

KHA-CARI

Guidelines



2012

2012 Annual Report 2012

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REPORT FROM THE CHAIR

KHA-CARI Guidelines has had a busy and productive year. The organisation is now in its 14th year and 2012 has been a crucial year in terms of restructuring and progression.

KHA-CARI is now two years into the new governance arrangements, with regular reporting to the Board of Kidney Health Australia. Although the support of KHA and the other sponsors is generous, like most other endeavours in healthcare, it has been caught up in the global de-leveraging process and the Steering Committee continues to wrestle with the challenges of overseeing a manageable workload. This is a global phenomenon, with the international renal guidelines group, KDIGO, seeing significant cutbacks in recent times that threaten its viability. To my mind, this makes the work of KHA-CARI all the more important in shaping renal clinical practice guidelines into the future.

While the KDIGO guideline output is likely to be much reduced in the coming years, we've been using their guidelines by either developing local commentaries or undertaking a formal adaptation of their guidelines. The KDIGO "Care of the Kidney Transplant Recipient" guideline was formally adapted and the recently released "Acute Kidney Injury" guideline is undergoing that same process at present, under the leadership of A/Prof Robyn Langham. While this adaptation process is labour intensive, as these guidelines have been much broader than standard KHA-CARI guidelines, the breadth of material covered is likely to make them cost-effective.

In a somewhat more straitened environment, the KHA-CARI Guidelines Steering Committee and Office are focussing on the most efficient use of resources. One of our challenges has been the timeliness of our guideline development and the additional cost of recurrently revisiting material as timelines extend. While the causes of this are multifactorial, the Steering Committee and the KHA-CARI Office have developed a clearer and more rigorous Guideline Development and Adaptation Process to maintain timeliness and assist the Office in ensuring that the guideline teams are on track. Items addressed in the review include the size of the guideline in terms of scope and number of subtopics, work group convenors and members roles, peer review and the writing of commentaries. The KHA-CARI Office and the Steering Committee are also developing a Work Plan to facilitate guideline development and enhance collaboration with international guideline groups.

The KHA-CARI Office has also commenced work on the development of a Manual of Operations which will be uploaded onto the KHA-CARI website in 2013. The Manual is currently in its second draft and will be finalised in early 2013.

This year we had the pleasure of meeting and working with four Fellows from the European Renal Best Practice (ERBP) Guideline group, Ionut Nistor, Davide Bolignano, Evi Nagler and Maria Haller. While learning about our processes, members of ERBP gave us input about their current guideline practices. They also worked with and developed protocols for the Cochrane Renal Group. Ionut was trained in the skills of guideline-related literature searching and evidence grading. On his return home, he will be able to assist guideline authors in the preparation and updating of the ERBP Guidelines. Davide is currently involved in the diabetes guidelines project of the ERBP group. He visited the Cochrane Renal Group to improve his knowledge of systematic reviews, meta-analysis and literature searching. Evi Nagler is responsible for development of the ERBP Guidelines on the management and evaluation of the kidney donor and recipient, and diagnosis and treatment of hyponatraemia. Maria Haller will be working on the ERBP vascular access guidelines on her return to Europe. We look forward to working and collaborating with them in the future.

In January and March 2012, the 'Biochemical and Haematological Targets: Haemoglobin' guideline update and the adapted guideline 'Care of Kidney Transplant Recipients' were published in the journal *Nephrology*. The complete guidelines are available on the KHA-CARI website. The team is acutely aware that for KHA-CARI to add value to KDIGO products, the adaptations and commentaries on published KDIGO Guidelines must be timely and relevant. The Australian version of the 'Care of Kidney Transplant Recipients' has been our first experience of a formal adaptation process and has gone well under the leadership of Steve Chadban. We continue to review each of the KDIGO guidelines and decide on a case-by-case basis whether a formal adaptation or a commentary, which involves considerably less work, is the best approach.

The KHA-CARI work plan for 2012 included:

New Guidelines currently being developed:

- Diagnosis and Treatment of Urinary Tract Infection in Children (Convenor: Steven McTaggart)
- Early Chronic Kidney Disease (Convenor: David Johnson)
- Recipient Assessment for Transplantation (Convenor: Scott Campbell)
- Cardiovascular Disease (Convenor: Vlado Perkovic)

Updates to existing Guidelines:

- Peritonitis Treatment & Prophylaxis (Convenor: Amanda Walker)
- Vascular Access (Convenor: Kevan Polkinghorne)
- Dialysis Adequacy (Dialysis Membranes) (Writers: Peter Kerr, Nigel Toussaint)
- Haematological Targets: Iron (Writers: Rob MacGinley, Rowan Walker, Michelle Irving)
- Haematological Targets: Haemoglobin – completed and published in 2012 (Lawrence McMahan, Rob MacGinley)

Adaptations and commentaries on KDIGO Guidelines in progress or planned:

- Acute Kidney Injury - adaptation (Convenor: Robyn Langham)
- Care of Kidney Transplant Recipients – adaptation – completed and published in 2012 (Convenor: Steve Chadban)
- Glomerulonephritis – commentary (Writer: Chen Au Peh)
- Blood Pressure Management in CKD – commentary (Writer: Matthew Roberts)
- Anemia in CKD – commentary (Writers: Rob MacGinley, Rowan Walker)

An important and growing facet of KHA-CARI is its work in the area of implementation research. Current areas of focus include infection rates and the use of antibiotic prophylaxis in PD patients. This project is coordinated by Denise Campbell and is now well underway with the baseline phase completed in June of this year. Preparation for the implementation phase is in progress, whereby participating units will decide on which implementation strategies will be put into practice. The Iron guideline implementation project led by Michelle Irving is almost completed. Michelle is currently working on the baseline manuscript. This implementation work is a truly novel endeavour for guideline development groups, but we see it as central to meeting the challenge of guideline uptake into the future.

