Country-level Implementation of Infection Control Program:

Report of an Implementation Workshop held in Pretoria, South Africa February 5-7, 2007

Management Sciences for Health
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Wonder Goredema
Mupela Ntengu
Shabir Banoo

March 2007

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Wonder Goredema
Mupela Ntengu
Shabir Banoo

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Rational Pharmaceutical Management Plus
Center for Pharmaceutical Management
Management Sciences for Health
4301 N. Fairfax Drive, Suite 400
Arlington, VA 22203 USA
Phone: 703-524-6575
Fax: 703-524-7898
E-mail: rpmplus@msh.org

Strategic Objective 5

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About RPM Plus

RPM Plus works in more than 20 developing and transitional countries to provide technical assistance to strengthen drug and health commodity management systems. The program offers technical guidance and assists in strategy development and program implementation both in improving the availability of health commodities—pharmaceuticals, vaccines, supplies, and basic medical equipment—of assured quality for maternal and child health, HIV/AIDS, infectious diseases, and family planning and in promoting the appropriate use of health commodities in the public and private sectors.

Abstract

With USAID support, MSH/RPM Plus has collaborated with Harvard University to develop an infection control self-assessment and quality improvement approach that is suitable for district and provincial level hospitals in resource-constrained countries. The approach combines assessment of existing hospital infection control practices using an infection control assessment tool and application of rapid cycle quality improvement methods. RPM Plus collaborated with the South African national Department of Health to conduct an ICAT implementation workshop in Pretoria, South Africa in February 2007. Workshop participants considered the ICAT to be a simple and user-friendly tool that can be adapted and implemented in South Africa.

Recommended Citation

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Key Words

Antimicrobial resistance. Infection control assessment tool. Rapid cycle quality improvement.

CONTENTS

Contents iii

Acronyms v

Background 1
Purpose of Trip 2
Scope of Work 2

Activities 3
Collaborators and Partners 9

Next Steps 11
Immediate Follow-up Activities 11
Recommendations 11
Important Upcoming Activities or Benchmarks in Program 11

Annex 1: Wonder Goredema's RFCC for South Africa 13

Annex 2: South Africa ICAT Implementation Workshop Program 17

Annex 3: South Africa ICAT Implementation Workshop-List of Participants 21

Annex 4: Key Characteristics-Kimberley Hospital Complex 23

Annex 5: Key Characteristics-Kuruman District Hospital 25

Annex 6: Key Characteristics-Rustenburg Provincial Hospital 27

Annex 7: South Africa ICAT Implementation Workshop; Field Visit logistics 31

Annex 8: Template for Reporting ICAT Survey Results- Labor and Delivery, Labor and Delivery Ward, Tshwane District Hospital 33

Annex 9: Template for Reporting ICAT Survey Results-Waste Management, Tshwane District Hospital 39

Annex 10: Template for Reporting ICAT Survey Results-I.V. Fluids, Male General Ward, Tshwane District Hospital 45

Annex 11: South Africa ICAT Implementation Workshop-Way Forward 51

Annex 12: ICAT Workshop Binder Contents 53

Annex 13: Infection Control CD-ROM: Table of Contents 55

Annex 14: ICQI Plan-Kimberley Hospital Complex 57

Annex 15: ICQI Plan-Kuruman District Hospital 67

Annex 16: ICQI Plan-Rustenburg Provincial Hospital 73

Annex 17: South Africa ICAT Implementation Workshop-Overall Evaluation 79

Annex 18: Pictures Taken During the South Africa ICAT Implementation Workshop 81

ACRONYMS

AMR	antimicrobial resistance
HIV/AIDS	human immunodeficiency virus/acquired immunodeficiency syndrome
IC	infection control
ID	infectious disease
ICAT	infection control assessment tool
ICC	infection control committee
ICQI	infection control quality improvement
IPC	infection prevention and control
KHC	Kimberley Hospital Complex
KDH	Kuruman District Hospital
MSH	Management Sciences for Health
NDOH	National Department of Health
NCI	nosocomial infection
PDOH	Provincial Department of Health
QA	quality assurance
RCQI	rapid cycle quality improvement
RFCC	request for country clearance
RPH	Rustenburg Provincial Hospital
RPM Plus	Rational Pharmaceutical Management Plus
TB	tuberculosis
TDH	Tswane District Hospital
TOT	train-the-trainer
URC	University Research Council
USAID	United States Agency for International Development
WHO	World Health Organization

BACKGROUND

The growing problem of antimicrobial resistance (AMR) is now threatening our ability to effectively treat some of the major causes of morbidity and mortality in resource-limited countries, thereby reversing the gains that have been achieved by control programs for major infectious diseases (ID), including acute respiratory infections, diarrhea, tuberculosis and malaria. The WHO Global Strategy for Containment of AMR[1] recommends multiple interventions to slow the emergence and spread of antimicrobial resistance, including improving infection control (IC) in hospitals. The implementation of appropriate, locally feasible infection control quality improvement (ICQI) interventions in hospitals slows the spread of infections, including resistant infections.

With the support of the United States Agency for International Development (USAID), the Rational Pharmaceutical Management Plus (RPM Plus) Program of Management Sciences for Health (MSH) has collaborated with Harvard Medical School to develop an infection control self-assessment and quality improvement approach that is suitable for district and provincial level hospitals in resource-constrained countries. The approach combines assessment of existing hospital infection control practices using an infection control assessment tool (ICAT) and application of rapid cycle quality improvement (RCQI) methods.

The standardized approach was initially developed and field-tested in tertiary hospitals in the Philippines[2]. The ICAT was then adapted for use in low-resource hospitals and field-tested again in Uganda[3]. Finally twenty-one ICAT modules, an accompanying manual, five checklists for monitoring adherence to interventions and various ICQI materials and resources from reputable international organizations were assembled on a CD-ROM for use in initial implementation of the tool in hospitals in a few interested countries. The goal in each country is to provide technical assistance and support for implementing initial ICQI activities, including an in-country ICAT implementation workshop and a review workshop. Feedback from these countries on experiences, lessons learnt and recommendations will be used to further review the implementation materials and finalize and make the CD-ROM available for wider dissemination.

South Africa has had reports of AMR, including multidrug-resistant TB. Cases of extensively drug resistant tuberculosis have also been reported recently. IDs are among the top causes of morbidity and mortality. An estimated 18.8% of the 47.4 million inhabitants were living with HIV/AIDS in 2005[4]. The national Department of Health (NDOH) recently developed a national

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[1] WHO. World Health Organization. 2001. *Global Strategy for Containment of Antimicrobial Resistance*. Geneva. WHO

[2] Pearson S. *Trip Report: Infection Control final Assessment.* 2004. Submitted to the U.S. Agency for International Development by the Rational Pharmaceutical Management Plus Program. Arlington, VA: Management Sciences for Health.

[3] Ross-Degnan D. C., Huskins. D. Goldmann. A. Payson. *Implementing Hospital Infection Control Guidelines: A Standardized Approach Involving the Infection Control Assessment Tool (ICAT) and Rapid Cycle Quality Improvement. Uganda Field Test Final Report, June 2006.* Submitted to the U.S. Agency for International Development by the Rational Pharmaceutical Management Plus Program. Arlington, VA: Management Sciences for Health.

[4] WHO/UNAIDS. 2006 Report on the Global Aids Epidemic. Geneva. UNAIDS.

infection prevention and control (IPC) policy and strategy[5] that sets minimum standards for IPC and highlights strategic action areas.

In July-August 2006, RPM Plus technical staff traveled to South Africa[6] to explore opportunities for implementing the ICAT to strengthen on-going IC activities in the region. Subsequently the South African national Department of Health (NDOH) formally requested MSH/RPM Plus to collaborate in strengthening the infection control program in South Africa. By end January 2007 preparations had been finalized for implementing the ICAT approach and tool at three pilot hospitals in South Africa, with a view to adapting and finalizing the tool for country-wide implementation.

Purpose of Trip

Dr. Goredema traveled to South Africa to work with RPM Plus technical staff Mr. Mupela Ntengu and Dr. Shabir Banoo in providing technical support and facilitating an ICAT implementation workshop in Pretoria, February 5-7, 2007.

Scope of Work

The scope of work for Wonder Goredema, Mupela Ntengu and Shabir Banoo included—

- Finalize preparations and logistics for the workshop
- Facilitate sessions of the workshop
- Coordinate and provide technical assistance during a one-day field visit to practice conducting ICAT assessments at a local hospital.
- Assist participating teams in developing ICQI plans for their hospitals.
- Debrief USAID officials, if requested
- Participate in preparing a trip report

The request for country clearance (RFCC) for Wonder Goredema's travel to South Africa can be found in annex 1.

[5] South Africa Department of Health. 2006. *National Infection Prevention and Control Policy and Strategy...* Pretoria: Department of Health Department of Health. Republic of South Africa.

[6] Goredema, W. 2006. *Country-level Implementation of Infection Control Tools: Trip Report of an Initial Exploratory Visit to South Africa in July-August 2006.* Submitted to the U.S. Agency for International Development by the Rational Pharmaceutical Management Plus Program. Arlington, VA: Management Sciences for Health

ACTIVITIES

Prepare for the ICAT Implementation Workshops

All pre-workshop activities were coordinated jointly by representatives of the NDOH and provincial departments of health (PDOH), participating hospitals, RPM Plus Pretoria and RPM Plus Washington through a series of e-mails, telephone calls, Skype sessions, fax messages and face-to-face meetings. The following preparatory activities were conducted in both countries in August 2006-January 2007—

- RPM Plus South Africa technical staff visited the pilot sites-Kimberley Hospital Complex (KHC), Kuruman District Hospital (KDH) and Rustenburg Provincial Hospital (RPH) to brief hospital management, administrators and IC team members on the ICAT approach, obtain their buy-in and initiate the formation or activation of ICQI teams.
- The ICAT was distributed to the NDOH, PDOHs and other relevant stakeholders in both countries
- RPM Plus staff visited the pilot sites and distributed a binder containing various pre-workshop materials, including guidelines for implementing the standardized approach, the 21 ICAT modules, 5 checklists, a manual and templates for collecting pre-workshop data. Backing information about the tool, the proposed implementation strategy and guidelines on pre-workshop preparations was communicated verbally to hospital managers and key representatives of their ICQI teams.
- The dates and preparations for the implementation workshop were finalized.
- Final preparations for the workshop, including finalizing the workshop programs and facilitating strategies, binders and other workshop materials, workshop venue and logistics such as participants' travel, accommodation and field visit logistics, were done January 24-February 2. .

Provide Technical Assistance and Facilitate the ICAT Implementation Workshop

Introduction

The workshop was held at the NDOH headquarters in Pretoria from February 5-7, 2007. It was organized jointly by the NDOH and RPM Plus. The NDOH provided the workshop venue, refreshments and lunch, and RPM Plus funded the rest. Wonder Goredema, Mupela Ntengu, Shabir Banoo and Ms Jacqui Sekgothe, the National Program manager for IC within the Quality Assurance (QA) Department of the NDOH co-facilitated the workshop. The workshop program can be seen in annex 2.

