



The CARI Guidelines
Caring for Australasians with Renal Impairment
www.cari.org.au

ANNUAL REPORT
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Report from the Chair

The CARI Office started 2007 by publishing a Supplement to Nephrology in February 2007. The Supplement contained 26 guideline recommendations relating to guidelines on 'Kidney Stones', 'Prevention of Progression of Kidney Disease' and 'Calcineurin Inhibitors in Renal Transplantation'. This supplement was distributed to subscribers in Australia, New Zealand, Hong Kong, South Korea and Taiwan.

The CARI Office is helping groups to update a number of guidelines this year and is also working on 3 new sets of guidelines. The guidelines that are being updated are 'Acceptance onto Dialysis', 'Cardiovascular Risk Factors' and 'Vascular Access'. All of the guidelines being updated should be ready for publication by early 2009. CARI is also working with Diabetes Australia to produce a 'Type II Diabetes: Kidney Disease' guideline as part of a suite of Diabetes Type II guidelines.

Two guideline groups are currently finalising guidelines, these being the Renal Vasculitis group led by Robyn Langham (new guidelines), who presented at the DNT Workshop in March this year and the Living Kidney Donor group led by John Kanellis (revised guidelines). The Renal Vasculitis guideline group has completed their guidelines and the Living Kidney Donor guidelines should be completed by the end of 2007. We expect these to be published as a Supplement to Nephrology in early 2008.

Michelle Irving, CARI's Senior Research Officer, surveyed Australian and New Zealand nephrologists and renal nurses in 2006 on their opinions of the effect of the CARI guidelines as well as content and structure of the guidelines. Michelle presented these results at the ANZSN meeting in September 2007 and at the 4th Guidelines International Network conference in Toronto in August 2007. Publication of these results will occur shortly. Both presentations were well received at the meetings.

CARI has undertaken an active implementation project regarding the CARI Iron guidelines. Six renal units have been monitored for their iron management and ferritin, haemoglobin, TSAT and epoetin use. Results from this project were presented at the ANZSN meeting in September 2007 and also at the 4th Guidelines International Network conference in Toronto. Process evaluation is currently being undertaken in 2 units involved in the project, to uncover causes for success/non-success in implementation of the guideline. The study will be written up for publication.

Michelle is also conducting a systematic review on the implementation of evidence-based medicine in chronic kidney disease.

Allison Tong, CARI's Research Officer, has been conducting a qualitative study with the aim of identifying chronic kidney disease patients' priorities for health research. The data collection and analysis have been completed and the manuscript is currently being written.

Denise Campbell, the Senior Project Officer with CARI, presented a poster at the 4th Guidelines International Network conference in Toronto. The guideline development methodologies used by nephrology and general guideline groups was compared. A recent sample guideline from each organisation was evaluated using the AGREE quality checklist.

A Vascular Access Implementation group was also formed in the latter part of 2006. Pamela Lopez-Vargas, a research nurse, was appointed as the Project Officer for this project in February 2007. In the next year, the group will commence a before and after study of selected units, looking at barriers to arteriovenous fistula use at first dialysis. This project is in its early stages, with the first phase – a clinical audit of chosen units – expected to be completed by the middle of 2008.

Annual Report 2007

As you can see, the CARI staff members have all been very busy this year. The Steering Committee and the various guideline groups who are revising or creating guidelines *de novo* have also been hard at work and contribute to making CARI a well-founded, accepted and trusted organisation. Hopefully, the production of clear, systematically developed, evidence-based guidelines will lead to improvements in the health of chronic kidney disease patients in Australia and New Zealand and also help create a more evidence-based culture within the health sector at large.

I wish CARI all the best for 2008 and look forward to seeing the results of its various “hands-on” projects.



Rowan Walker
Chair
CARI Guidelines Steering Committee

Activities 2007

CARI Guidelines Critical Appraisal Training Workshop

The Training Workshop was held in September in a meeting room at the Qantas Club, Sydney Airport. The teaching sessions presented by Assoc Prof Jonathan Craig, Dr Vlado Perkovic and Dr Rachel Huxley. The attendees were from four of the guideline groups whose members are currently working on guidelines – ‘Acceptance onto Dialysis’, ‘Vascular Access’, ‘Type II Diabetes: Kidney Disease’ and ‘Cardiovascular Risk Factors’. The Training Workshop was run over 1 day and taught basic critical appraisal skills and also outlined the process involved in writing a CARI guideline, and explained the role and responsibilities of a CARI guideline writer.