KHA-CARI is greatly appreciative of the significant support it currently receives from Roche, Amgen, Servier, Shire, Baxter and Novartis, without which KHA-CARI Guidelines could not have flourished.

In addition, the voluntary contribution of many nephrologists, nurses and allied health staff is appreciated and recognised as underpinning the whole process. I would also like to thank the KHA-CARI staff in the office, who work hard to support the many writers in the guideline groups.



Martin Gallagher

Chair

KHA-CARI Guidelines Steering Committee

GUIDELINE ACTIVITIES

The KHA-CARI Guidelines are divided into three disease stages: Chronic Kidney Disease, Dialysis, and Transplantation. A complete listing of guidelines and subtopics and their current status can be found under the Guidelines section on the KHA-CARI website (www.cari.org.au/guidelines.php)

Summary of KHA-CARI Guideline topics being developed and published in 2012

Guidelines	No. of subtopics	In development	Published
Chronic Kidney Disease			
Diagnosis and Treatment of Urinary Tract Infection in Children	5	✓	
Cardiovascular Disease	5	✓	
Early Chronic Kidney Disease	18	✓	
Transplantation			
Recipient Assessment for Transplantation	7	✓	
Dialysis			
Dialysis Adequacy (Dialysis Membranes)	1	✓	
Peritonitis Treatment and Prophylaxis	10	✓	
Vascular Access	10	✓	
Haemoglobin	1	✓	✓
Iron	1	✓	
Adaptation of KDIGO Guidelines			
Care of Kidney Transplant Recipients	20	✓	✓
Acute Kidney Injury	12	✓	
Commentary on KDIGO Guidelines			
Glomerulonephritis	1	✓	
Anaemia in Chronic Kidney Disease	1	✓	
Blood Pressure Management in Chronic Kidney Disease	1	✓	

Chronic Kidney Disease

Diagnosis and Treatment of Urinary Tract Infection in Children

The convenor of this guideline group is Dr Steven McTaggart, and its guideline group members include Dr Joshua Kausman, Dr Margie Danchin, Dr Peter Trnka, Dr Michael Ditchfield, Dr Sean Kennedy, Dr Ian Hewitt, Dr Gabrielle Williams, Dr Peter Borzi and Dr David Winkle.

This guideline has progressed during 2012, with evidence tables now completed for four subtopics. The guideline recommendations and suggestions are currently being edited in accordance with GRADE. The subtopic on 'Surgical interventions for recurrent UTI/VUR' is yet to be written.

The following subtopics are covered:

1. Diagnosis of UTI
2. Acute management
3. Radiological investigation following UTI
4. Management and investigation of recurrent UTI/VUR
5. Surgical interventions for recurrent UTI/VUR

Cardiovascular Disease

The convenor of this guideline group is Prof Vlado Perkovic and its guideline group members include Dr Helen Pilmore, Dr Sharan Dogra, Dr Hiddo Lambers Heerspink, Dr Toshiharu Ninomiya, Dr Rachel Huxley, Prof Rob Walker and Dr Matthew Roberts.

The guideline group name has changed from 'Cardiovascular Risk Factors' to 'Cardiovascular Disease'. The fifth subtopic 'Lipid lowering therapy in patients with CKD' is yet to be written. Literature searches are currently being updated, in preparation for publication in 2013.

The following subtopics are covered:

1. Cardiovascular disease: revascularisation
2. Medical management of coronary artery disease
3. Cardiovascular effects of blood pressure lowering in patients with chronic kidney disease
4. Heart failure
5. Lipid management

Early Chronic Kidney Disease

The convenor of this guideline group is Prof. David Johnson and its guideline group members include Ms Emelia Atai, Ms Maria Chan, Dr Richard Phoon, A/Prof. Nigel Toussaint, Mr Graeme Turner, Prof Tim Usherwood and Dr Kate Wiggins.

This large set of guidelines was completed in 2012 and is in their final stages of preparation for publication. Pre-publication drafts were uploaded on the KHA-CARI website for public comment while at the same time being reviewed by the Steering Committee. The guideline summary will be published in early 2013 in Nephrology.

The following subtopics are covered:

1. Symptoms, natural history and outcomes of early chronic kidney disease
2. Risk factors for early chronic kidney disease
 - 3.1 Primary prevention of chronic kidney disease: modification of lifestyle factors
 - 3.2 Primary prevention of chronic kidney disease: blood pressure targets
 - 3.3 Primary prevention of chronic kidney disease: managing diabetes mellitus to reduce the risk of progression to CKD
4. Screening for early chronic kidney disease
5. Diagnosis, classification and staging of chronic kidney disease
6. When to refer for specialist renal care
7. Education strategies
8. Modification of lifestyle and nutrition interventions for management of early chronic kidney disease
 - 9.1 Medical therapies to reduce chronic kidney disease progression and cardiovascular risk: anti-hypertensive agents
 - 9.2 Medical therapies to reduce chronic kidney disease progression and cardiovascular risk: lipid lowering therapy
 - 9.3 Medical therapies to reduce chronic kidney disease progression and cardiovascular risk: glycaemic control
 - 9.4 Medical therapies to reduce chronic kidney disease progression and cardiovascular risk: anti-platelet therapy
 - 9.5 Medical therapies to reduce chronic kidney disease progression and cardiovascular risk: uric acid-lowering agents
10. Vitamin D therapy (supplementation) in early chronic kidney disease
11. Pregnancy and early chronic kidney disease
12. Multidisciplinary or multifaceted renal care in early chronic kidney disease

Transplantation

Recipient Assessment for Transplantation

The convenor of this guideline group is Dr Scott Campbell and its guideline group members include Dr Helen Pilmore, Dr Steven McTaggart, Dr Bill Mulley, Dr Christine Russell, Prof Frank Ierino and Dr David Gracey.