The purpose of the workshop was to—

- Provide hospital ICQI teams with tools and resources to utilize in assessing and improving their IC practices
- Train the teams on how to implement the tools
- Provide a platform for collaboration and networking in ICQI
- Get the process going

The objectives of the workshop were to—

- Discuss participating hospitals' infection control problems
- Familiarize participants with the ICAT and QI principles and tools
- Apply QI principles and tools to prioritize problems and develop plans for implementing appropriate, locally feasible solutions at participating hospitals
- Determine a timeline for implementing the approach

The workshop covered 5 sessions over 3 days. Workshop activities included group sessions to discuss AMR, the ICAT approach and IC; skill-based sessions to learn about QI; fieldwork in a local hospital to practice applying the ICAT, and ICQI plan development. The first three sessions were covered on the first day. Session 1 started with facilitators making presentations on background information about AMR and the standardized assessment approach, followed by short presentations by participating hospitals teams on characteristics of their hospitals, including AMR, nosocomial infections and infection control activities. During the second session PowerPoints were presented on principles and methods of QI and on preventing transmission of nosocomial infections (NCIs), some QI tools were discussed and an interactive exercise on applying QI principles and tools was conducted. At the end of the session participating teams were tasked to apply the acquired QI principles and tools in developing ICQI plans for their hospitals. The teams started working on their plans here and continued on the second and third days of the workshop. Participants learnt about the ICAT and how to conduct ICAT assessments during the third session. During session 4 (on day 2) participants practiced conducting ICAT assessments at Tshwane District Hospital (TDH) in Pretoria. After the assessments they first reported the results to hospital managers and then presented the results to other workshop participants. During session 5 (on day 3) the participants were first introduced to the contents of the infection control CD-ROM, then the hospital teams finalized and presented their ICQI plans, followed by a group discussion. The workshop ended with the local NDOH facilitator leading the group in collectively developing a country plan for implementing the ICAT. Detailed guidance on the sessions of the workshop is provided in the *Introduction to the Infection Control CD-ROM* that can be found in the introduction folder of the Infection Control CD-ROM. All other workshop materials can be found in the implementation folder of the Infection Control CD-ROM.

Participants

Twenty-three doctors, nurses, pharmacists and quality assurance people from KHC, KDH, RPH, TDH, the NDOH, the Northern Cape PDOH, the North West PDOH, Mpumalanga PDOH, the Limpopo PDOH and the Eastern Cape PDOH attended the workshop. The list of participants can be seen in annex 3.

Inauguration

The workshop was officially inaugurated by Dr. Louis Claassens, the Director of QA at the NDOH. Key points from his remarks included—

- A warm welcome to all workshop participants

- IPC is a major issue in South Africa. The NDOH recently developed an IPC Policy and Strategy, soon to be officially launched, to ensure the effective prevention and control of infections, including NCIs.
- The NDOH is grateful to RPM Plus for developing and collaborating in implementing the ICAT to complement on-going infection control activities.
- South Africa's quality health providers should now implement the tools and adapt them to suit their local needs.

In her additional remarks, Ms Jacqui Sekgothe welcomed the participants, thanked RPM Plus for the ICAT and noted the following on-going IPC activities—

- KwaZulu Natal, Stellenborsch and Witwatersrand universities offer IPC courses in South Africa.
- The NDOH initiated a hand washing campaign in South African health centers in 2006.
- The NDOH is developing a comprehensive IPC manual for South Africa
- Most provinces are putting IPC strategies into place

In his additional remarks, the RPM Plus Regional Technical Advisor, Mr. J. P. Sallet introduced MSH/RPM Plus to the participants and noted RPM Plus' existing support in strengthening pharmaceutical systems in South Africa. He provided a brief background on the development and piloting of the ICAT, thanked the NDOH and PDOHs and participating hospitals for the current collaboration in piloting the tool in South Africa and expressed hope that the experiences, lessons learnt and recommendations would be utilized in adapting the tool for country-wide implementation in South Africa.

Workshop Proceedings

The workshop proceeded as described in the introduction section above.

Shabir Banoo facilitated—

- AMR overview
- Principles and methods of QI

Wonder Goredema facilitated—

- Introduction to the workshop
- Overview of standardized assessment approach
- Improving Hospital IC Practices: A standardized approach—review the ICAT
- Introduction to the infection control CD-ROM

Mupela Ntengu facilitated

- Overview of standardized assessment approach
- Preventing transmission of NCIs

Wonder Goredema and Mupela Ntengu co- facilitated—

- Presentations of hospital characteristics by participating teams
- Notes on applying QI principles and tools
- Exercise on applying QI principles and tools
- Conducting an ICAT survey—prepare for ICAT fieldwork
- Recap of key points from previous day
- ICAT field work and report back
- Presentations of ICQI plans by participating teams

Wonder Goredema, Mupela Ntengu and Shabir Banoo co- facilitated—

- Introduction to the QI homework/ ICQI plan development

Jacqui Sekgothe and Ms Maretha Mouton facilitated—

- ICAT field work and report back

Jacqui Sekgothe and JP Sallet facilitated—

- Way forward

Key characteristics of the participating hospitals can be seen in annexes 4-6. Common IC problem areas presented by the participating hospitals included—

- Hand hygiene
- Waste management
- Environmental cleaning

On the second day participants spent two hours conducting ICAT assessments at TDH. Ms Maretha Mouton, the Chief Matron of the hospital, briefed the participants about the hospital before the field work and coordinated logistics before and during the visit. . Four mixed teams of participants used different ICAT modules to assess IC practices in allocated wards (annex 7). The team leaders briefed the unit managers at the beginning and end of their assessments. The Chief Executive Officer of the hospital joined the workshop participants at the end of the assessments and the facilitators thanked her and requested her continued support for implementation of ICQI activities at the hospital. Key findings (annexes 8-10) from the assessments included—

- Recommended practices generally followed on the labor and delivery ward (88% score for the labor and delivery module). However, inadequate use of protective clothing was identified as a problem for improvement
- Recommended practices generally followed during preparation of I.V. fluids and medications on the male general ward (74% score for I.V. fluids and medications module). Poor gloving practices was identified as a priority problem for improvement
- Generally poor adherence to recommended waste management practices in the hospital (52% score for the waste management module). Lack of policies and guidelines on waste management was identified as a priority problem for improvement.
- All three teams were unable to complete the observation checklists, as no provider-patient encounters were observed during the assessments. It was recommended that in

order to get enough patient encounters, the ward assessments need to be done during or as soon as possible after the doctor's round.

ICQI Planning

By the end of the workshop the participating hospital teams had drafted and presented plans for implementing interventions to improve hand hygiene (RPH), wound management (KHC) and waste management (KDH).

Way Forward

At the end of the workshop Ms Jacqui Sekgothe led the group in developing a plan (annex 11) for implementing the ICAT in South Africa. Agreed next steps included—

- Pilot sites to finalize ICQI plans by end of March 2007. The ICQI contact persons at the pilot sites are Celeste Februarie at KDH, Ms JP Bezuidenhout at KHC, Sister Modi at RPH and Dr. Oosthuizen at TDH
- NDOH and RPM Plus to collaboratively conduct initial follow-up support visits to pilot sites by end of March 2007
- Pilot sites to submit progress reports to PDOHs, NDOH and RPM Plus July-October 2007
- NDOH, PDOHs and RPM Plus to conduct a review workshop by end August 2007
- NDOH, PDOHs and RPM Plus to adapt ICAT and obtain National Health Council approval July-November 2007. An ICAT review and adaptation e-mail group comprising Ms Jacqui Sekgothe, Shabir Banoo, Mupela Ntengu, Prilly Tsebe, Mbali Khulu, Elam Lewis, Emmarentia Pitso and Wonder Goredema, was identified.
- NDOH to finalize, print and distribute the ICAT by mid December 2007
- NDOH to conduct a train-the-trainer (TOT) workshop on ICAT implementation by end November 2007.
- NDOH to conduct training and roll out of the ICAT to other health facilities December 2007-October 2008

In her closing remarks, Ms Jacqui Sekgothe noted that the workshop had been a learning opportunity and that she cherished the collaboration and networking among the NDOH, PDOHs and RPM Plus in adapting and implementing the ICAT in South Africa. She encouraged participants to maintain the momentum and move ahead with implementing the agreed next steps.

Materials Distributed

RPM Plus distributed—

- A binder containing workshop materials-handouts on workshop overview and program, session materials (ICAT guidelines, PowerPoint presentations, notes, exercises, QI homework, templates), workshop evaluation forms, the ICAT (21 modules, 5 checklists and manual). A list of workshop binder contents can be found in annex 12.
- The Infection Control CD-ROM, containing electronic versions of the ICAT implementation materials-introduction to the infection control CD-ROM; implementation

workshop materials; the ICAT modules, checklists and manual and technical resources on IC and QI. A list of CD-ROM contents can be found in annex 13.
- WHO Global Strategy for Containment of Antimicrobial Resistance CD-ROM
- WHO Global Strategy for Containment of Antimicrobial Resistance executive Summary
- The MOH&SW handed out a copy of the Swaziland Manual on Infection Prevention and Control Policies: Policies and Guidelines of March 2004 to RFMH and promised to distribute more copies to the other hospitals later.

Additional materials distributed by Ms Sekgothe included—
- National Synoptic Infection Prevention and Control Guidelines of South Africa
- Manual on Personal Protective Equipment for South Africa
- Making Medical Injections Safer (MMIS) DVD entitled " Injection safety in the Context of IPC"
- District Hospital Service Package for South Africa-A Set of Norms and Standards", NDOH, Pretoria, May 2002.
- Posters on hand washing
- Bags and caps with MMIS messages
- A Policy on Quality Health Care for South Africa. NDOH, Pretoria, February 2001
- Infection Prevention and Control Policy and Strategy of South Africa. NDOH, Pretoria, May 2006
- Flyers on infection control training courses offered at KwaZulu Natal, Stellenborsch and Witwatersrand universities.

Facilitators' Meetings

The facilitators met as and when necessary in between sessions to review and adjust the workshop plan. At the end of the third day the whole workshop was reviewed and the plan of next steps that had been developed collectively with the workshop participants was finalized.

Post-workshop activities
- RPM Plus staff made follow up support visits to KHC, KDH and RPH in February-March 2007. All three hospitals had finalized and presented their ICQI plans (annexes 14-16) to their hospital management and ICCs and were starting to implement the plans. The RPH team was coordinating and networking with other health centers in the area in planning a hand hygiene awareness campaign.
- The results of the ICAT assessments done as part of the field work at TDH had been presented to the management of the hospital.