CARI Guidelines Implementation Projects

2nd Iron guideline project

We have undertaken an active implementation project regarding the CARI Iron guidelines. Six renal units are being monitored for their iron management and ferritin, haemoglobin, TSAT and epoetin use. Three of the 6 units are actively making changes in their iron management to reflect the guidelines. Results from this project were presented at the ANZSN meeting in September 2007 and the 4th Guidelines International Network conference in August 2007 in Toronto, Canada. Process evaluation has been undertaken in 2 of the 3 units to uncover the causes for successful/unsuccessful aspects of the implementation project. Two of the 3 units have seen statistically significant increases in ferritin levels after introducing protocols in their units. The study will be written up for publication.

Vascular access guideline project

The Vascular Access implementation project commenced the planning stage in November 2006. A controlled before and after study will be run to measure the change in the number of new haemodialysis patients starting dialysis with a functioning native arteriovenous fistula (the optimum type of AV access). Expressions of interest were called for from all renal units in Australia and New Zealand. A number of units registered their interest in participating in the project and from these, 8 units were chosen to be part of the study. The CARI guidelines on “Timing of Access Formation” and “Choice of Type of Access” will be actively implemented because both are key steps in the adequate preparation of an individual for chronic haemodialysis. The plan is for baseline data to be collected on the participating units to establish current practice, to be followed by an intervention phase in which an implementation plan will be developed and put into action.

Pamela Lopez-Vargas, a research nurse, has been employed part-time to work on this project. A 10-member Steering Committee has been formed, chaired by Dr Kevan Polkinghorne, comprised of various Australian nephrologists, CARI staff, a Canadian nephrologist, a New Zealand nephrologist and a vascular surgeon. In the first 6 months of 2007, the Steering Committee and Project Officer were appointed, the Expression of Interest letter was sent out and the units that replied were asked to respond to a list of Selection Criteria, the data collection table to be used by units was developed, liaison with ANZDATA re this project occurred, process maps for 3 of the renal units were created by Pamela, and a list of likely barriers to good practice and possible interventions to address these was drawn up.

By the end of December 2007, the 8 units needed for the project had been chosen, the data collection form had been piloted at 2 units, the development of the Microsoft Access database to be used by the units had been started and a face to face meeting had been held for the Steering Committee to plan for the next stages of the project.

Activities 2007 cont.

CARI Guidelines Survey of Key Users

Australian and New Zealand nephrologists and renal nurses were surveyed in 2006 for their opinions on the effect of the CARI guidelines, as well as content and structure of the guidelines. The response rate from Nephrologists was 70% and that from renal nurses was 22%. The results were very positive re the CARI guidelines, with a large improvement in attitude toward the guidelines from the last survey done in 2002. Presentations of these results were made at the ANZSN meeting in September 2007 and at the Guidelines International Network conference in August 2007 in Toronto, Canada. Publication of the results will occur in 2008.

CARI Guidelines Research Activity

Patient priorities project

Allison Tong, the CARI Research Officer, commenced a qualitative study with the aim of identifying chronic kidney disease patients' priorities for health research. This has not been done in Australia before. The aims of the study are to: identify patients' research priorities; explore their ranking and ranking processes; and assess discrepancies between individual opinions, common priorities for research, and reasons underlying patients' opinions. Patients with chronic kidney disease from four kidney dialysis and transplant centres in 3 major Australian cities were invited to participate. Nine focus groups were held in 2006 with 3 different target patient groups (predialysis, dialysis, transplant). Each 2-hour focus group involved 6-8 participants.

The findings from this project will highlight what patients commonly feel should be important research topics in the chronic kidney disease field. No further focus groups are needed as all relevant information has been deemed to have been collected. Analysis of the data collected has been completed and this has been written up as a paper which was sent for publication in late 2007. Topics recurrently nominated by patients have been identified and 5 'patient-logics' developed that can be considered in the broader context of selecting research topics. An oral presentation of the project was given at the Guidelines International Network conference in Toronto, Canada in August 2007. A poster of the research was presented at the ANZSN Annual Scientific Meeting in September 2007 at the Gold Coast.