During 2012 the guidelines were peer reviewed, revised by the guideline writers and edited by the KHA-CARI Office prior to review by the Steering Committee. The guideline summary will be published in Nephrology in early 2013.

The following subtopics are covered:

1. Cardiovascular disease
2. Diabetes mellitus
3. Paediatric recipients
4. Malignancy

5. Obesity in renal transplantation
6. HIV, HBV and HCV infection

Dialysis

Dialysis Membranes

The two writers of this update are Prof Peter Kerr and A/Prof Nigel Toussaint. The final draft of this guideline has been prepared for publication in early 2013.

Peritonitis Treatment and Prophylaxis

The convenor for this group is Dr Amanda Walker and its guideline group members include Dr Kym Bannister, Clin A/Prof Charles George, A/Prof David Mudge, Dr Maha Yehia, Dr Maureen Lonergan and A/Prof Josephine Chow.

Drafts are currently being edited and prepared for review by the Steering Committee and publication in 2013. The following subtopics are being updated:

1. The influence of peritoneal dialysis systems and solutions on the incidence of peritonitis and catheter-related infections
2. Management of PD-associated peritonitis in adults and children
3. Catheter removal, adjunct therapies and timing of reinsertion of PD catheter after peritonitis
4. Type of PD catheter
5. Technique of insertion of PD catheter
6. Prophylactic antibiotics for insertion of PD catheter
7. Timing of commencement of dialysis after PD catheter insertion
8. Treatment of PD-associated fungal peritonitis
9. PD catheter-related infection: exit site and tunnel
10. Prophylaxis for exit site/ tunnel infections using mupirocin.

Vascular Access

The convenor is Dr Kevan Polkinghorne, and its guideline group members include Ms Pamela Lopez-Vargas, Dr Christine Russell, Ms Edwina Vale, Dr Girish Talaulikar, Dr George Chin and Dr Rob MacGinley.

All 10 subtopics have now been written, thanks to Dr Rob MacGinley who co-wrote the 'Insertion of central venous catheters' subtopic and Ms Edwina Vale who co-wrote the 'Nursing care of the AVF/AVG' subtopic.

The guidelines were sent out for peer review and public consultation in November 2012. They will be edited and prepared for final review by the Steering Committee members and a guideline summary will be prepared for publication in Nephrology in early 2013.

The following subtopics are being updated:

Placement of permanent vascular access

1. Selection of appropriate vascular access
2. Pre-operative examination of the vessels
3. Preparation and placement of vascular access
4. Nursing care of the arteriovenous fistula/ arteriovenous graft

Treatment of dysfunctional AV access

5. Treatment of the thrombosed AVF/AVG: surgical vs radiological therapy
6. Treatment of vascular steal syndrome

Central venous catheters

7. Insertion of central venous catheters
8. Nursing care of catheters
9. Prevention of dialysis catheter infection
10. Treatment of dialysis catheter infection.

Biochemical and Haematological Targets: Haemoglobin

The guideline group members include Dr Rob MacGinley and Dr Lawrie McMahon.

The guideline summary was published in Nephrology in January 2012 with the full guideline posted on the KHA-CARI website.

Biochemical and Haematological Targets: Iron

The guideline group members include Dr Rob MacGinley and Prof Rowan Walker.

During 2012, the guideline was written, with evidence tables and referencing completed by the KHA-CARI Office. Public consultation on the draft guideline is expected to take place in January 2013. The guideline summary will be published in Nephrology approx. mid-2013.

Adaptation of KDIGO Guidelines

Adaptation of the KDIGO Guideline for the Care of Kidney Transplant Recipients

The convenor of the guideline group is Prof Steve Chadban and its guideline group members include Dr Shlomo Cohney, Dr Josette Eris, Dr Graeme Russ, Dr Scott Campbell, Dr John Kanellis, Prof Phil O'Connell, Dr Nick Cross, Dr Toby Coates, Dr Helen Pilmore, Dr Nicole Isbel, Dr Angela Webster, Dr Kate Wyburn, Prof Rowan Walker, Dr Kate Wiggins, Dr Bobby Chacko, Dr Katherine Barraclough, Dr Germaine Wong, Dr Sradha Kotwal, Dr Natasha Rogers, Dr Paul Manley, Dr Carolyn Clark, Dr Rosemary Masterson, Dr Bill Mulley, Dr Karumathil Murali, Dr Lorna Henderson and Dr Martin Howell.

This adaptation was published in March 2012 in Nephrology with the full adaptation placed on the KHA-CARI website.

The following KDIGO chapters were reviewed and adapted:

- Chapter 1: Induction therapy
- Chapter 2: Initial maintenance of immunosuppressive medication
- Chapter 3: Long-term maintenance immunosuppressive medications
- Chapter 5: Monitoring immunosuppressive medications
- Chapter 6: Treatment of acute rejection
- Chapter 7: Treatment of chronic allograft injury
- Chapter 8: Monitoring kidney allograft function
- Chapter 9: Kidney allograft biopsy
- Chapter 10: Recurrent kidney disease
- Chapter 11: Preventing, detecting and treating non-adherence
- Chapter 12: Vaccination
- Chapter 13: Viral diseases
- Chapter 14: Other infections
- Chapter 15: Diabetes mellitus
- Chapter 16: Hypertension, dyslipidemia, tobacco use and obesity
- Chapter 17: Atherosclerotic cardiovascular disease management
- Chapter 18: Cancer of the skin and lip
- Chapter 19: Non-skin malignancies
- Chapter 20: Managing cancer with reduction of immunosuppressive medication

Adaptation of the KDIGO Guideline for Acute Kidney Injury

The convenor of the guideline group is Assoc Prof Robyn Langham and the guideline group members include Dr Vince D'Intini, Prof Zoltan Endre, Assoc Prof Martin Gallagher, Dr Bernadette Hickey, Dr Richard Phoon, Prof Rinaldo Bellomo, Dr Shay McGuinness, Ms Karen Salomon and Ms Julie Woods.