Evaluation and Key Observations

The evaluation and recommendations are summarized in annex 17. All 16 participants who responded thought that the workshop was valuable and worth recommending to their colleagues Most thought that the workshop was useful and well done; some even indicated that they were ready to go and start implementing the tools. Based on the results of the evaluation, we believe that participants were satisfied with the content, facilitation and overall proceedings of the workshop. However, most participants noted that 3 days was too short for the workshop and

recommended that future workshops should last longer. Key observations from the workshop include—

- The development of the national IPC Policy and Strategy and implementation of various IPC activities is evidence of the commitment of the NDOH to IPC. The NDOH has moved ahead with concrete steps to adapt and implement the self-assessment and QI approach in collaboration with the PDOHs.
- Hand hygiene is a common problem—hospitals need to develop audits for this important area.
- There are plans to establish a national essential supplies list for IC.
- It was recommended to do ward assessments during and/or as soon as possible after the doctor's round, in order to get enough patient encounters.
- It was recommended to provide enough time and follow-up support for pre-workshop preparations, and for developing sound ICQI proposals at the workshop.
- It helps to work with a local, hospital-based facilitator to coordinate local logistics for the field visit. The person facilitates coordination with hospital management and ward managers in planning the visit.
- Interviewers to familiarize themselves with the questionnaire and understand all questions before interviewing relevant people. They must be able to explain or rephrase the question where necessary.
- Participating sites need IT support.
- It was agreed to hold the planned review meeting in Kimberley.
- Positive feedback about the workshop and the ICAT was obtained during discussions and from analysis of participants' evaluations of the workshop. Participants noted that the ICAT is simple, user-friendly and can be adapted and implemented by in-country programs. They agreed that South African hospitals would benefit from applying the tool to identify IC problems and make appropriate improvements without necessarily increasing resources. However, some participants were concerned that hospitals lack some material resources, including the information and telecommunications technology necessary in implementing the tools.
- It was recommended to involve local drug and therapeutic committees and other appropriate hospital committees in implementing ICQI activities
- Teamwork within the hospital is important. It is important to analyze systems in the entire hospital, as problems and intervention points can be in non-clinical areas such as the administration, catering, environmental cleaning, pharmacy, guidelines and procedures. Participants agreed that hospitals can identify and intervene to improve a lot of their problems themselves, using existing resources, without outside support.
- It is important to develop smart indicators for measuring processes and outcomes
- Need for continued follow-up support by the PDOH, NDOH and RPM Plus

Some pictures taken at the workshop can be seen in annex 18.

Collaborators and Partners

- MSH/RPM Plus has over the years supported the NDOH in various programs, mainly the pharmaceutical area. The current collaboration with the NDOH in strengthening the national IC program is important for disease prevention and control.

- Some of the partners involved in the TB and HIV/AIDS programs, such as the University Research Council (URC), the International Center for AIDS Care and Treatment programs and the Centers for Disease Control are important potential collaborators. The QA Project within the URC collaborates with the NDOH on quality assurance issues.

NEXT STEPS

Immediate Follow-up Activities

- RPM Plus technical staff will continue to coordinate with the NDOH in providing follow-up technical support for implementation of ICQI plans at the pilot sites.
- All materials developed by participants before, during and immediately after the workshop-completed templates, PowerPoint presentations and Word documents-will be aggregated on a CD and distributed to participating sites as an information-sharing tool.

Recommendations

- There is a strong commitment in South Africa to strengthen IC and the NDOH has moved ahead with concrete next steps to adapt and implement the ICAT in collaboration with PDOHs. It is recommended that MSH/RPM Plus continues to collaborate and provide technical assistance to the extent possible in implementing the tools and approach discussed at the workshop.

Important Upcoming Activities or Benchmarks in Program

- The South Africa NDOH is planning to conduct a review workshop in collaboration with PDOHs, MSH/RPM Plus and the pilot hospitals in August 2007
- The South Africa NDOH is planning to finalize, print and distribute the ICAT to health facilities by end 2007
- The South Africa NDOH is planning to conduct a TOT workshop on ICAT implementation in collaboration with PDOHs by end November 2007.

DRAFT

ANNEX 1: WONDER GOREDEMA'S RFCC FOR SOUTH AFRICA

REQUEST FOR COUNTRY CLEARANCE

To: Marie McLeod, USAID/South Africa

From: Management Sciences for Health (MSH)/Rational Pharmaceutical Management Plus (RPM Plus) Program, Cooperative Agreement # HRN-A-00-00-00016-00

Subject: Request for Country Clearance for travel for RPM Plus Senior Program Associate, Wonder Goredema to Pretoria, South Africa from July 19 to 30, 2006.

Copy: Anthony Boni, USAID/GH/HIDN/HS, CTO for RPM Plus
Kama Garrison, Pharmaceutical Management Advisor, USAID/GH/HIDN/HS
Douglas Keene, Director, MSH/RPM Plus
Maria Miralles, Deputy Director, MSH/RPM Plus
Jean-Pierre Sallet, Regional Technical Adviser, MSH/RPM Plus-South Africa
Sameh Saleeb, Project Manager-West/South Africa, MSH/RPM Plus
Mohan Joshi, Program Manager for AMR, MSH/RPM Plus

1. The RPM Plus Program wishes to request country clearance for proposed travel to South Africa by Wonder Goredema, Senior Program Associate for Antimicrobial Resistance, RPM Plus Program for the period July 19 to 30, 2006.

2. Background

Antimicrobial resistance (AMR) is a major global problem. Major infections, including HIV/AIDS, TB and malaria, have become resistant to common first line treatments, resulting in increasing morbidity and mortality. The health and socioeconomic impact of AMR is huge in developing countries where the burden of infectious diseases is enormous. In 2001 the WHO published the WHO Global Strategy for Containment of AMR, to be used as a basis for building country-specific approaches to address the problem. The strategy recommends multiple interventions to slow the emergence and spread of AMR, including promoting infection prevention and control (IPC) in hospitals.

Infection prevention and control is a cost-effective and sustainable way to slow the spread of hospital-acquired (nosocomial) AMR infections. Simple interventions like adequate hand hygiene, adequate barrier practices, improved injection practices, effective disinfection and sterilization, good housekeeping and good waste management will prevent and control the spread of most infections in hospitals.

With USAID support, the Rational Pharmaceutical Management Plus (RPM Plus) Program of Management Sciences for Health (MSH) has collaborated with Harvard Medical School to develop and test a standardized approach to implementing hospital infection control guidelines at hospitals in low-resource countries. The approach

involves the use of a simple infection control assessment tool and rapid cycle quality improvement methods to improve infection control in the hospital. Staff from various hospital departments and disciplines, including a core hospital IPC team, uses the assessment tool and checklists to monitor IPC practices and then use available IPC guidelines and resources to develop appropriate local solutions to improve the factors and systems that are most commonly associated with nosocomial infections in the hospital. The goal is to reduce person-to-person transmission of infection by contaminated hands of medical staff, as well as common-source outbreaks resulting from contaminated staff, medications and equipment in the hospital.

South Africa has had reports of AMR, including resistance to treatments for common infections. Studies there have recommended improvements in IPC practices in hospital and dental care settings. Utilization of the approach developed by RPM Plus and Harvard could complement on-going IPC activities in hospitals in South Africa.

3. Purpose of Proposed Visit

Dr. Goredema will travel to South Africa to explore opportunities for collaboration in utilizing the approach to complement and improve on-going infection prevention and control (IPC) activities at hospitals in South Africa.

4. Scope of Work

During the proposed visit, Wonder will:

Meet with Mr. J. P. Sallet, Regional Technical Adviser for RPM Plus, South Africa and other RPM Plus team members to discuss appropriate plans, including identification of in-country partners.

Meet with relevant Ministry of Health official(s) to brief them and discuss the initiative and possible next steps.

Visit hospitals suggested by in-country partners and meet with key contacts, including hospital management and infection prevention and control teams, to map out possible next steps.

Debrief USAID Mission officials, if requested.

5. Anticipated Contacts in Country:

Jean-Pierre Sallet, Regional Technical Adviser, MSH/ RPM Plus-South Africa.

Shabir Banoo, Senior Program Associate for Infection Control, MSH/RPM Plus-South Africa.

Relevant officials at the Ministry of Health.

Representatives of hospital management at the identified hospitals.

Representatives of infection prevention and control teams at the identified hospitals.

USAID Mission officials.

6. Logistics:

Dr. Goredema will arrive in Pretoria on or about July 19, 2006 and depart on or about July 30, 2006. Accommodation will be at the Brooklyn Lodge in Pretoria. No further mission assistance is requested.

7. Funding:

The visit will be supported by MSH/RPM Plus SO5 AMR core funding.

8. Action:

Please inform the RPM Plus Program whether country clearance is granted for the activity to proceed as proposed. Please reply via e-mail to the attention of Anthony Boni, USAID/GH/HIDN/HS, e-mail address: aboni@usaid.gov, tel. (202) 712-4789, fax (202) 216-3702. Please send carbon copies to Kama Garrison at kgarrison@usaid.gov, Douglas Keene at dkeene@msh.org, Maria Miralles at mmiralles@msh.org, Jean-Pierre Sallet jpsallet@msh.org, Sameh Saleeb at ssaleeb@msh.org, Mohan Joshi at mjoshi@msh.org, Wonder Goredema at wgoredema@msh.org and Lindsay Gibbs at lgibbs@msh.org. We appreciate your cooperation.

Thank you.

ANNEX 2: SOUTH AFRICA ICAT IMPLEMENTATION WORKSHOP PROGRAM

National Department of Health: Quality Assurance Directorate

In Collaboration with MSH/RPM Plus (A Project Funded by the US Government)

Improving Hospital Infection Control Practices
A Standardized Approach Using the Infection Control Assessment Tool (ICAT) and Rapid Cycle Quality Improvement

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Implementation Workshop, Pretoria, South Africa
5th – 7th February 2007

WORKSHOP PROGRAM

Day	Time	Presenter	Topic
Mon 05/01			
	Session 1: Background		
	8:30 – 9:00	• RPM Plus (SB) • NDOH (LC) • NDOH (JS) • RPM Plus (JP)	• Welcome remarks and introductions • Official opening • Additional remarks • Additional remarks
		• RPM Plus (SB)	• House rules
		• RPM Plus (WG)	• Workshop objectives
	9:00-10:00	• RPM Plus (SB) • RPM Plus (WG)	• Antimicrobial resistance (AMR) overview and containment • Overview of standardized assessment approach
	10:00-10:15		**Tea**
	10:15-		

11:00	• KHC • KDH • RPH • TDH	• Presentations by participating hospital teams (5 minutes each) on overview of hospital setting, AMR and nosocomial infections, infection control activities
Session 2: Principles and Methods of Quality Improvement (QI)		
11:00-12:30	• RPM Plus (SB) • RPM Plus (WG, MN)	• Principles and methods of QI • Notes on applying QI principles and tools
12:30-13:15	• RPM Plus (MN)	• Preventing transmission of nosocomial infections **Lunch**
13:15-15:15	• RPM Plus (WG, MN)	**Exercise on applying QI principles and tools—** • Preventing nosocomial infections after C-section **QI homework**
15:15-15:30	• RPM Plus (WG, MN)	• Facilitators introduce homework on developing an ICQI Plan • **Tea**
Session 3: Infection Control Assessment Tool (ICAT)		
15:30-16:30	• RPM Plus (WG) • RPM Plus (WG, MN)	• Improving Hospital IC Practices: A standardized approach—review the ICAT • Conducting an ICAT survey—prepare for ICAT fieldwork
16:30-17:30	Participating hospital teams/facilitators	• Participating teams continue developing their ICQI plans
Tue 06/01		
8:00-8:30	• RPM Plus (SB/MN) • RPM Plus (WG) • TDH (MM)	• Overview of day two program • Recap key points of day one—principles and methods of QI, preventing transmission of nosocomial pathogens, decision-making tools • Fieldwork logistics
Session 4: Conducting ICAT Assessments		
8:30-	• Field teams/	• Fieldwork to conduct ICAT assessments