Trial-based guidelines and chronic kidney disease

Ideally, clinical practice guidelines are supported by high quality evidence but trials in chronic kidney disease are relatively few in number compared with other specialties in internal medicine. Allison Tong and co-authors assessed the proportion of CARI Guideline Recommendations supported by high quality evidence compared with Suggestions for Clinical Care, based on low or missing evidence. All CARI guidelines published from 2004-2006 were reviewed.

Analysis of the data showed that 43.4% of guideline subtopics were supported by at least Level I or II evidence (i.e. systematic review, randomised controlled trial), 34.1% were supported by Level III or IV evidence (i.e. cohort studies, case control studies etc.) and 22.5% were not supported by any trial evidence. This applied across the 3 topic areas – chronic kidney disease, dialysis and transplantation. The conclusion was that there is a need for more high quality RCT evidence in nephrology, which will in turn lead to the development of more valid clinical practice guidelines. A poster of the research was presented at the ANZSN Annual Scientific Meeting in September 2007 at the Gold Coast and at the Guidelines International Network conference in Toronto, Canada in August 2007.

Activities 2007 cont.

Comparison of development methodologies used by guideline groups

There are calls for guideline organisations to pool their resources and develop guidelines collaboratively rather than individually. To achieve this, the methodological principles used by groups would need to be common and result in the systematic identification and synthesis of the best available scientific evidence. Denise Campbell and co-authors compared the development process of 3 nephrology guideline groups with the process used by a number of major guideline organisations. The latest NHMRC guidance on essential steps in guideline development was used as a methodology benchmark. A sample guideline from each organisation was also assessed for quality, using the AGREE criteria.

The results showed that the quality of guidelines produced by non-nephrology organisations is generally higher than those produced by nephrology groups. There are wide variations in the process used by different groups and some of these are due to the difference in resources and skills available to a group. Few organisations assess the impact of socioeconomic position in relation to the condition of interest, determine benefits/harms, compare costs/benefits of interventions, or determine cost-effectiveness and feasibility of recommendations as a routine part of guideline development. Most organisation's guidelines yield low 'Applicability' scores, which means Work Groups are not considering the likely organisational, behavioural and cost implications of applying a guideline. There is a need for guideline organisations to expand their methodological process so that more thoughtful and practical guideline recommendations are developed. A poster of the research was presented at the Guidelines International Network conference in Toronto, Canada in August 2007.

Systematic review of implementation in CKD

Michelle Irving and co-authors undertook a systematic review on the topic of implementation of evidence-based medicine in CKD. Twenty-two articles have been reviewed and the studies have been grouped into sub-types of: audit and feedback, computerised decision support system, opinion leader/multidisciplinary team and dissemination. Due to heterogeneity, a formal meta-analysis is not possible. Early results show that opinion leader/multidisciplinary team seem to produce the best results. The review will be sent for publication in 2008.

Guideline Searches

All guideline subtopics need to have a systematic current search of the literature performed to ensure that guideline writers have all of the relevant studies, from which to write their guideline. Both Medline and the Cochrane Controlled Register of trials are searched. A comprehensive search strategy and scanning of the search results to weed out irrelevant studies is conducted by Allison Tong, CARI's part-time Research Officer. Allison uses standard Cochrane search strategies.

Searches conducted and articles obtained for writers in 2007:

GUIDELINE GROUP	NUMBER OF SEARCHES	NUMBER OF ARTICLES REQUESTED
Cardiovascular Risk Factors	8	33
CMV Disease and Kidney Transplantation	1	6
Living Kidney Donors	1	0
Renovascular Hypertension	1	0
Vascular Access	6	94
Biochemical and Haematological Targets	1	0

Publications

In February 2007, a *Nephrology* supplement was published containing CARI Guidelines on: 'Kidney Stones', 'Prevention of Progression of Kidney Disease', and 'Calcineurin Inhibitors in Renal Transplantation'. A total of 20 subtopics were covered which included 26 guideline recommendations.