The guideline group was formed in 2012 to adapt the KDIGO guideline for acute kidney injury. The adaptation process includes an update of the literature search, revision of the consistency of the recommendations with the available evidence, applicability of the recommendations to practice in Australia and New Zealand and preparation of the adapted guideline document. The group has thus far reviewed the

KDIGO guideline and decided which sections needed to be adapted; the KHA-CARI office conducted literature searches and the first drafts of the adapted guideline subtopics have been prepared. The guideline group has also participated in three teleconferences, one face to face meeting and attended a KHA-CARI Critical Appraisal Training Day, which included learning about the GRADE evidence rating system.

The following KDIGO sections will be reviewed and adapted:

Section 2: Acute kidney injury definition

Section 3: Prevention of acute kidney injury

Section 3: Treatment of acute kidney injury

Section 4: Contrast-induced acute kidney injury

Section 5: Dialysis interventions for treatment of acute kidney injury

Commentary on KDIGO Guidelines

Ideally, commentaries are to be completed and ready for publication within six months of publication of the guideline under consideration. The commentary writers will be appointed by the KHA-CARI Steering Committee and the format of an editorial will be followed. Draft commentaries will be reviewed by the Steering Committee and edited by the KHA-CARI Office prior to publication in the journal Nephrology.

Commentary of the KDIGO Guideline for Glomerulonephritis

The writer of this commentary is Dr Chen Au Peh.

In June 2012, the KDIGO guideline on Glomerulonephritis was published. The KHA-CARI Steering Committee decided that a commentary would be necessary. The writer has reviewed the guideline and has commenced writing the commentary.

Commentary of the KDIGO Guideline for Anaemia in Chronic Kidney Disease

The writers of this commentary are Dr Rob MacGinley and Prof Rowan Walker.

In August 2012, the KDIGO guideline on Anaemia in chronic kidney disease was published. The writers have reviewed the guideline and a commentary has been written. The commentary was sent to the KHA-CARI Steering Committee for review and will be published mid-year 2013.

Commentary of the KDIGO Guideline for Blood Pressure Management in CKD

The writer for this commentary is Dr Matthew Roberts.

The KDIGO guideline for Blood Pressure Management in Chronic Kidney Disease was published in December 2012. The KHA-CARI office has sent the KDIGO guideline to the writers as well as an outline on how to write a commentary.

IMPLEMENTATION OF GUIDELINES

Improving the quality of nephrology care in rural Australia: Implementation of the KHA-CARI iron guideline into clinical practice in rural or remote nephrology practices

Michelle Irving was the recipient of an NHMRC Translating Research into Practice (TRIP) fellowship in January 2010-December 2012. During this time she undertook an evidence translation project, implementing the KHA-CARI iron guideline in rural dialysis units. Below is an abstract taken from the final evaluation of the project.

Background and objectives:

Anaemia management for CKD patients remains challenging despite evidence-based guidelines. The variation in practice that results is often compounded for health professionals in rural communities. This study aims to identify the barriers to patients attaining national guideline targets for iron in rural renal centres by implementing the KHA-CARI guideline.

Methods:

Three Australian rural dialysis centres were chosen through consensus approach. An intervention was designed to implement the KHA-CARI iron guideline which included a multi-faceted strategy based on a barrier analysis using theoretical domains for psychological theory for implementation and included; educational outreach, audit and feedback, multi-disciplinary teams, opinion leaders and institution of a clinical practice guideline. Analysis of the outcomes of implementation was undertaken by a mixed methods approach.

Results:

There were a total of 103 patients at baseline. The dialysis units served small rural communities of about 100,000 persons each. More patients were treated within guideline recommendations at follow-up than at baseline and the proportion of in-centre haemodialysis patients, currently on an erythropoietin stimulating agent (ESA), below the national guideline target for ferritin, reduced significantly during the 12-month study period. Qualitative analysis of post-intervention interviews found that there were changes in cognitive processes, participants valued the internal and external collaboration, and there were the advantages of protocol-based practices.

Conclusion:

Evidence-based intervention strategies to implement the national iron guidelines in three Australian rural dialysis centres have proved to be successful. The number of iron-deficient patients reduced over time, there was an improvement in the cognitive approaches to iron management by clinicians and nurses as well as a high degree of satisfaction with the intervention process. Implementation in rural clinical practice can be relatively less complex due to the limited numbers of clinicians involved, once geographical barriers have been overcome.

The Steering Committee for this project consisted of: Dr Rob MacGinley, Dr Martin Gallagher, Prof Jonathan Craig, Dr Deirdre Fetherstonhaugh, Dr Nick Cross and Dr Germaine Wong.

The final manuscript will be submitted for publication in 2013.

Peritoneal Dialysis Implementation Project: Prevention of infection in incident PD patients

The Steering Committee for this project was set up in late 2010 and consists of Assoc Prof David Mudge (Convenor), Assoc Prof Martin Gallagher, Prof Jonathan Craig, Prof Rowan Walker, Dr Dwarakanathan Ranganathan, Dr Wai Hon Lim, and Dr Walaa Saweirs. Denise Campbell is the Project Officer responsible for the day-to-day running of the project.

A call for 'Expressions of Interest' letter was sent out via the ANZSN in August 2010 inviting renal units to be involved in this implementation project. Thirteen responses were received from renal units wanting to participate. The project will focus on implementing three KHA-CARI guidelines concerned with preventing infection in new PD patients. The Steering Committee met in December 2010 to discuss the applications received and to decide which units would be selected to participate in the project.