	13:00	MM/MN/WG	• Preparation of group reports of ICAT survey results
	13:00-14:00		**Lunch**
	14:00-15:00	• Field teams /MN/SB/WG	• Preparation of group reports of ICAT survey results
	15:00-16:00	• Field teams/ MN/SB/WG	Field teams present their reports on ICAT survey results (5 minutes each)— • Key findings • Possible priority problem for initial improvement • Suggested initial quality improvement cycle • Problems encountered using the ICAT and suggested improvements
	16:00-16:15		**Tea**
	16:15-17:30	Participating hospital teams/MN/SB/ WG	• Participating teams continue developing their ICQI plans • Facilitators available to provide guidance
Wed 07/01			
	8:30-9:00	• RPM Plus (SB/MN) • RPM Plus (WG)	• Overview of day three program • Recap ICAT key points
	Session 5: ICQI Planning		
	9:00-9:30	• RPM Plus	• Introduction to the infection control CD-ROM
	9:30-10:30	Participating hospital teams//MN/SB/ WG	Participating teams finalize their ICQI plans, including overall plans for implementation, follow-up, and review— • Obtaining buy-in for QI activities • Conducting self-learning activities • Performing baseline ICAT assessments in their hospitals • Conducting initial QI cycles
	10:30-10:45		**Tea**

10:45-13:00	Participating hospital teams/MN/SB/WG	Participating teams continue finalizing their ICQI plans
13:00-14:00		**Lunch**
14:00-15:00	Participating hospital teams/MN/SB/WG • KHC • Kuruman • RPH • TDH	• Participating teams present their final plans (5 minutes each) and get feedback from the group
15:00-16:00	• NDOH (JS) and RPM Plus (MN/SB/WG)	• Wrap up, evaluation, and way forward—collectively determine a timeline for implementation

JS: Jacqueline Sekgothe
JP: JP Sallet
LC: Dr. Louis Claassens
MM: Maretha Mouton
MN: Mupela Ntengu
SB: Shabir Banoo
WG: Wonder Goredema

ANNEX 3: SOUTH AFRICA ICAT IMPLEMENTATION WORKSHOP-LIST OF PARTICIPANTS

National Department of Health: Quality Assurance Directorate
In Collaboration with MSH/RPM Plus

Improving Hospital Infection Control Practices
A Standardized Approach Using the Infection Control Assessment Tool (ICAT) and Rapid Cycle Quality Improvement

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Implementation Workshop, Pretoria, South Africa
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Participant List

	Participant Name	Profession/Designation	Institution
1	Dr L Claassens	Director	Quality Assurance, NDOH
2	Ms J Sekgothe	Program Manager-National Infection Control Program	Quality Assurance Directorate, NDOH
3	Mr. JP Sallet	Regional Technical advisor	MSH/RPM Plus, Pretoria
4	Dr W Goredema	Senior Program Associate	MSH/RPM Plus
5	Mr. M Ntengu	Senior Program Associate	MSH/RPM Plus, Pretoria
6	Dr S Banoo	Senior Program Associate	MSH/RPM Plus, Pretoria
7	Ms H van Rooyen	Pharmacist	Rustenburg Provincial Hospital
8	Dr SA Lindsay	MD	Rustenburg Provincial Hospital
9	Mrs. TRB Seikaneng		Rustenburg Provincial Hospital
10	Dr S	MD	Rustenburg Provincial

	Ramakhetha		Hospital
11	Ms C Modise	Provincial Quality Assurance officer	Quality Assurance Directorate, N Cape
12			
13	Ms DS Radebe	IC Officer	Kimberley Hospital Complex
15	Ms GB Mbane	Nurse	Kimberley Hospital Complex
16	Ms C Februarie	Pharmacist	Kuruman District Hospital
17	Ms B Andreas	Nurse	Kuruman District Hospital
18	Ms H de Bruyn	Pharmacist	Kuruman District Hospital
19	Mr. Ben Khoza	Nurse	Dept of Health, Northern Cape
20	Ms M Mouton	Matron	Tshwane District Hospital
21	Dr SJ Oosthuizen	MD	Tshwane District Hospital
22	Ms E Pitso	Nurse	Mbali Hospital, Mpumalanga
23	Mrs. E Lewis	Nurse	Pretoria Academic Hospital
24	Ms M Khulu	Nurse	Dept of Health, Eastern Cape
25	Ms P Tsebe	Nurse	Dept of Health, Northern Province
26	Ms Angela Lekoma	Nurse	Occupational Health
27	Dr D Jacobs-Jokhan	MD	URC-QAP
28	Mr. F Shikweni		URC-QAP

ANNEX 4: KEY CHARACTERISTICS-KIMBERLEY HOSPITAL COMPLEX

KIMBERLEY HOSPITAL COMPLEX

COLLECTING DATA ON HOSPITAL CHARACTERISTICS

Overview

- **Level of care**
  - Provincial Hospital
- **Number of beds**
  - 789 Prodeo beds & 34 Private beds
    - OBSTETRICS & GYNAECOLOGY
      - Labour ward - 4
      - Post Natal - 42
      - Gynaecology - 22
      - Gynae Oncology - 10
      - High Care - 5
      - Private - 4
    - PAEDIATRIC
      - Medical - 46
      - Surgical - 22
      - Paeds ICU - 6
      - Neonatal ICU - 5
      - Premature unit - 40
      - Private - 3
    - INTERNAL MEDICINE
      - Medical - 103
      - Oncology - 22
      - Renal Unit -10

- SURGERY
  - Surgical - 111
  - Orthopaedic - 57
  - Opthalmology - 18
  - Neurosurgery - 17 + 2 High Care beds
  - Dental and Maxillo facial - 6
  - Ear Nose & Throat - 9
  - Plastic - 4
  - Urology - 25
  - Burns - 25
  - Dermatology - 4
  - Chronic - 6
- WEST END HOSPITAL
  - MDR Ward - 30
  - Chronic psychiatric ward - 21 Male + 17 Female
  - Acute psychiatric ward - 39 Male + 19 Female
  - Forensic - 11
- GALESHEWE DAY HOSPITAL - Maternity Unit
  - Labour ward - 4
  - Post Natal - 15

OVERVIEW

- **List the services provided by the hospital (e.g. labour and delivery, surgical, pharmacy)**
  - Clinical Services
  - Medical And Trauma Emergencies
  - Obstetrical & Gynaecology services
  - General Surgery, Dermatology, Dental cases
  - Specialized Surgery e.g. Neurosurgery, Plastic, Ear Nose & Throat, Urology, Orthopaedics, Oncology, Burn Patients, Maxillo Facial
  - Adult and Paediatric Intensive Care Unit
  - High Care for Obstetrical and Neurosurgical patients
  - Internal Medicine, Dermatology
  - Specialized Clinics for acute follow-up caes
  - West End Hospital
    - » MDR TB patients
    - » Acute & Chronic Psychiatric Patients
    - » Forensic patients
  - Galeshewe Day Hospital
    - » Primary Health Care Clinics

Other Services

- Clinical Support:
  - » Pharmacy
  - » Radiology
  - » National Health Laboratory Services
  - » Social Workers
  - » Physiotherapy
  - » Speech & Audiology department
  - » Dietetics
  - » Occupational Health
  - » Orthotic & Prosthetic
- Technical Support Services:
  - » Plant Engineering
  - » Technical Engineering
- Quality Assurance, Patient Services and Infection Control
- Auxillary Support
  - » Laundry
  - » Housing, Registry, Exchange, Cleaning Squad, Transport
- Human Resource Administration
- Human Resource Development
- Finance Department
- Health Informatics

Antimicrobial Resistance and Hospital Acquired (Nosocomial) infections

- **What infectious conditions or diseases were the leading causes of admission in the hospital over the past 12 months? List the top 5.**
  - Pulmonary Tuberculosis
  - Varicella Zoster
  - Hepatitis A
  - Meningococcal Meningitis
  - Congo Fever
- **Have resistant infections been reported in the hospital over the past 12 months:**
  - No
- **Have nosocomial acquired infections been reported in the hospital over the past 12 months?**
  - Yes
- **If YES, what are the leading nosocomial infections reported in the hospital over the past 12 months?**
  - Varicella Zoster
  - Wound sepsis
  - Indwelling urinary catheter related infections
  - Sepsis from tracheostomies

- For the nosocomial infection you listed, use the table below to identify when they were reported over the past 12 months, the factors that contributed to transmission of the infection, and the action taken to address the problem.

Nosocomial Infection	Month/Year	Where (i.e. ward)	Contributing Factor	Action Taken
1. Varicella Zoster	October 2006	Kimberley Hospital Rehabilitation Centre	Unknown	Patient was isolated
2. Varicella Zoster	September 2006	West End Hospital	Poor Hand Hygiene	Six patients were isolated
3. Wound Sepsis	Weekly	From all surgical wards	Poor Hand Hygiene due to lack of paper towels and soap dispensers at the wash basins	Handed over to the Chief Executive Director for the procurment of soap dispensers, paper towel holders. Training will be provided with regard to hand hygiene

Nosocomial Infection	Month/Year	Where (i.e. ward)	Contributing Factor	Action Taken
4. Indwelling urinary catheter related infection	December 2006	Orthopaedic ward	•Poor catheter care and uncertain technique •Contaminated hands	•Reduced the length of time of which the catheter is in situ •Improve the techniques used for insertion and catheter care.
5. Sepsis from tracheostomy	December 2006	Adult Intensive Care unit	•Patient is being nursed for a long time on the ventilator. •Shortage of nursing staff – one Profesional Nurse is managing 2 – 3 patients at a time	•Antiseptic rub is available for each patient. •More Professional Nurses are needed to nurse one patient at a time.

Infection Control Activities

- **Is an infection control nurse position available?**
  - Yes
- **If YES, is the position filled?**
  - Yes
- **Does an infection control committee exist?**
  - Yes
- **If YES, is it functioning (i.e. has there been at least one infection control meeting every month for the past three months?**
  - No
- **If NO, How many months ago did the committee last meet?**
  - The Infection Control meeting is combined with the Quality Assurance Improvement committee meeting. The latter is once a month. The last meeting was held on 14 November 2006.
- **Are infection control guidelines available?**
  - Yes
- If YES, specify what guidelines (Check all that apply)
  - Infection Control guidelines
  - Guidelines on disinfection methods
  - Care of Anaesthetic equipment
  - Dealing with blood and body fluids

- **Does the hospital sterilize equipment**?
  - Yes
- **Does the hospital have a central sterilizing unit?**
  - Yes
- **Is disinfection of reused equipment performed on the wards?**
  - No
- **List the five leading infection control problems in the hospital, including hand hygiene.**
  - Wound Sepsis
  - Waste Management
  - Indwelling Urinary Catheter related infections
  - Inadequate cleaning of interior and exterior environment of the hospital.
  - Disinfectants and antiseptics
  - Pest Control
- **What interventions are currently being implemented to address the identified infection control problems?**
  - Two cleaners have been appointed at the waste management area
  - Training is provided to staff with regard to waste management / hand hygiene
  - Interviews were held for the appointment of Clinical Coordinators to assist with training in the clinical units.

- **What additional inventions are planned to address the identified infection control problems?**
  - Provision of continuous training of all staff in the clinical and non-clinical areas
  - Appointment of Clinical Coordinators to assist with the supervision of wound care, hand hygiene in the clinical wards.

- List the three perceived priority hand hygiene problems in the hospital, the main contributing factors, and suggested interventions to address them.