The subtopics covered in the February 2007 Supplement include:

Kidney Stones

- Clinical diagnosis of kidney stones
- Cystine stones
- Prevention of recurrent calcium nephrolithiasis
- Uric acid stones
- Kidney stones epidemiology
- Metabolic evaluation
- Radiological diagnosis of kidney stones

Prevention of Progression of Kidney Disease

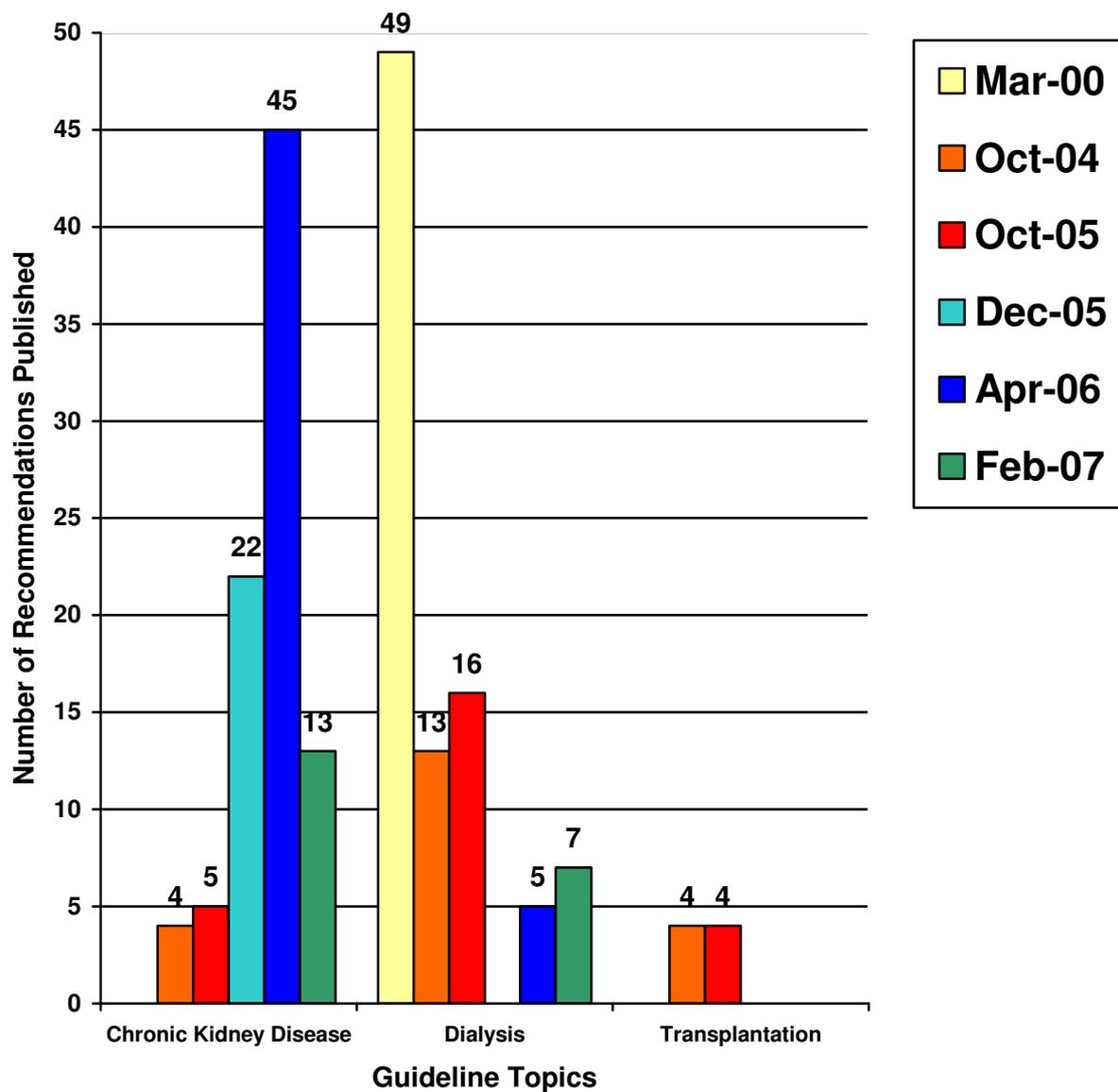
- Early detection of patients with kidney disease
- Early referral of patients with pre-end-stage kidney disease
- Regular and frequent follow-up of patients with pre-end-stage kidney disease
- Pre-dialysis education for patients with chronic kidney disease
- Weight reduction in obese patients with chronic kidney disease
- Autosomal-dominant polycystic kidney disease