In March 2011, the Steering Committee held a teleconference and finalised selection of the units. Eight units were selected (7 in Australia, 1 in New Zealand). The selected units are: Princess Alexandra Hospital, QLD; Royal Brisbane & Women's Hospital, QLD; Gosford Renal Unit, NSW; Western Sydney Renal Dialysis Centre, NSW; Western Hospital, VIC; Monash Medical Centre, VIC; Royal Hobart Hospital, TAS; and Auckland City Hospital, NZ. During 2011, the Project Officer visited the eight centres and developed process maps for each. A data collection tool was also developed and a central database was set up to be used for data collection and storage. A survey about current unit practice around the topic was developed and mailed out to the 8 unit heads. Baseline data collection commenced in mid-December 2011 and concluded at the end of June 2012. A manuscript will be written and sent for publication in 2013.

Regular Steering Committee teleconferences were held during the year and a face to face meeting was held with the participating units and steering committee members in November 2012. During the face to face meeting each participating centre presented their baseline results and talked about their processes. Possible implementation strategies for the three guideline recommendations were also discussed at this meeting. The implementation phase is planned to commence mid-2013 once the implementation tools have been developed and pilot tested.

DISSEMINATION STRATEGIES

Dissemination and promotion of the KHA-CARI guidelines continued to be a focus in 2012. Communications to all members of the ANZSN and the RSA are an integral part of this process.

KHA-CARI Guidelines had an exhibition stand at the ANZSN ASM in Auckland. KHA-CARI staff developed and presented promotional material on guideline development, expressions of interest, and new guideline proposals. Visitors to our stand were encouraged to express their interest to participate in guideline development or in being peer reviewers. We also handed out our new USB memory card (pictured on the right) containing all KHA-CARI guidelines published to date as well as the KHA publication on Chronic Kidney Disease Management in General Practice (2nd edition, 2012). Due to the positive responses we received to the USBs, we were asked to distribute them to all renal units in Australia and New Zealand.



The aim for 2013 is to improve our marketing material, and produce more USBs for distribution at the ANZSN, TSANZ and RSA meetings.

GRADE EVIDENCE RATING SYSTEM

Key challenges in using GRADE

GRADE (Grading of Recommendations Assessment, Development and Evaluation) is an evidence rating system that provides guidance on how to grade the quality of underlying evidence and the strength of recommendations. The GRADE working group commenced in 2000 as an informal collaboration of people with an interest in addressing the shortcomings of grading systems in health care. The aim was to develop a common and systematic approach to grading quality of evidence and strength of recommendations.

KHA-CARI Guidelines began using GRADE in 2011 and found the process was more demanding for guideline writers and required more resources from the KHA-CARI Office. However, the process has resulted in greater clarity of recommendations with a clearer link between recommendations and the quality of the underlying evidence. A unit on GRADE with a particular focus on formulating the strength of

recommendations has been included in the Critical Appraisal Training Day workshop. The workshop was well received and future training days will continue to teach about GRADE.

The advantages of using Grade are that it provides a comprehensive, rigorous, and standardised format to use, and reduces the subjectivity involved when assigning an evidence grade to a guideline recommendation. In addition to KHA-CARI, this approach has been accepted by a number of international guideline groups including KDIGO and NICE. During 2012, KHA-CARI applied the GRADE approach to all new guidelines and selected guidelines being updated.

PUBLICATIONS

1. McMahon, L. P. and MacGinley, R. (2012), KHA-CARI guideline: Biochemical and haematological targets: Haemoglobin concentrations in patients using erythropoietin-stimulating agents. *Nephrology*, 17: 17–19.
2. Chadban, S. J., Barraclough, K. A., Campbell, S. B., Clark, C. J., Coates, P. T., Cohny, S. J., Cross, N. B., Eris, J. M., Henderson, L., Howell, M. R., Isbel, N. M., Kanellis, J., Kotwal, S. S., Manley, P., Masterson, R., Mulley, W., Murali, K., O'Connell, P., Pilmore, H., Rogers, N., Russ, G. R., Walker, R. G., Webster, A. C., Wiggins, K. J., Wong, G. and Wyburn, K. R. (2012), KHA-CARI guideline: KHA-CARI adaptation of the KDIGO Clinical Practice Guideline for the Care of Kidney Transplant Recipients. *Nephrology*, 17: 204–214.

MEETINGS AND CONFERENCES

48th Annual Scientific Meeting - Australian and New Zealand Society of Nephrology

Martin Howell, Michelle Irving, Pamela Lopez-Vargas and Allison Tong attended the 48th Annual Scientific Meeting of the ANZSN in Auckland, New Zealand. They also manned the KHA-CARI exhibition stand at the meeting. Pamela and Michelle were funded by KHA-CARI to attend the meeting while Martin and Allison obtained funding from other sources.

All members had oral and poster presentations. Allison presented her work on kidney transplantation; organ donation; patient preferences for organ allocation and clinician's beliefs about home haemodialysis. Martin presented his work on quality of life and immunosuppressants in kidney transplantation and Pamela presented her systematic review on clinical practice guidelines for early chronic kidney disease.

The following are the abstract titles for the individual presenters:

210 CLINICAL PRACTICE GUIDELINES ON WAITLISTING FOR KIDNEY TRANSPLANTATION: CONSISTENT AND EQUITABLE? Batabyal P, Chapman J, Wong G, Craig J, Tong A

093 PREVENTION, DETECTION, AND MANAGEMENT OF EARLY CHRONIC KIDNEY DISEASE: A SYSTEMATIC REVIEW OF CLINICAL PRACTICE GUIDELINES Lopez-Vargas P, Tong A, Sureshkumar P, Johnson D, Craig J

026 IMPLEMENTATION OF THE CARI IRON GUIDELINE INTO RURAL NEPHROLOGY PRACTICE
Irving M, MacGinley R, Fetherstonhaugh D, Walker R, Gallagher M, Cross N, Craig J

1st Biennial Australian Implementation Conference

Michelle Irving attended the 1st Biennial Australian Implementation Conference in Melbourne, Australia, in October 2012. She presented her project on: Implementation of the KHA-CARI iron guideline into rural nephrology practice.