Hand Hygiene Problem	Contributing Factor	Suggestive Intervention
1. Doctors and nurses are not usually washing hands before contact with patients	1. Sometimes no paper towels available. 2. Shortage of staff 3. Ignorance towards infection control	1. Paper towels and soap to be always available. 2. Awareness campaign on hand hygiene
2. Unavailability of soap dispensers at the wash basins	1. No funds available to procure soap dispensers 2. Inadequate towels for each staff member to use	1. Awaiting response from Chief Executive Officer after quotations were submitted for paper towel holders and soap dispensers 2. Staff using spray bottles at wash basins .

ANNEX 5: KEY CHARACTERISTICS-KURUMAN DISTRICT HOSPITAL

KURUMAN HOSPITAL

HOSPITAL CHARACTERISTICS

KURUMAN HOSPITAL

- Vision
- Mission
- District level
- 64 bed hospital

SERVICES AVAILABLE

- General ward
- Labor and delivery ward
- Theatre (Surgical)
- 24 hour Casualty unit
- Oncology Unit
- Dentistry
- ALLIED HEALTH SERVICES:
  - Pharmacy
  - X-Rays
  - Physiotherapy
  - Occupational therapy
  - Speech therapy
  - Dietetics
  - Social services

LEADING CAUSES OF ADMISSION

- Pulmonary tuberculosis
- Gastroenteritis (viral & bacterial)
- Meningitis (cryptococcal & bacterial)
- Pneumonia (Streptococcal)
- Polycystic Corini Pheumonia

ANTIMICROBIAL RESTSTANCE AND NOSOCOMAL INFECTIONS

- No resistant infections reported
- No nosocomal infections reported

INFECTION CONTROL ACTIVITIES

- No nurse position available.
- Infection control committee still to be established.

INFECTION CONTROL PROBLEMS

- Hand and personal hygiene
- Waste management
- Cross contamination
- Environmental factors

INTERVENTIONS

- Hand and personal hygiene:
  - Proper hand wash facilities
  - Workshops
  - Reminders
  - Protective clothing
- Waste management:
  - Proper containers
  - Sorting of waste

INTERVENTIONS (cont.)

- Cross contamination:
  - Health vs ill
  - Ventilated rooms
  - Staff vs patients
- Environmental factors:
  - Temperature
  - Animal control

HAND HYGIENE PROBLEMS

Hand Hygiene problem	Contributing Factor	Suggested Intervention
1.Facilities	1.Budget	1.Planning
	2.Breakage	2.Careful usage,regu-lar services
2.Towels	1.Out of stock	1.Max. levels
	2.Stolen	2.Security
3.Soap	1.Depot	1.Planning
	2.Shortage of containers	2.Reuse of containers

ANNEX 6: KEY CHARACTERISTICS-RUSTENBURG PROVINCIAL HOSPITAL

Improving hospital infection control practices workshop

Rustenburg provincial hospital
Presented by RAMAKHETHA F

OVERVIEW OF HOSPITAL SETTING

RPH is a level 2 hospital consisting of 324 beds.
Currently we have doctors contracted to the hospital
Breakdown doctors
Specialist: 12
Medical officer 37
Csmo 18
Interns 18
Total no 84

- Part time specialist

1. Urology
2. Cardiothoracic
3. ENT

Different domains

1. Emergency department
2. Internal medicine

3. Paediatric
4. Obstetrics and Gynaecology
5. Urology
6 cardiothoracic
7 General surgery
8. Orthopedics
9. Ophthalmology
10 ENT
11. Allied services, Physio, OT, Audiologist, social worker, psychologist

- POLYCLINIC
- Out patient department
- Wellness clinic- pediatric: 600 patient
  adult: 4538

ICU: 4 bed adult, 2 bed pediatric, 3 bed neonatal
Theatre

- Total admission from April to December:15785
- Total no of patient seen at different specialized clinic: 85629
- Casuality:23046

Infection control

- We have a multidisciplinary infection control team comprising of medical practioners, pharmacist, nursing staff that is designated to deal with infection control matters that's meets on monthly basis
- Hand washing protocol available
  - Improving hands washing compliance
  - Hands washing before and after each patient encounter
  - Use of soap, anti septic solutions
  - Providing of paper hands towel
- Every ward has an isolation facility available
-

- Avoiding overcrowding in the ward
- Aseptic technique when performing procedures
- Screening of possible carriers and aggressive treatment of carriers.
- Protocol on post exposure antimicrobial prophylaxis
- Protocol on care of invasive devices e.g. CVP, urinary catheter, colostomy bags,
- Proper ventilation and air conditioning in theatre.
-

- Challenges

1. Failure to follow simple and washing technique
2. Delays in supply of paper hand towels
3. Immunosuppresed patient
4. Resistance to regular screening

Nosocomial infection

- Common micro-organisms
- Period from Jan- Dec 2006

	MRSA	MRSE	PSEUDO MONAS	KLEB. PNEU
JAN	6	0	0	3
FEB	5	0	0	8
MAR	3	0	0	6
APR	6	0	0	1
MAY	0	0	0	4
JUN	7	0	0	1
JUL	0	0	0	1
AUG	8	0	1	2
SEP	11	0	4	7
OCT	3	12	7	4
NOV	8	6	5	11
DEC	4	1	8	4

- MRSA: 61 CASES (40%)
- MRSE: 17 CASES (11%)
- PSEUDOMONAS SPECIES: 25 (16%)
- KLEPSIELA PNEUMONIA: 52 (33%)

ARM

- Commonest bugs resistance to antimicrobial agents were:

1. Staphylococcus aureus
2. Klebsiela pneumonia
3. Psuedomonas species
4. Staphylococcus eperdemidis

Prediposing factors

1. Over prescription of antimicrobial
2. Immunosuppressant
3. Burns patient

- Intervention has been covered above
- Thank you
- The end

ANNEX 7: SOUTH AFRICA ICAT IMPLEMENTATION WORKSHOP; FIELD VISIT LOGISTICS

Team	Members	ICAT modules	ICAT Checklists	Hospital/ Assessment area	Transportation
1	▪ J. Sekgothe ▪ C. Modise ▪ H. van Rooyen ▪ P. Tsebe	▪ HH	3 checklists for HH	TDH/female general ward (ward 5)	▪ private
2	• C. Februarie • B. Andreas • S. Lindsay • E. Pitso	▪ IVF	Checklist for Injection administration	TDH/male general ward (ward 6)	▪ private
3	▪ T. Seikaneng's group	▪ LD	Checklist for waste disposal after delivery	TDH/LD (ward 4)	▪ private
4	▪ Ben Khoza's group	▪ WM	none	TDH/ throughout the hospital	▪ private

HH-Hand Hygiene
IVF-IV fluids and meds
LD-Labor and Delivery Ward
WM-Waste Management
TDH-Tswane District Hospital

ANNEX 8: TEMPLATE FOR REPORTING ICAT SURVEY RESULTS- LABOR AND DELIVERY, LABOR AND DELIVERY WARD, TSHWANE DISTRICT HOSPITAL

Key Findings

Use the attached module scoring sheet and observation checklists to highlight key results of the assessment.

Non adherent to standard precaution

Describe a Possible Priority Problem for Initial Improvement

Non adherent to standard safety precaution during delivery, i.e. wearing of protective gowns, mask, protective shoes.

Suggest an Initial Quality Improvement/Plan-Do-Study-Act (PDSA) Cycle to Address the Problem

- Specific goal for improvement

Improving compliance to the use of protective clothing during delivery

- Proposed intervention

Awareness programs on the use of protective clothing Training on standard precautionary safety measures

- Proposed activities

Health personal working with deliveries to wear protective clothing with every delivery

- Possible indicators

Numbers of health personnel wearing protective clothing during delivery

- Implementation plan

Specific goal for improvement	**Improving the use of standard precaution, i.e. wearing protective clothing**		
Proposed intervention	Awareness seminars on standard precaution Training seminars on standard precaution		
Description of planned activities for proposed intervention		**Time Frame (month/year)**	
1.awareness seminars 2. training 3.protocol on standard precaution		1.month 2.month 3.months	
Indicators			
What will you measure?	How will you measure?	Who will measure?	When will you measure?
% of health personal wearing protective clothing	Check list	Infection control committee	Monthly basis
% of health personnel trained over a period of time	Data[training statistic]	Training committee	Every 4 month

Problems Encountered Using the ICAT

Please provide as much detail as possible.

none

Suggested Improvements to the ICAT Modules

Please provide as much detail as possible.

none

MODULE SCORING SHEET

Name of facility: Tshwane district hospital

Name of module: Labor and delivery ward

Date completed: 06/02/2007

	1	2	3	4
Module Section	**Assessment Total**	**Possible Total**	**Percent Score**	**Rating Based on Percent Score**
General issues of hand washing	4	4	100	A
CLEANING AND GENERAL HYGIENE	4	4	100	A
GLOVE USE FOR C-SECTION	0	0	0	
SCRUB FOR VAGINAL DELIVERIES	6	6	100	A
BARRIERS WORN FOR VAGINAL DELIVERIES	5	8	63	B
INVASIVE DEVICES IN LABOUR AND DELIVERY	4	5	82	A
EQUIPMENT	9	11	82	A
PROPHYLACTIC ANTIBIOTICS	5	5	100	A
POSTPARTUM CARE	5	5	100	A
	42	48		
Total for module			**88 %**	

Column Notes:

1. Assessment Total—Sum of points for all marked responses

2. Possible Total—Sum of all possible points for the question

3. Percent Score—(Column 1/Column 2) × 100

4. Rating—

More than 75% of possible points: A—recommended practices are followed consistently and thoroughly

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50–75% of possible points:	B—recommended practices usually followed
Less than 50% of possible points:	C—training and follow-up needed on recommended practices

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ANNEX 9: TEMPLATE FOR REPORTING ICAT SURVEY RESULTS-WASTE MANAGEMENT, TSHWANE DISTRICT HOSPITAL

Key Findings

Use the attached module scoring sheet and observation checklists to highlight key results of the assessment.

- **Waste disposal – more information regarding disposal off-site.**
- **Postmortem room and mortuary – no policies regarding disinfection, although very neat and clean**

Describe a Possible Priority Problem for Initial Improvement

- **To have written policies available, regarding disposal and disinfection.**
- **Explicit protocols that defines what contaminated waste is and how it should be handled**

Suggest an Initial Quality Improvement/Plan-Do-Study-Act (PDSA) Cycle to Address the Problem

- Specific goal for improvement

  - **Policy development**
  - **Explicit protocols must be displayed**

- Proposed intervention

  - **Formulated team with relevant stakeholders for policy development**
  - **Review existing protocols**
  - **Provide training on waste management**

- Proposed activities

- **Identify necessary policies needed**
- **Analyze contents of policies**
- **Develop new policies and review annually**
- **Implementation and testing of policies**

- Possible indicators

- **Compliance to protocols**
- **Training of staff on waste management**

- Implementation plan

Specific goal for improvement	**Policy Development**		
Proposed intervention	**1. Infection prevention and control team with relevant stakeholders**		
Description of planned activities for proposed intervention		**Time Frame (month/year)**	
1. Identify policies **2. Analyze contents of policy** **3. Implementation** **4. Reviewing**		**1. 1 Month** **2. 1 Month** **3. +- 3 Months** **4. Annually**	
Indicators			
What will you measure?	**How will you measure?**	**Who will measure?**	**When will you measure?**
Compliance and adherence to the policy and protocols	**Compile checklist**	**Stakeholders**	**Quarterly**
Percentage of staff trained	**Audit**	**Designated I.C. person**	**Quarterly**

Problems Encountered Using the ICAT

Please provide as much detail as possible.