Calcineurin Inhibitors in Renal Transplantation

- Therapeutic drug monitoring
- Calcineurin inhibitors in renal transplantation: adverse effects
- The addition of anti-CD25 antibody induction to standard immunosuppressive therapy for kidney transplant recipients
- Nephrotoxicity and calcineurin inhibitors
- Choice of calcineurin inhibitors in adult renal transplantation: effects on transplant outcomes
- Pregnancy, lactation and calcineurin inhibitors
- Calcineurin inhibitors in paediatric renal transplantation

Publications cont.

Guideline Recommendations Published: 2000-2007



Meetings

National Institute of Clinical Studies (NICS) GLIA Masterclass, Melbourne, 28th February – 1st March 2007

The Masterclass was held in late February at the Hilton Hotel in Melbourne and was attended by Denise Campbell, CARI's Senior Project Officer, Michelle Irving, Senior Research Officer, Pamela Lopez-Vargas, Project Officer, and Dr Kevan Polkinghorne, CARI Steering Committee member.

Over the 2 days we heard from Ms Cathy Marshall and Dr Rick Shiffman, who shared their experience with getting guidelines into practice. Cathy Marshall is an independent guideline advisor who was previously the Chief Executive of the New Zealand Guidelines Group. Rick Shiffman is Associate Director, Yale Center for Medical Informatics and Assoc Prof of Pediatrics, Yale School of Medicine. He is an expert on assessing the 'implementability' of clinical guidelines. The 2 days consisted of a mixture of lectures and workshop sessions.

Those attending were introduced to the GLIA tool that Dr Shiffman and colleagues have developed and had the opportunity to use the electronic version of the tool. The GLIA tool can be used by guideline groups to modify content to improve implementability (prior to publication), or to anticipate potential problems in implementation by individuals who are choosing guidelines for application within a health care system. GLIA generates a Summary Report which highlights impediments to implementation of the guideline recommendation. The tool can be accessed at: <http://gem.med.yale.edu/eglia/>

Dialysis Nephrology and Transplant (DNT) Workshop, Queenstown, New Zealand, 4th – 7th March 2007

The Workshop was held in March at Rydges Lakeland Resort in Queenstown, New Zealand. The DNT Workshop was attended by Denise Campbell, CARI's Senior Project Officer, and Assoc Prof Jonathan Craig, CARI Steering Committee member.

Assoc Prof Jonathan Craig presented an update of CARI activities, which included the results of the recent survey of nephrologists and renal nurses by CARI and a summary of the guidelines that have been published over the past 4 years.

A two hour session was allocated to CARI for the presentation of draft guidelines on the topic 'Renal Vasculitis'. Robyn Langham (Convenor) and other group members presented the group's draft guidelines for feedback from attendees prior to their peer review and publication.

4th Guidelines International Network (G-I-N) Conference, Toronto, Canada, 23rd - 25th August 2007

Denise Campbell, Michelle Irving, Pamela Lopez-Vargas and Allison Tong attended this meeting, which brought together the producers and users of clinical practice guidelines. The theme of the conference was "Collaboration in Clinical Practice Guidelines" with a focus on local, national and international cooperation in synthesising and applying best evidence. The host organisations were the Guidelines Advisory Committee of the Ministry of Health and Long Term Care, Ontario; the Ontario Medical Association and the University of Toronto. The format was a mixture of plenaries, brief presentations, workshops and networking sessions.

Meetings cont.

The CARI guidelines team were well represented at the meeting with posters and oral presentations that showcased the CARI guideline group's skills in writing and implementing guidelines.