Translating Research into Practice (TRIP) – Fellows workshops

Michelle Irving attended TRIP fellowship workshops in February and November 2012. These workshops included content on; sustainability, evaluation, consumer engagements, writing styles, health policy and media training.

The Transplantation Society of Australia and New Zealand – 2012 Annual Scientific Meeting, Canberra, Australia

Martin Howell, Allison Tong and Pikli Batabyal (summer student) attended the TSANZ Annual Scientific Meeting in Canberra in June.

Martin presented on a systematic review of quality of life outcomes in randomised controlled trials of immunosuppressive agents in kidney transplantation.

THE FREQUENCY AND QUALITY OF REPORTING OF QUALITY OF LIFE DATA IN TRIALS OF IMMUNOSUPPRESSIVE DRUG REGIMENS IN KIDNEY TRANSPLANTATION. M. Howell, G. Wong, H. Tan, A. Tong, J. Craig and K. Howard.

Pikli presented the work she conducted with Allison based on kidney transplantation guidelines.

CLINICAL PRACTICE GUIDELINES ON WAITLISTING FOR KIDNEY TRANSPLANTATION: CONSISTENT AND EQUITABLE? Batabyal P, Chapman J, Wong G, Craig J, Tong A.

The team also distributed some USB sticks containing the recent KHA-CARI guidelines to selected attendees.

American Society of Nephrology – Kidney Week, 2012, San Diego, California.

Pamela Lopez-Vargas and Allison Tong attended the ASN Kidney Week in October/November in San Diego, USA. Pamela received a travel grant from ANZSN and Allison was funded from another source.

Pamela had a poster presentation on her systematic review of chronic kidney disease guidelines.

Prevention, Detection, and Management of Early Chronic Kidney Disease: A Systematic Review of Clinical Practice Guidelines. Pamela Andrea Lopez- Vargas, Allison Tong, Premala Sureshkumar, David W. Johnson, Jonathan C. Craig.

Allison Tong presented her work on the following topics.

The Experiences of Commercial Kidney Donors: Thematic Synthesis of Qualitative Research. Allison Tong, Jeremy Chapman, Germaine Wong, Nick Cross, Pikli Batabyal, Jonathan C. Craig.

The Perspectives of Adults Living with Peritoneal Dialysis: Systematic Review and Thematic Synthesis of Qualitative Studies. Allison Tong, Brian Lesmana, David W. Johnson, Germaine Wong, Denise Campbell, Jonathan C. Craig.

Clinician Beliefs and Attitudes about Home Haemodialysis. Allison Tong, Suetonia Palmer, Braden J. Manns, Jonathan C. Craig, Marinella Ruospo, Letizia Gargano, David W. Johnson, Giovanni F.M. Strippoli.

WEBSITE STATISTICS

KHA-CARI Guidelines Website

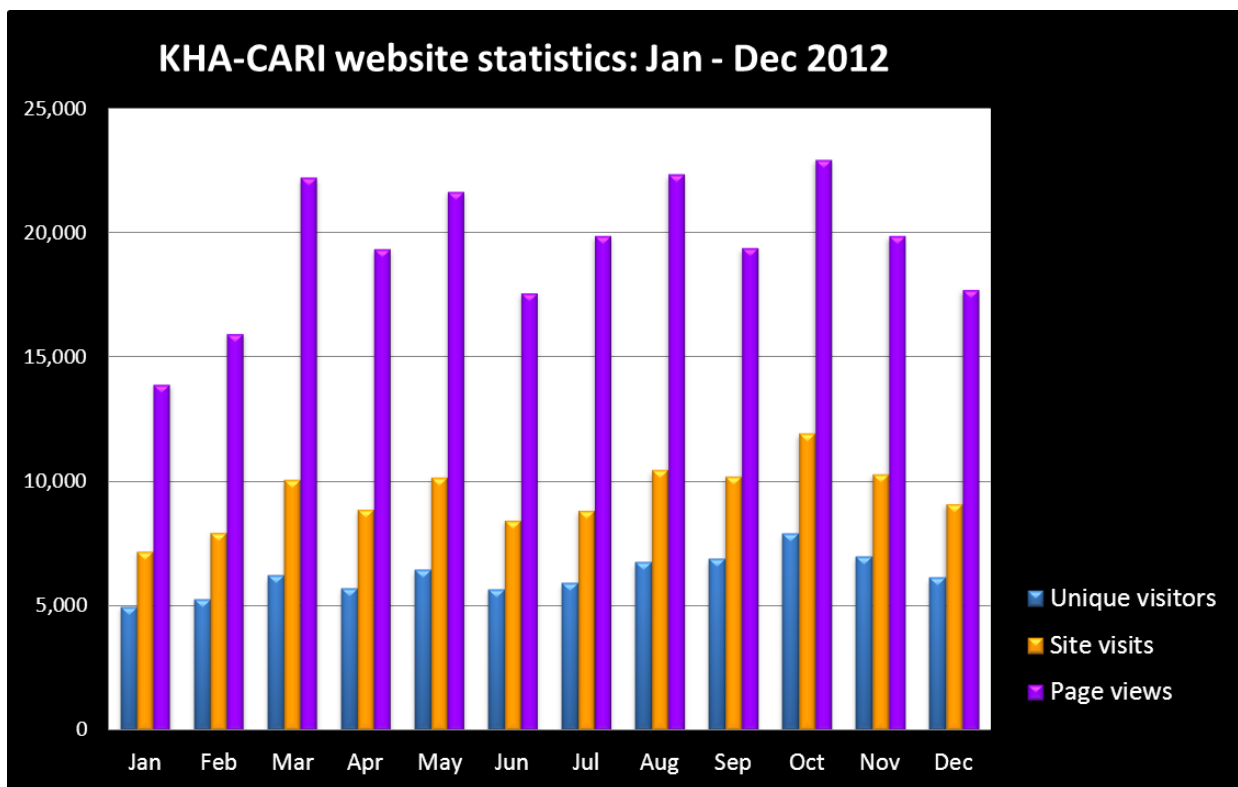
Definitions:

Unique visitors: a person or computer (host) who has made at least 1 hit on 1 page on your website within a specified period of time. Unique visitors are counted only once no matter how many times they visit the site during this period. Visitors are tracked by IP address, so if multiple users are accessing the site from the same IP address, they will be counted as a single unique visitor.

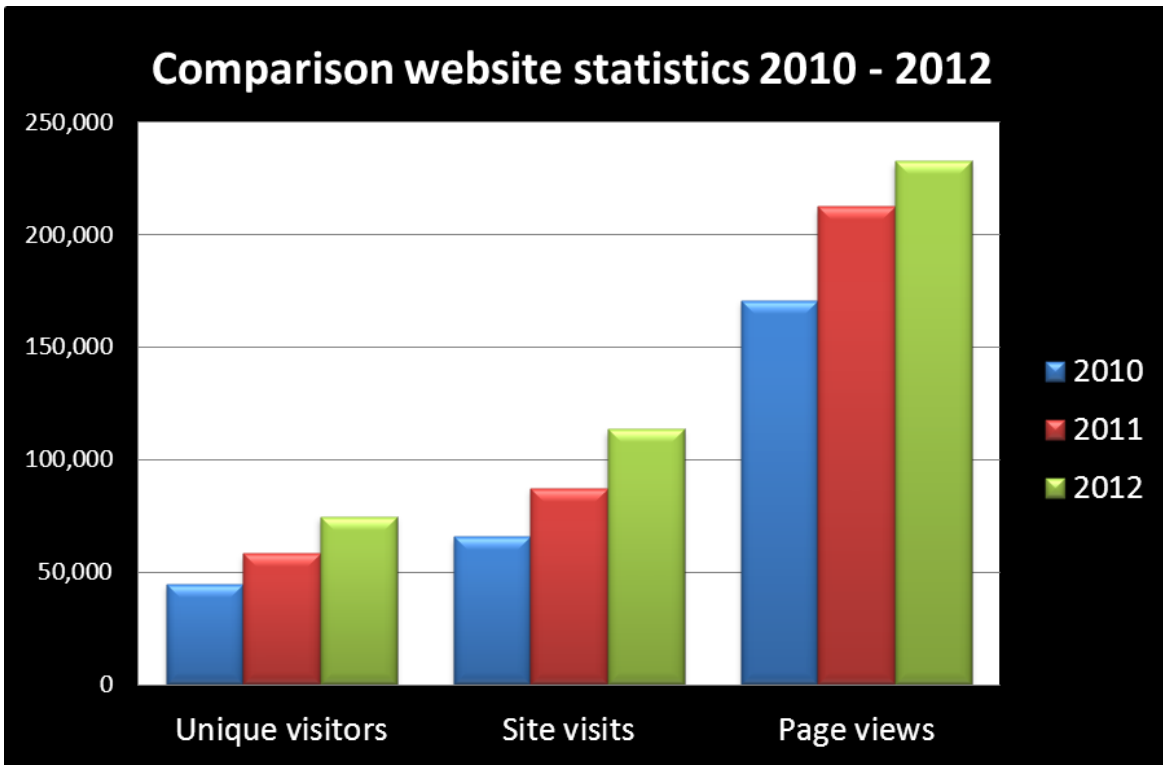
Site visits: represents the number of visits made by all visitors. All of the pages accessed within a single session, are included in the site visit. Therefore there will be multiple pages per visit and multiple visits per unique visitor.

Page views: represents the number of pages viewed by visitors. Pages are usually HTML, PHP or ASP files only.

The graph below shows the number of unique visitors, site visits, and page views by month for the period January to December 2012. The highest number of site visits was recorded in October with nearly 12,000 visits. The months of March, May, August, September and November all had site visits above 10,000.



