS AND CHALLENGES

- Mediclinic Southern Africa has improved its clinical outcomes in a number of areas. The APACHE®IV mortality index, measuring performance of critical care units, reduced from 1.45 in 2014 to 1.35 in 2015. Healthcare-associated infections ("HAIs") still remain one of the highest risks to patients and the rate of HAI reduced from 2.70 per 1 000 patient days in 2013 to 2.21 per 1 000 patient days in 2015 (**Figure 1**). Hand hygiene compliance is an important measure in the prevention of HAIs and has increased steadily over the last three years from 67% to 76% in 2015.

**FIGURE 1: HEALTHCARE ASSOCIATED INFECTIONS - MEDICLINIC SOUTHERN AFRICA (2013 - 2015)**

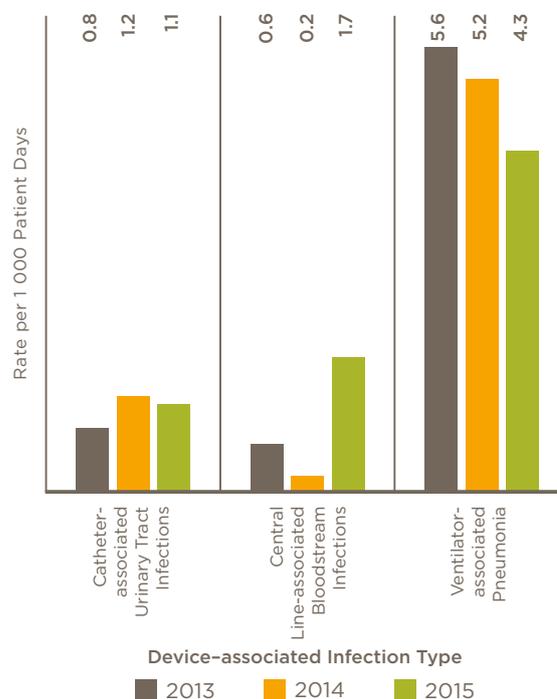


**FIGURE 2: ADVERSE EVENTS - MEDICLINIC SOUTHERN AFRICA (2013 - 2015)**

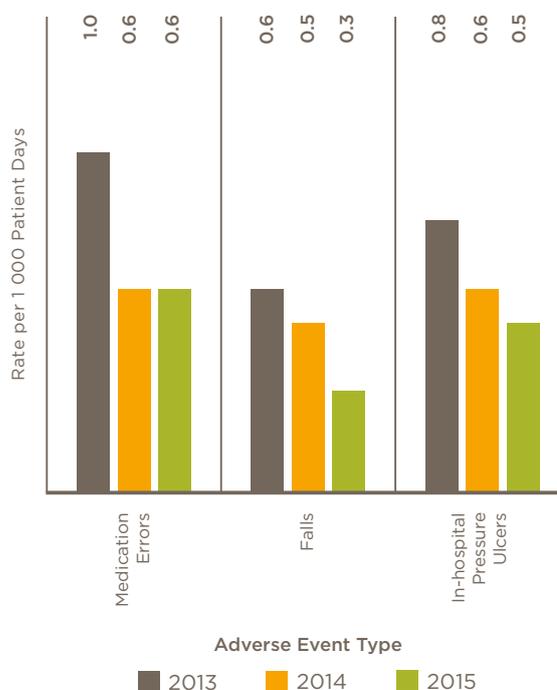


- An increase was seen in the rate of medication errors (0.70 per 1 000 patient days in 2014 to 0.86 per 1 000 patient days in 2015) and falls (1.10 per 1 000 patient days in 2014 to 1.14 per 1 000 patient days in 2015) (Figure 2). These measures are regarded as nursing-sensitive indicators and correlate with the general concerns regarding the number and skill of available nursing staff. The readmission rate and the extended length of stay rate have also shown an increasing trend over the last three years, from 7.3% to 7.7% and 10.28% to 10.81% respectively and are receiving attention.
- Hirslanden has the highest case mix in the Group reflecting the complexity of cases treated. However, clinical outcomes remain excellent as is demonstrated by low infection rates and other outcome measures. The fall rate decreased from 2.5 per 1 000 patient days in 2014 to 2.1 per 1 000 patient days in 2015. Pressure ulcers also decreased from 1.1 per 1 000 patient days to 1.0 per 1 000 patient days. Over the last three years the ventilator-associated pneumonia (“VAP”) decreased from 5.6 per 1 000 device days to 4.3 per 1 000 device days (Figure 3). The Simplified Acute Physiology Score (SAPS) II mortality index remains well below the benchmark of 0.44 at 0.20. The unscheduled readmission rate also decreased from 1.44% in 2014 to 1.28% in 2015.
- The catheter-associated urinary tract infections (“CAUTI”) showed a slight decrease when compared to 2014. Ventilator-associated pneumonias decreased slightly in 2015. However, the central line-associated bloodstream infections (“CLABSI”) increased significantly in 2015. The trend was visible during the first half of the year. Action plans were implemented and the rate decreased in the second half of the year with further improvements expected. The measures that are reported for United Arab Emirates refer to the outcomes of the Dubai operations only. Al Noor indicators are in the process of being re-evaluated as part of a process to standardise all indicators in the combined group. Falls decreased from 0.5 per 1 000 patient days in 2014 to 0.3 per 1 000 patient days in 2015. Pressure ulcers also reduced from 0.6 per 1 000 patient days to 0.5 per 1 000 patient days while medication errors remained the same at 0.6 per 1 000 patient days (Figure 4). The HAI rate increased slightly from 1.5 per 1000 patient days in 2014 to 1.6 per 1 000 patient days in 2015. The rate of catheter-associated urinary tract infections decreased over the last three years from 0.9 per 1 000 device days to 0.3 per 1 000 device days. The rate of CLABSI remained the same as 2014 at 2.4 per 1 000 device days. The overall mortality rate remains low at 0.18%. The APACHE®IV mortality index is 0.42 and well below 1. The VAP rate has increased significantly from 3.8 per 1 000 device days to 7.6 per 1 000 device days. This is due to a marked increase at Mediclinic Welcare Hospital caring for more complex cases.