- **Waste Disposal**

  Q: 8 + 9 → Questions are ambiguous

  Q: 14 → Question not clear/irrelevant, e.g. Placenta cannot be autoclaved

  Q: 11 → No good practice at all. Contaminate ground water.

Suggested Improvements to the ICAT Modules

Please provide as much detail as possible.

- **Waste Disposal**

  Q: 11 + 12 → Only applicable to some health care facilities, otherwise N/A
  → Suggestion: add N/A to tool

MODULE SCORING SHEET

Name of facility: TDH

Name of module: WASTE MANAGEMENT MODULE

Date completed: 06/02/2007

	1	2	3	4
Module Section	**Assessment Total**	**Possible Total**	**Percent Score**	**Rating Based on Percent Score**
Policies regarding contaminated waste	2	4	50%	B
Separation of contaminated waste	7	9	77.7%	A
Waste disposal #	3	8	37.5%	C
Postmortem room and mortuary	1	4	25%	C
# waste disposal	3	5	60%	B
Total for module	**13**	**25**	**52 %**	**B**

Column Notes:

1. Assessment Total—Sum of points for all marked responses

2. Possible Total—Sum of all possible points for the question

3. Percent Score—(Column 1/Column 2) × 100

4. Rating—

More than 75% of possible points: A—recommended practices are followed consistently and thoroughly

50–75% of possible points: B—recommended practices usually followed

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Less than 50% of possible points: C—training and follow-up needed on recommended practices

ANNEX 10: TEMPLATE FOR REPORTING ICAT SURVEY RESULTS-I.V. FLUIDS, MALE GENERAL WARD, TSHWANE DISTRICT HOSPITAL

Key Findings

Use the attached module scoring sheet and observation checklists to highlight key results of the assessment.

No policy for handling and storing multi-dose vials (or staff not aware of it) Admixture should be done in pharmacy Nurse did not use gloves for iv injection

Describe a Possible Priority Problem for Initial Improvement

Nurse not wearing gloves

Suggest an Initial Quality Improvement/Plan-Do-Study-Act (PDSA) Cycle to Address the Problem

- Specific goal for improvement

Improve gloving practices

- Proposed intervention

Educate /motivate/change attitude

- Proposed activities

Education workshop to reinforce gloving practices Encourage compliance staff by rewarding in recognition of good service/Attitude/Practices

- Possible indicators

Number of encounters of wearing a pair of clean, single use gloves for each I.V injection given in a particular ward.

- Implementation plan

Specific goal for improvement	**Wearing of gloves during giving of injection**		
Proposed intervention	Educate.		
Description of planned activities for proposed intervention		**Time Frame (month/year)**	
1.Education workshop .		1.One Month	
Indicators			
What will you measure?	How will you measure?	Who will measure?	When will you measure?
Percentage of encounters of wearing a pair of clean single use gloves per I.V injection in a particular ward	Checklist	Infection Control Committee	Monthly and continuously

Problems Encountered Using the ICAT

Please provide as much detail as possible.

In question 2 of the intravenous fluids and medication module, the statement is confusing.

Suggested Improvements to the ICAT Modules

Please provide as much detail as possible.

1.Remove question two(Intravenous fluids and medication module) as it irrelevant /not applicable 2.On checklist for injection administration add a column for opening and cleaning/disinfection of diaphragm

MODULE SCORING SHEET

Name of facility: TDH(Male surgical Ward)

Name of module: Intravenous Fluids and medications Module

Date completed: 06/02/2007

Module Section	1 Assessment Total	2 Possible Total	3 Percent Score	4 Rating Based on Percent Score
Preparation of intravenous fluids and medications	14	19	73.68%	B
Total for module	**14**	**19**	**73.68%**	**B**

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Column Notes:

1. Assessment Total—Sum of points for all marked responses

2. Possible Total—Sum of all possible points for the question

3. Percent Score—(Column 1/Column 2) × 100

4. Rating—

More than 75% of possible points: A—recommended practices are followed consistently and thoroughly

50–75% of possible points: B—recommended practices usually followed

Less than 50% of possible points: C—training and follow-up needed on recommended practices

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ANNEX 11: SOUTH AFRICA ICAT IMPLEMENTATION WORKSHOP-WAY FORWARD

ICAT PROJECT PLAN						
1	**Planning**	**116. Days**	**2006/08/29**	**2007/02/08**	**Pred.**	**Responsible**
2	Project Conceptualization	93. days	2006/08/29	2007/01/05		NDOH, MSH
3	Pre pilot workshop	3 days	2007/02/05	2007/02/07	2	NDOH, MSH, Pilot sites
4	Post workshop planning	1 day	2007/02/07	2007/02/08	3	
5	**Pilot phase**	**167 days**	**2007/02/08**	**2007/10/02**		
6	Finalize teams & proposals	30 days	2007/02/08	2007/03/22		Pilot sites
7	Submit final proposals to MSH & NDOH	1 day	2007/03/22	2007/03/23	6	Pilot sites
8	Support visits	3 day	2007/03/23	2007/03/26	7	Mupela, Shabir, NDOH, provincial coordinator
9	Submit progress report + ICAT	1 day	2007/05/30	2007/05/31		Pilot sites
10	Submit progress report	1 day	2007/07/31	2007/08/01		Pilot sites
11	Submit Final progress report	1 day	2007/10/01	2007/10/02		Pilot sites
12	Review Workshop	3 days	2007/08/21	2007/08/24		NDOH, MSH,
13	**Manual Adjustment**	**219 days**	**2007/02/12**	**2007/12/17**		
14	Initial Individual tools adjustments	109 days	2007/02/12	2007/07/13		Mbali, Prilly, NDOH, Elma, Emmerantia, MSH
15	2ndary adjustments	11 days	2007/07/16	2007/07/30	12	MSH, NDOH
16	Submission of final draft to NHC	1 day	2007/08/10	2007/08/13		NDOH
17	Obtain approval	60 days	2007/08/13	2007/11/05	16	NDOH
18	Layout design and printing	30 days	2007/11/05	2007/12/17	17	NDOH
19	**Implementation**	**234 days**	**2007/11/19**	**2008/10/13**		
20	Train the trainer workshop	4 days	2007/11/19	2007/11/23		NDOH, MSH
21	Distribution of manual	20 days	2007/11/23	2007/12/21	20	NDOH
22	Training of trainees facility committees	49 days	2007/11/26	2008/01/31		Trainers
23	Roll out to other facilities	180 days	2008/02/01	2008/10/13	22	Trainers

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ANNEX 12: ICAT WORKSHOP BINDER CONTENTS

Location	Material	File Type	Page Count
Before first tab			
Overview	Three-day Workshop Schedule	Word	2
Overview	Training Workshop Introduction	PowerPoint	3
Tab 1: Session 1			
Session 1	AMR Overview and Containment	PowerPoint	8
Session 1	Overview of Standardized Assessment Approach	PowerPoint	6
Tab 2: Session 2			
Session 2	Principles and Methods of QI	PowerPoint	7
Session 2	Preventing Transmission of Nosocomial Pathogens	PowerPoint	9
Session 2	Decision-Making Tools	PowerPoint	2
Session 2	Notes on Applying QI Principles and Tools I	PDF	2
Session 2	Notes on Applying QI Principles and Tools II	PDF	2
Session 2	Exercise on Applying QI Principles and Tools I	PDF	16
Session 2	Exercise on Applying QI Principles and Tools II	PDF	10
Session 2	QI Homework	PowerPoint	2
Session 2	A Modern Paradigm for Improving Healthcare Quality (Massoud, R., et al.): Chapters 2, 3, 4, 6, 9	PDF	70
Session 2	Template for Applying QI Principles and Tools	Word	8
Session 2	Template for ICQI Plan	Word	6
Tab 3: Session 3			
Session 3	Hospital IC Guidelines: A Standardized Approach	PowerPoint	7
Session 3	Conducting an ICAT Survey	PowerPoint	4
Session 3	Template for Collecting Data on Hospital Characteristics	Word	8
Session 3	Some Examples of AMR Magnitude and Trends	PowerPoint	10
Session 3	WHO Global Strategy	PowerPoint	5
Session 3	AMR and QI Methods	PowerPoint	2
Session 3	Bloodstream Infections	PowerPoint	10
Session 3	Surgical Site Infections	PowerPoint	8
Session 3	Urinary Tract Infections	PowerPoint	8
Session 3	Lower Respiratory Tract Infections	PowerPoint	9

Location	Material	File Type	Page Count
Session 3	References on Nosocomial Infections	PDF	4
Tab 4: Session 4			
Session 4	Template for Reporting ICAT Survey Results	Word	12
Tab 5: Session 5			
Session 5	Introduction to the Infection Control CD-ROM	PowerPoint	4
Session 5	Introduction to the Infection Control CD-ROM	PDF	42
Session 5	Guidelines for Implementing the Standardized Approach	PDF	6
Session 5	Template for ICQI Report	Word	6
Session 5	Workshop Evaluation Form	Word	6
Tab 6: ICAT			
ICAT	ICAT User Manual	PDF	30
ICAT	ICAT Modules and Checklists: Complete file	Word	248
			582

ANNEX 13: INFECTION CONTROL CD-ROM: TABLE OF CONTENTS

Infection Control CD-ROM
Table of Contents

00_Introduction Folder

• Introduction to the Infection Control CD-ROM (PDF)

01_Assessment Tools Folder

- ICAT Manual folder
  - o Assessment Tool Manual (PDF)
- ICAT Modules and Checklists folder
  - o 21 modules and 5 checklists (word document and PDF-files)

02_Implementation Folder

00 Sample schedule for 3 day ICAT workshop (word document)
00 Training workshop introduction (PowerPoint)
01 AMR overview and containment (PowerPoint)
01 Overview of standardized approach (PowerPoint)
02 Decision-making tools (PowerPoint)
02 Exercise on applying QI principles and tools_I (PDF)
02 Exercise on applying QI principles and tools_II (PDF)
02 Notes on applying QI principles and tools_I (PDF)
02 Notes on applying QI principles and tools_II (PDF)
02 Preventing transmission of nosocomial pathogens (PowerPoint)
02 Principles and methods of QI (PowerPoint)
02 QI homework (PowerPoint)
02 Template for applying QI principles and tools (word document)
02 Template for ICQI plan (word document)
03 Conducting an ICAT survey (PowerPoint)
03 Hospital IC guidelines: a standardized approach (PowerPoint)
03 Template for collecting data on hospital characteristics (word document)
04 Template for reporting ICAT survey results (word document)
05 Guidelines for implementing an ICQI plan (word document)
05 ICAT workshop evaluation (word document)
05 ICAT workshop session evaluation (word document)
05 Introduction to the infection control CD-ROM (PowerPoint)
05 Template for ICQI report (word document)
Review workshop detailed (PowerPoint)
Review workshop introduction (PowerPoint)

03_Resources Folder

Additional Resources folder
IC Resources folder
QI Resources folder

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ANNEX 14: ICQI PLAN-KIMBERLEY HOSPITAL COMPLEX

KIMBERLEY HOSPITAL COMPLEX
INFECTION CONTROL QUALITY IMPROVEMENT PROPOSAL

INFECTION CONTROL QUALITY IMPROVEMENT PROPOSAL

INTRODUCTION

Infection Control can be defined as the prevention, identification and control of infection within a health care facility. Within the Kimberley Hospital Complex there are five different departments i.e. Internal Medicine, Surgery, Obstetrics & Gynaecology, Paediatrics, MDR and Psychiatry and Galeshewe Day Hospital as a Primary Health Care institution.