Denise Campbell presented a poster titled "Comparison of guideline development methodologies used by nephrology and general guideline groups". This poster was written for the suggested topic of "Harmonising guideline development." The development process of 3 nephrology guideline groups were compared with the process used by 4 major guideline organisations. A recent sample guideline from each organisation was evaluated using the AGREE quality checklist.

Michelle Irving gave an oral presentation titled "Implementation of clinical practice guidelines: overcoming barriers to implementation of iron management guidelines in chronic kidney disease patients." This presentation showcased the results, so far, of the implementation of the CARI iron guideline. Feedback on the presentation was positive and participants engaged in a discussion regarding the project. Michelle also presented a poster titled "An evaluation, by guideline users, of Australian/ New Zealand guidelines in kidney disease" which outlined the results of the 2006 survey of nephrologists regarding their opinions on aspects of the CARI guidelines.

Allison Tong had an oral presentation on the topic "Eliciting priorities for guideline topics from patients who have chronic kidney disease." Conference participants expressed interest in the study and provided positive feedback. Allison also had a poster titled "Are trial-based guidelines possible in CKD?" This assessed the proportion of CARI guideline recommendations supported by high quality evidence compared with suggestions for clinical care, based on low or missing evidence.

The major conference themes were "Setting and achieving standards in guideline development," "Transferring knowledge, implementing guidelines" and "Evaluating the impact of guidelines." Conference plenary topics included: Transferring knowledge to professionals; Achieving collaboration through an international guideline network; Guidelines to help policy makers; Implementation programs: some success stories; and Fitting guidelines into the real world. There was a great deal of choice for the concurrent sessions, with talks for guideline writers and implementers in each session. There were excellent sessions relating to guideline development, the role of consumers and the role of qualitative research in guidelines.

G-I-N is an international not-for-profit association of organisations and individuals involved in clinical practice guidelines. It was founded in November 2002 and has 54 member organisations from 27 countries. G-I-N seeks to improve the quality of healthcare by promoting the systematic development of clinical practice guidelines and their application into practice, through supporting international collaboration. This was the first G-I-N conference in North America. Their web address is: www.guidelines-international.net

Australian & New Zealand Society of Nephrology (ANZSN) Annual Scientific Meeting, Gold Coast, 8th – 12th September 2007

The 43rd ANZSN Annual Scientific Meeting, held 8–12 September 2007 at the Gold Coast Convention and Exhibition Centre, was attended by Allison Tong, CARI's Research Officer and Assoc Prof Jonathan Craig. The meeting showcased a variety of basic science and clinical research projects and provided an opportunity to network with other attendees. Plenary and seminar topics included: prevention and treatment of diabetic nephropathy, pathogenesis of ANCA-associated systemic vasculitis, advances in haemodialysis and hypertension and cardiovascular

Meetings cont.

disease. Allison Tong presented 2 posters: "Are trial-based clinical practice guidelines possible in chronic kidney disease?" and "Eliciting priorities for research from patients with chronic kidney disease." The audience were interested in the project, provided positive comments and thought the topics were important.

Knowledge in Practice Workshop, Melbourne, 4th - 5th October 2007

Michelle Irving, Senior Research Officer for CARI, was invited to attend this workshop, which was organised by a collaboration consisting of the National Institute for Clinical Studies (NICS), Land and Water Australia, and the Australian Biosecurity Research Centre. The Workshop was limited to 25 participants. The aim of the Workshop was to share and discuss implementation strategies across different sectors. Four implementation projects were presented, one each from the Health, Land & Water, Agriculture and Biosecurity fields. The projects presented were: Health – 'Implementing guidelines using a community of practice method'; Land & Water – 'Science into practice: The national riparian lands research and development program'; Agriculture – 'Driving environmental and social change in the Australian rice industry: A case study for putting knowledge into practice'; and Biosecurity – 'A new method for quantifying disease freedom: Translating knowledge into national and international practice and policy'.

Some of the main outcomes of the Workshop included:

- Each sector is doing similar things and can learn from each other
- Each sector has their own language and this is a barrier to communication across sectors
- Each implementation project centred around a motivated individual who drove the project to its success
- The term 'knowledge broker' is used to describe the individual who relays the information from research to the end user
- Researchers are rarely used to relay their information.