**FIGURE 3: DEVICE-ASSOCIATED AND SURGICAL SITE INFECTIONS - HIRSLANDEN (2013 - 2015)**



**FIGURE 4: ADVERSE EVENTS - MEDICLINIC MIDDLE EAST (2013 - 2015)**



# CLINICAL SERVICES OVERVIEW (continued)

## PROGRESS AGAINST CURRENT OBJECTIVES

### “PATIENTS FIRST” AT MEDICLINIC

Mediclinic Southern Africa adopted a centrally integrated clinical management structure which resulted in improving teamwork. A clinical Key Performance Indicator (“KPI”) dashboard, that visually displays statistical information to hospitals to enable management of performance and quality improvement initiatives, was developed and implemented. Nursing specialists have been appointed in critical care, theatre management, obstetrics and neonatology to centrally coordinate a number of projects aimed at improving clinical care in these areas.

Hirslanden reaffirmed the utilisation of its critical incident reporting system and adherence to policies. Audits on a number of indicators showed that data was accurate and appropriate action taken when areas in need of improvement were identified. A change in approach from functional nursing to patient-centred nursing has made good progress, which resulted in a new nursing skill and grade-mix pilot project.

Mediclinic Middle East appointed a group patient safety officer, established a quality department and updated its patient safety strategy. New clinical indicators were implemented, and a central repository created. Standardisation and improvement of clinical information and documentation made good progress, and the development of clinical KPIs for doctors is well underway. The clinical services departments of Mediclinic Middle East and Al Noor have been combined and initial steps were taken to integrate all activities.

## TRANSFORM FROM AN INFRASTRUCTURE PROVIDER TO A HEALTHCARE SYSTEMS PROVIDER

Mediclinic Southern Africa focused on closer collaboration with doctors, transparent sharing of information with funders and doctors, and patient-centred care. Clinical managers were appointed at four larger hospitals, and early indications are that these positions contribute to improved patient safety and quality of care. Collaborative ventures with small groups of orthopaedic surgeons and obstetricians have been launched as pilot projects to improve clinical care and efficiency.

In 2015, Hirslanden published its conceptual model of a system provider in “Schweizerische Ärztezeitung”, the national journal of doctors, and received positive feedback. Based on this model, the existing structures of anaesthesia, general internal medicine and accident & emergency are going to be improved and aligned.

An academic collaboration with Mohamed Bin Rashid University of Health Sciences has been signed to accredit Mediclinic Middle East as an external training facility for medical students. The current Breast and Metabolic centres at Mediclinic City Hospital underwent further development to streamline clinical processes, and clinical services planning for the new comprehensive cancer centre has been concluded.



## CLINICAL INFORMATION SYSTEMS

Mediclinic Southern Africa embarked on a multi-year programme to transform from a paper-based system of clinical documentation to a clinical information system. The strategic objective is to add functionality incrementally, add business value continuously and limit expenses and risk to the business while allowing an agile approach. The first phase, which aims to collate information currently in disparate systems and ultimately deliver an Electronic Medical Record at point of care to view information, has been making satisfactory progress.

Hirslanden has been making good progress with its clinical information system project and maintains an emphasis on the importance of standardised processes in ensuring successful implementation.

Mediclinic Middle East has postponed its selection and implementation process of a new clinical health information system, as Al Noor has a similar need. A new combined process will be followed to select and implement a single solution for both businesses.

## FUTURE OBJECTIVES

### PATIENTS FIRST

Mediclinic Southern Africa will update its patient safety strategy, upscale nursing skills training in the areas of theatre, obstetrics and infection control, revise the current nursing management model, improve the measurement of clinical performance through various initiatives, share clinical information with doctors, and further reduce infection rates through various initiatives.

Hirslanden will review compliance with its patient safety strategy, audit patient safety at all hospitals, implement additional clinical indicators, and develop positive outcomes indicators.

Mediclinic Middle East will focus on the full integration of clinical services of the combined group, formulate a clinical strategy for the combined group, implement clinical KPIs for doctors, implement new clinical indicators, and implement a clinical indicator dashboard.

## TRANSFORM FROM AN INFRASTRUCTURE PROVIDER TO A HEALTHCARE SYSTEMS PROVIDER

Mediclinic Southern Africa will appoint clinical managers at 10 additional hospitals and also implement selective clinical pathways led by doctors, and a new emergency medicine services model.

Hirslanden will start to define and evaluate the quality of treatment plans, develop a process to enable early recovery after orthopaedic surgery, and develop a common structure and model for all highly specialised medicine services.

Mediclinic Middle East will implement the new comprehensive cancer centre services and processes in the Mediclinic City Hospital North Wing, and develop clinical pathways as part of preparing for the implementation of Diagnosis Related Groups.

## CLINICAL INFORMATION SYSTEMS

Mediclinic Southern Africa will conclude Phase 1 of its clinical information system project.

Hirslanden will define electronic documentation in its catheter laboratories and A&E departments, re-evaluate its radiology information system, and introduce medication source data in its clinical information system.

Mediclinic Middle East will follow a combined selection process in identifying an appropriate clinical information system for the combined group.