Kimberley Hospital Complex renders secondary to tertiary level health care services and also Primary Health Care for the Northern Cape Province.
Infection is the greatest cause of morbidity and mortality in the whole world. In the situation of Kimberley Hospital Complex there is still a major problem especially in our surgical wards consisting of 337 beds.

Infections do place a burden of cost on the health services, thus infection prevention and control refers to preventive measures aimed at reducing transmission of infection in health care settings.

MISSION

Infection control unit provides a safe environment for the community, patients and staff by investigating, monitoring and educating to reduce the risk of infection in the hospital complex and to check on compliance of policies and protocols.

VISION

To create a safe, hazard free environment.

PART 1: PROBLEM IDENTIFICATION

The top infection control problems at Kimberley Hospital Complex are:

- Poor hand hygiene
- Non adherence to environmental hygiene
- Ineffective usage of disinfectants and antiseptic solutions
- Poor wound management or inappropriate knowledge of wound management

- ❖ Wrong disposal of medical waste.

The hospital's perceived priority problem is non-compliance to wound management.

Baseline Survey
Baseline survey was done in Burn Unit – K2: Both adults and children with burn wounds are admitted in the burn unit.

Physical layout and staffing:
The unit consists of 2 adult male wards with 4 beds in each; 1 adult female ward with 4 beds each; 1 adult female ward with 3 beds and 2 cots for children; 2 Paediatric wards with 3 cots and 5 cots each; Total number of beds in ward is 22 beds.
1 Consultant, 1 Medical Officer and 1 Community Service Medical Officer provide care to the patients on day shift and after hours 2 Interns who are on 1st and 2nd call, Medical Officer and Consultant. These doctors are on call for the entire surgical department.

Staffing in the Unit

Day Duty:
1 Unit Manager; 1 Professional Nurse; 3 Nurses are on day duty per shift;
1 Administrative Clerk; 1 Housekeeper and 1 General Assistant on day duty
Night Duty:
1 Professional Nurse; 1 Nurse; 1 General Assistant – per night
General Procedures in the wards:

1. Written policies/procedures available in Unit for wound management
2. Used trays are sent to Central Sterilizing Supplies Department on a daily basis for sterilization.
3. Antiseptic solutions are stored in a cupboard marked "poisonous".
4. Wound dressings are done in a designated treatment room with bath.

Currently six patients are being nursed in the unit.

Laboratory tests:
Pus swabs were done some time ago and patients were treated according to the laboratory results.

PART 2: PROBLEM ANALYSIS

Factors contributing to non-compliance to wound management.

Factor 1**:** **Non adherence to environmental hygiene**
No clear guidance or Policies & Procedures
Poor in-service training e.g.
-Cleaning programmes vary from unit to unit
-Cleaning solutions are not being used according to prescribed instructions
Sometimes lack of resources e.g. cleaning equipment, disposal waste containers
Lack of supervision amongst cleaning personnel leads to units not being cleaned effectively, no handing over between day and night staff

Factor 2: **Ineffective usage of disinfectants and antiseptic solutions**

Chemicals are issued from the stores in 25 litre drums to the wards but in the wards the disinfectant is emptied in plastic milk bottles for easy use by General Assistants. Bottles are not cleaned regularly.

Antiseptic solutions are refilled in the same containers at pharmacy stores without proper cleaning and drying.

Factor 3: **Lack of knowledge on wound management**

No proper supervision:
Minimal in-service training on wound management and feedback on training
No Clinical coordinators to give guidance in clinical areas
No care plans on wound management
Poor or no record keeping of progress on wound management

Factor 4: **Poor hand hygiene**

Non adherence to hand hygiene practices
Lack of awareness on the hand hygiene policy
Lack of resources e.g. shortage of staff; lack of cleaning materials
Attitude of Health Care Workers

Factor 5: **Shortage of Staff**

Resignation of nursing staff due to financial constraints
No proper accommodation residing out of Kimberley

PRIORITY MATRIX - SCALES FOR RANKING THE PRIORITIZATION CRITERIA

Important: (1) Not important
(4) Very important

Cost: (1) High costs – hospital needs additional budget support to improve
(2) Low cost: Hospital can leverage the funds from existing budget
(3) None: Hospital does not need any additional funds to improve

Within capacity of hospital to improve:

(1) Not within hospital personnel capacity to improve
(4) Entirely within the capacity of hospital personnel to improve

Time frame for improvement:

Short - Week to a few months
Medium - Several months to a year or more
Long - Several years

PRIORITY MATRIX

Factor contributing to problem	Importance	Cost	Within capacity of hospital personnel to improve	Time frame for improvement
Ineffective usage of disinfectant and antiseptic solutions	4	3	4	Short period (11)
Lack of knowledge of wound management	4	3	4	Short period (11)
Poor hand hygiene	4	2	4	Short period (10)

Priority factors for improvement
Poor hand hygiene
Ineffective usage of disinfectant and antiseptic solutions
Lack of knowledge of wound management.

PART 3: INTERVENTION DEVELOPMENT

The following interventions will be implemented and tested to improve adherence to recommended practices on hand hygiene, usage of disinfectants and antiseptic solutions and wound management at Kimberley Hospital Complex

i. Improve staff knowledge on hand hygiene, usage of disinfectant and antiseptic solutions and wound management practices at Kimberley Hospital Complex
ii. Improve availability of hand hygiene facilities
iii. Improve recommended usage of disinfectant and antiseptic solutions
iv. Monitor and evaluate wound care practices
v. Improve availability of wound management policies and protocols.

The following table outlines potential problems we may encounter during the implementation of our priority intervention and how we plan to address them.

PROBLEMS	POSSIBLE SOLUTIONS
Commitment and cooperation from staff and resistance to change	Educate/workshop staff and involve key stakeholders e.g. Senior Management, Clinical Managers and Unit Managers
Inadequate resources e.g. cleaning and disinfection material and human resources	Acquisition of resources Appointment of Clinical Coordinators in all the departments
Lack of in-service training	Scheduled training sessions On the spot training

PART 4: TESTING AND IMPLEMENTING

The specific goals for our interventions are:

To improve adherence to recommended hand hygiene, recommended usage of disinfectants and antiseptic solutions and wound management practices at Kimberley Hospital Complex

Our plan for testing and implementing the changes, including activities to address the potential problems, is outlined below.

SPECIFIC GOAL FOR IMPROVEMENT	PROPOSED INTERVENTIONS
To improve adherence to recommended hand hygiene, recommended usage of disinfectants and antiseptic solutions and wound management practices at Kimberley Hospital Complex	i. Improve the availability of hand hygiene facilities ii. Improve recommended usage of disinfectants and antiseptic solutions iii. Improve availability of wound management, policies and protocols

DESCRIPTION OF PLANNED ACTIVITIES FOR PROPOSED INTERVENTIONS	TIME FRAME (Month/Year)
Conduct in-service training on hand hygiene, proper usage of disinfectants and antiseptic solutions and wound management	April 2007
Conduct regular supervisory visits in the clinical and non clinical support areas	August 2007
Ensure the commitment of all the managers at unit level to ensure adherence to the recommended practices	March 2007
Promote procurement and installation of soap dispensers and paper towel holders at all wash basins in the clinical and non clinical support areas	November 2007
Monitor hand hygiene and wound care practices	September 2006
Develop wound management policies and protocols	April 2007

Indicators for monitoring the process and outcomes of improved-adherence to recommended practices

Factors	What will you measure	How will you measure	Who will measure	When will you measure	Baseline	Expected outcome
Poor hand hygiene	* Adherence to recommended hand hygiene practices	* Assess using relevant section of the hand hygiene module and observation checklists for	* Infection Control Nurse * Quality Assurance Coordinator * Unit	Daily, weekly to Senior Management Committee and quarterly	* Lack of knowledge of the importance of hand hygiene practices. * No wall	Awareness and adherence to recommended hand hygiene practices

	* Percentage availability of paper towels holders and liquid soap in soap dispensers	hand hygiene practices * Checklist	Manager * House keeper		mounted soap dispensers at the washbasins in the clinical and non-clinical support areas expect in Accident & Emergency department * Shortage of staff * Staff believes that gloves replace hand washing * Paper towel holders not regularly filled by hygiene assistants * No hand hygiene reinforcement	
Ineffective usage of disinfectant and antiseptic solutions	Adherence to recommended usage of disinfectant and antiseptic solutions	Access using relevant sections of the pharmacy module of the ICAT on the preparation and usage of disinfectant and antiseptic solutions	Infection Control Nurse and staff at CSSD	Daily, weekly to Senior Management and quarterly	* Chemicals are issued from the stores in 25 litre drums to the wards but in the wards the disinfectant is emptied in plastic milk bottles for easy use by General Assistants. * Antiseptic solutions are	Awareness and adherence to recommended usage of disinfectant and antiseptic solutions

					refilled in the same containers at pharmacy stores without proper cleaning or drying * No expiry date indicated on the refilled containers	
Lack of knowledge on wound management	* Percentage of nosocomial wound sepsis reports among the patients with burn wounds * Number of different types of antiseptic solutions and ointments used on wounds * Percentage treatment compliant with antimicrobia1 sensitivity test results * Percentage of observed wound dressings where nurses applied aseptic technique * Number of	* Nosocomial wound sepsis reports * Review number of trained staff in wound management according to the attendance register * Review patients' records * Review doctors' prescription charts	* Infection Control Nurse * Quality Assurance Coordinator		* No proper supervision * Minimal in-service training on wound management and feedback on training * No clinical coordinators to give guidance in clinical areas * No care plans on wound management * Poor or no record keeping of progress on wound management	Awareness and adherence to wound care practices by all health care workers

	infection control quality improvement meetings held * Length of stay of patients in hospital	* Review meeting register / minutes				

Proposed implementation steps:

STEP 1

Plan

1. Identify clinical unit for project.
2. Conduct baseline assessment to evaluate the current state of wound management.
3. Establish a team for Infection Control Quality Improvement Project - done
4. The Infection Control Quality Improvement Project will be driven by the Infection Control Nurse
5. Presentation to Senior Management with regards to the workshop and the Infection Control Assessment Tool approach

STEP 2

Do

1. Organize in-service Training
   - Motivate for the appointment of Clinical Coordinators
   - Join the multi-disciplinary team on ward rounds on Thursdays in Burn Unit
2. Bi-weekly progress meetings

STEP 3

Study

Monitoring on reporting of Nosocomial wound sepsis and reporting weekly to Senior Management Committee meeting

STEP 4

Act

1. Monthly formal training on wound care, regular spot teaching and in-service training of all Personnel
2. Join monthly departmental meetings of the different clinical departments to discuss good practices of infection prevention and control including doctors and nursing staff
3. Regular monitoring adherence to wound management

CONCLUSION

Successful implementation of infection control measures can only be achieved through active participation of management, complete commitment by health care workers at all levels, availability of resources and collaboration and active networking among hospitals from all provinces.

APPROVED/ NOT APPROVED BY CHIEF EXECUTIVE OFFICER:

…… **……..**

SIGNATURE **DATE**

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ANNEX 15: ICQI PLAN-KURUMAN DISTRICT HOSPITAL

Name of facility: Kuruman Hospital

ICQI Team Members

List the names and designations of the members of your ICQI team.