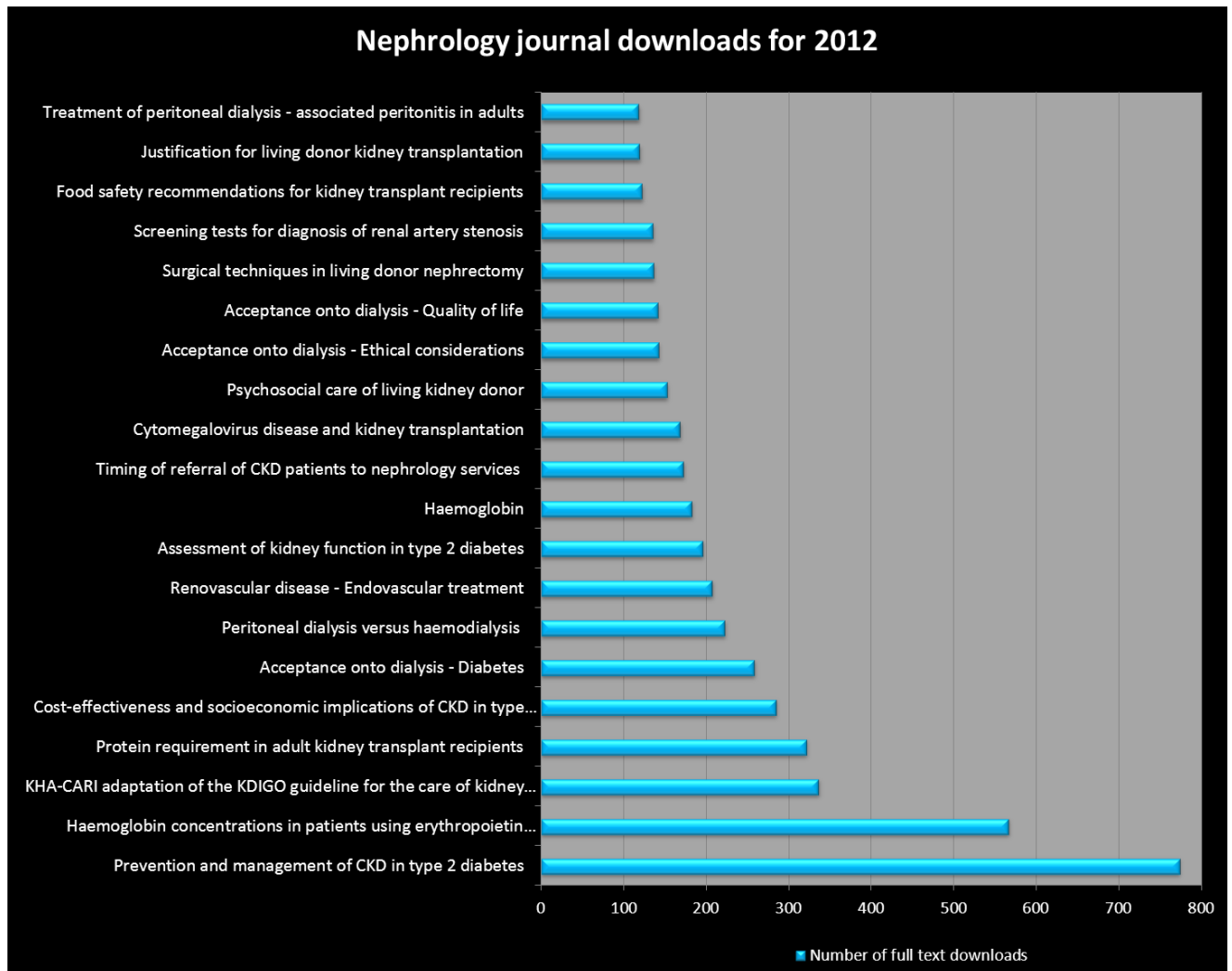
The graph below shows the number of unique visitors, site visits, and page views that occurred in 2010, 2011 and 2012.



The figure below shows the top 10 countries which most access the KHA-CARI website.



The figure below shows the top 20 articles accessed via the Nephrology website in 2012.



FINANCES AND FUNDING

The following is a summary of the income and expenditure associated with KHA-CARI Guidelines for the 2012 calendar year.

Financial Activities: 1 January to 31 December 2012

TOTAL INCOME	\$ 250,000
TOTAL EXPENDITURE	\$ 248,023
Salaries (including 18% oncost)	\$ 203,722
Goods & Services	\$ 13,571
Guideline Implementation – PD Project	\$ 11,440
Guideline Implementation – Rural Project	\$ 5,700
Guideline Dissemination	\$ 1,430
Guideline Writer Training Workshop	\$ 5,860
Guideline Publication	nil
Teleconferences – Steering Committee & Guideline Groups	\$ 2,100
Face to Face meetings – Steering Committee & Guideline Groups	\$ 4,200
KDIGO Meetings	nil
BALANCE OF FUNDS	\$ 1,977

CONTRIBUTORS TO KHA-CARI

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Guideline Group Members

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<p>Biochemical and Haematological Targets: Haemoglobin Dr Rob MacGinley Dr Lawrie McMahon</p>	<p>Dialysis Membranes (Haemodialysis) Assoc Prof Peter Kerr Assoc Prof Nigel Toussaint</p>
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Guideline Group Members cont.

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<p>Diagnosis and Treatment of UTI in Children Assoc Prof Steve McTaggart Dr Peter Borzi Dr Ian Hewitt Dr Sean Kennedy Dr Gabrielle Williams Dr Joshua Kausman Dr Michael Ditchfield Dr David Winkle Dr Peter Trnka Dr Margie Danchin</p>	<p>Adaptation of the KDIGO guideline on Care of the Kidney Transplant Recipient Prof Steve Chadban Dr Shlomo Cohney Dr Josette Eris Dr Graeme Russ Dr Scott Campbell Assoc Prof John Kanellis Prof Philip O'Connell Dr Nick Cross Dr Toby Coates Assoc Prof Helen Pilmore Assoc Prof Nicole Isbel Assoc Prof Angela Webster Dr Kate Wyburn Prof Rowan Walker Dr Kate Wiggins Dr Bobby Chacko Dr Katherine Barraclough Dr Germaine Wong Dr Sradha Kotwal Dr Natasha Rogers Dr Paul Manley Dr Carolyn Clark Dr Rosemary Masterson Dr Bill Mulley Dr Karumathil Murali Dr Lorna Henderson Dr Martin Howell</p>
<p>Adaptation of the KDIGO guideline on Acute Kidney Injury Assoc Prof Robyn Langham Dr Vince D'Intini Prof Zoltan Endre Assoc Prof Martin Gallagher Dr Bernadette Hickey Dr Richard Phoon Prof Rinaldo Bellomo Dr Shay McGuinness Ms Karen Salomon Ms Julie Woods</p>	<p>Commentary on the KDIGO guideline on Glomerulonephritis Dr Chen Au Peh</p>
<p>Commentary on the KDIGO guideline on Anaemia in Chronic Kidney Disease Dr Rob MacGinley Prof Rowan Walker</p>	<p>Commentary on the KDIGO guideline on Blood Pressure Management in Chronic Kidney Disease Dr Matthew Roberts</p>