Name	Designation
Since we don't have a team as yet, persons from the following designation will be asked to serve on the team.	Cleaner
	Person from laundry
	Personal from ward A, B, Theatre, CSSD each
	Dietician
	Pharmacist
	Doctor
	Person from Hospital management

Part 1

Identify

List five perceived priority infection control problems in your hospital.

1. Poor hand hygiene
2. Poor waste management
3. Cross contamination
4. Negative environmental factors
5.

After conducting an ICAT reassessment and applying QI decision-making tools, review and reprioritize the infection control problems.

1. Poor waste management
2. Poor hand hygiene
3. Cross contamination

4. Negative environmental factors
5. _____

Describe a specific goal for improving your priority problem.

To improve WASTE MANAGEMENT practices at Kuruman Hospital

Review the goal after conducting an ICAT reassessment and applying QI decision-making tools. If needed, write a revised goal in the space below.

NOT APPLICABLE

Part 2

Analyze

Analyze available and readily accessible data and information about the priority problems identified earlier (including information about the systems involved). Which problem do you now prioritize for improvement?

WASTE MANAGEMENT

After analyzes it was found that most of the resources (refuse bag, containers etc.) pertaining to waste management would be readily accessible, and implementation there of would be in the capacity of staff.

Identify the indicators you will measure to demonstrate improvement and how these data will be collected and reported. Collect baseline data (prior to implementing any intervention), if possible.

How Data Will be Collected and Reported			
What will you measure?	**How will you measure?**	**Who will measure?**	**When will you measure?**
% of people trained on WM	Training records.	Hospital manager and IC committee	End of Jun. 2007 then 6 monthly

Availability of WM policy	Checklist on availability of WM policy.	Hospital manager and IC committee	End of Feb. 2007 then quarterly.
Min. and Max. stock levels of waste containers	Data on stock cards	Hospital manager and Store manager handling stock	End of Feb. 2007 then quarterly

Part 3

Develop

Generate a list (in order of decreasing priority) of possible interventions to improve your priority problem.

1. Waste management policy development, communication and dissemination.

2. Improve availability of waste management resources.

3. Implement and monitor proper waste management practices.

Part 4

Test and Implement

Outline a preliminary plan for implementing the interventions, including activities, to address potential problems.

<table>
<tr><td>Specific goal for improvement (from Part 1)</td><td colspan="3">Improve waste management in general</td></tr>
<tr><td>Proposed intervention</td><td colspan="3">1.Policy development, communication & dissemination
2.Improve availability of waste management policy
3.Implement & monitor proper waste management practices.</td></tr>
<tr><td colspan="2">Description of planned activities for proposed intervention</td><td colspan="2">Timeframe (month/year)</td></tr>
<tr><td colspan="2">1. a) Review available guidelines on WM (ICAT CD)
b) Conduct baseline survey
c) Develop WM policy
d) Conduct awareness champagne on WM policy
2. Procure and allocate WM resources
3. Conduct monthly review of WM practices</td><td colspan="2">1. End Apr 2007

2. End Feb 2007 then as and when necessary

3. End Feb2007 till end March 08</td></tr>
<tr><td colspan="4">Indicators</td></tr>
<tr><td>What will you</td><td>How will you</td><td>Who will measure?</td><td>When will you</td></tr>
</table>

measure?	**measure?**		**measure?**
% of people trained on WM	Training records.	Hospital manager and IC committee	End of Jun. 2007 then 6 monthly
Availability of WM policy	Checklist on availability of WM policy.	Hospital manager and IC committee	End of Feb. 2007 then quarterly.
Min. and Max. stock levels of waste containers	Data on stock cards	Hospital manager and Store manager handling stock	End of Feb. 2007 then quarterly

ANNEX 16: ICQI PLAN-RUSTENBURG PROVINCIAL HOSPITAL

Name of facility: Rustenburg Provincial Hospital

ICQI Team Members

List the names and designations of the members of your ICQI team.

Name	Designation
Dr De Flamingh	Specialist physician
Sr NM Modibedi	IC Nurse
Sr KM Ntshabele	TB Co-ordinator
Mrs. Seikaneng	AD Nursing (Medical)
Mrs. H van Rooyen	Pharmacist
Mr. D Cilliers	Microbiologist
Sr S Mokonyama	Pediatric Cluster
Dr S Ramakheta	Medical Doctor – Pediatrics
Dr SA Lindsay	Medical Doctor – Internal Medicine

Part 1

Identify

List five perceived priority infection control problems in your hospital.

1. Hand hygiene
2. Waste Management
3. Environmental cleaning
4. Linen management
5. Isolation of patients

After conducting an ICAT reassessment and applying QI decision-making tools, review and reprioritize the infection control problems.

1. As above
2. _____
3. _____
4. _____
5. _____

Describe a specific goal for improving your priority problem.

Hands must be washed before and after procedures and toilet use

Review the goal after conducting an ICAT reassessment and applying QI decision-making tools. If needed, write a revised goal in the space below.

Improve staff knowledge and skills regarding the specifics of hand hygiene

Part 2

Analyze

Analyze available and readily accessible data and information about the priority problems identified earlier (including information about the systems involved). Which problem do you now prioritize for improvement?

Awareness

Identify the indicators you will measure to demonstrate improvement and how these data will be collected and reported. Collect baseline data (prior to implementing any intervention), if possible.

How Data Will be Collected and Reported			
What will you measure?	How will you measure?	Who will measure?	When will you measure?
% of staff in each	Checklists	IC person	ASAP

Dept trained in HH by "RPH training programme"			
% of recommended IC policies available at RPH	Check at management offices for policies and use ICAT resources to find recommended policies	IC person	ASAP
% of wards which have complete set of most recent policies	Checklist	IC person	ASAP
% of staff in each dept who know about policies, where to find them, and how to use them	Checklists	IC person	ASAP
% of basins in hospital with user-friendly SOPs and posters	Checklists	IC person	ASAP
% of patient encounters with correct HH procedures in each ward on a predetermined day	Checklists	IC person	ASAP

Part 3

Develop

Generate a list (in order of decreasing priority) of possible interventions to improve your priority problem.

1.Improve staff knowledge and skills regarding the specifics of hand hygiene

2.Improve visual awareness of hand hygiene at key points within the hospital

3.Improve availability, awareness about and use of policies within the hospital

Part 4

Test and Implement

Outline a preliminary plan for implementing the interventions, including activities, to address potential problems.

Specific goal for improvement (from Part 1)	**Improve staff knowledge regarding hand hygiene knowledge and skills**
Proposed intervention	Hand Hygiene Week

Description of planned activities for proposed intervention	**Timeframe (month/year)**
1.Brief hospital management about workshop and ICAT approach	1. 2 weeks
2. Set up ICQI team	2. 2 weeks
3. Conduct baseline measurements	3. 1 month
4. Motivate for designated person to run and drive ICQI projects	4. 2 weeks
5. Get HOD buy-in	5. 1 month
6. Set dates for HH week	6.1 month

7. Develop training program 8. Develop Peds programmed 9. Marketing 10. Train staff 11. Monitor results	7. 3 months 8. 3 months 9. 1 month 10. 3 months 11. 4 months

Indicators					
What will you measure?	How will you measure?	Who will measure?	When will you measure?	Baseline	Expected Outcome
% of staff in each Dept trained in HH by "RPH training programme"	Attendance list for training Checklist	IC person	4 months	0	90%
% of patient encounters with correct HH procedures in each ward on a predetermined day	Checklist	IC person	4 months and monthly	To be done	80%

ANNEX 17: SOUTH AFRICA ICAT IMPLEMENTATION WORKSHOP-OVERALL EVALUATION

(Number of respondents=17; Scale: 1=strongly agree, 9=strongly disagree)

Content

- The objectives were clearly defined at the beginning of the workshop 8.0
- The defined objectives were achieved by the end of the workshop 8.4
- The amount of material covered during the workshop was appropriate 8.2
- The depth of coverage of material was appropriate 7.9
- I find the knowledge and skills obtained in the workshop very useful to my work 8.5

Facilitators

- The quality of facilitation was excellent 8.3

Overall Satisfaction with the Following:

- The pace of the workshop 7.0
- The style and format of the sessions 7.7
- The instructional materials 8.1
- The length of the workshop 5.1

Level of Difficulty of the Workshop

- Too easy 2
- Just right 13
- Too hard 1
- No response 1

Overall Opinion

- This workshop was valuable and I will recommend it to my colleagues
  - Yes 16
  - No 0
  - No response 1

Additional comments

Usefulness

- I thoroughly enjoyed the course. I'm burning to start doing something about it
- The workshop was useful. I have learnt much from the workshop. I will go back and implement

Facilitators

- Well done; keep it up!
- Workshop presented nicely
- Shabir, Wonder, Mupela and Jackie-your helpfulness, friendliness, presentations, advice and interaction socially have been wonderful. Thank you.
- The workshop material, facilitators soared above expectation. MSH, we won't let you down.
- Material provided was very good. Keep up the good work. God be with you. We will try our level best.
- We should be evaluated PRN to see if we are delivering correctly and be corrected time and again.
- Provide regular feedback
- Keep up the good work. Viva Dept of Health!
- I enjoyed the interaction and benchmarking with other hospitals. Thank you.
- Use more visuals, e.g. photos of other hospitals and their improvements

Workshop Logistics

- Need for more time as some topics were not covered very well. Three days is not sufficient.

- As IC is a very difficult task, I feel that a week would do for the workshop
- Make it a 5-day, rather than 3-day course. Too much information had to be cramped in. Too little practice was done.
- More time
- Please extend days of workshop to five

Administrative

- Enforce timeous starting
- Try to be very strict on the program-if we must start at 8, we must do so.
- Provide IT to candidates or warn them in advance to bring their own (laptops).
- We do not have equipment (laptops) for our province, so we were slow with our work

ANNEX 18: PICTURES TAKEN DURING THE SOUTH AFRICA ICAT IMPLEMENTATION WORKSHOP

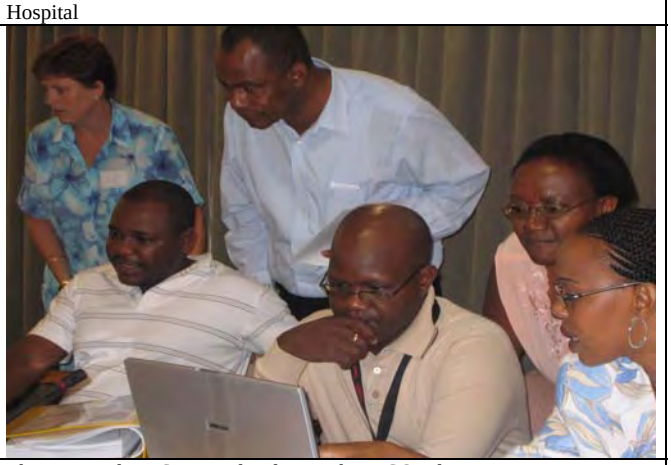
The Director of QA, Dr. L. Claassens inaugurating the South Africa workshop

A field team interviews ward staff at Thswane District Hospital in Pretoria

A field team discusses the results of an ICAT assessment at Tshwane District Hospital

A field team relaxes after an ICAT assessment at Tshwane District Hospital

Participants developing an ICQI plan



The RPH and KHC teams developing their ICQI plans