All participants found the Workshop to be worthwhile and agreed as a group to form a 'knowledge into practice network' that will consist of email, website and face to face contact to support implementation across the different sectors.

New Guidelines

CARI has 2 guideline groups who are currently working on Renal Vasculitis guidelines and Living Kidney Donor guidelines. The Convenor of the Renal Vasculitis group is Assoc Prof Robyn Langham and the Convenor for the Living Kidney Donor group is Dr John Kanellis. These guideline groups started work in May 2006 and are scheduled to have their guidelines published in early 2008. These are the first guidelines that CARI will put through the AGREE (guideline quality) and GLIA (guideline implementability) tools.

Drafts of the Renal Vasculitis guidelines were presented for discussion at the March 2007 DNT meeting in Queenstown, New Zealand. Three subtopics are being written.

CARI has previously published draft guidelines for Living Kidney Donors on the CARI website, but these were written in 2001 and have not been updated since then. Nine subtopics are being covered.

In mid- 2007, CARI started working on a new set of guidelines in collaboration with Diabetes Australia called 'Type II Diabetes: Kidney Disease'. The Diabetes Australia Consortium consists of: the Australian Diabetes Society, the Australian Diabetes Educators Association, the Royal Australian College of General Practitioners, and the Australian Cochrane Diabetes Satellite group. Funding has been received from the government for the development of these guidelines. The Kidney Disease guidelines are part of a suite of 4, with the others being an Education guideline, an update of the Prevention guideline and an update of the Case Detection guideline. An Expert Working Group has been formed to provide direction about the content of the draft guideline. NHMRC endorsement will be sought. The planned publication date is early 2009.

Work has also begun on another 3 sets of guidelines. The new guideline topics are 'Transplantation Nutrition Guidelines', 'Acute Kidney Injury' and 'Renovascular Hypertension'. These guidelines are in the beginning stages and publication will be some time in 2009.

Future Plans & Mission

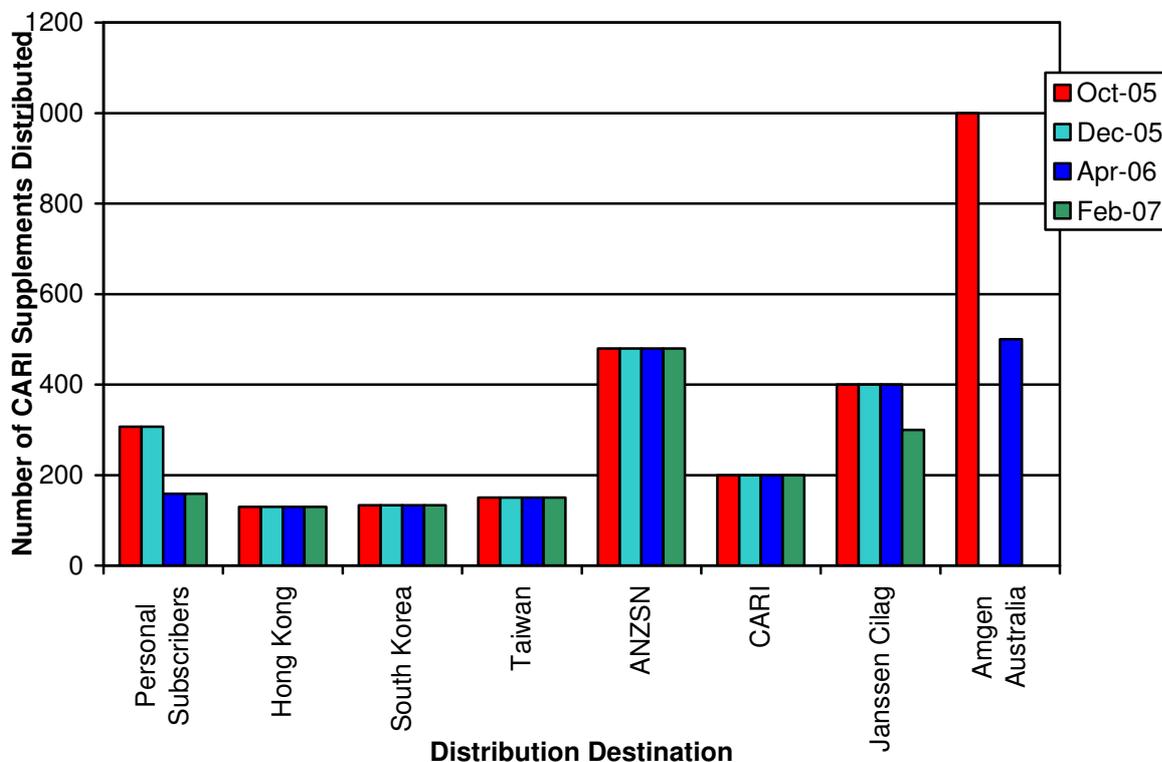
Over the next few years, CARI will work on the following priority areas:

- Publish more guidelines on important topics
- Produce and distribute CD Rom containing all guidelines published to end of 2007
- Change to using the GRADE evidence rating system
- Write guideline Summaries for key guidelines for different audiences (e.g. General Practitioners, consumers)
- Update guidelines every 3 years as needed
- Incorporate quality indicators into guidelines
- Produce a guideline summary booklet for use by nephrologists
- Produce electronic clinical decision support for selected guidelines
- Create algorithms for selected guidelines
- Perform active implementation of selected guidelines
- Develop a plan for CARI involvement with GPs
- Work cooperatively with other guideline groups (e.g. joint Diabetes Australia/CKD guidelines in development)
- Include guideline Summaries on website in PDA-downloadable format
- Make CARI website more interactive
- Add an Implementation section to CARI website
- Add content to Consumer section of CARI website
- Increase range of dissemination strategies used to raise awareness of CARI guidelines – both locally and internationally

We see our Mission as:

- What: CARI seeks to improve the quality of care and outcomes for patients with chronic kidney disease in Australia & New Zealand
- How: By developing and implementing clinical practice guidelines based on the best available evidence

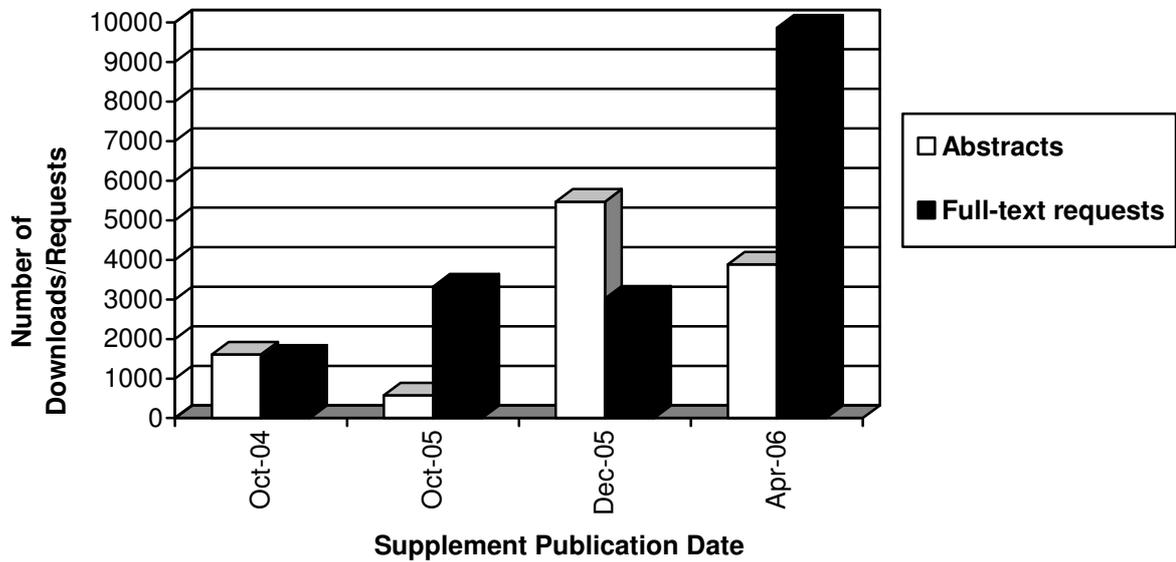
Distribution of CARI Supplements: 2005-2007



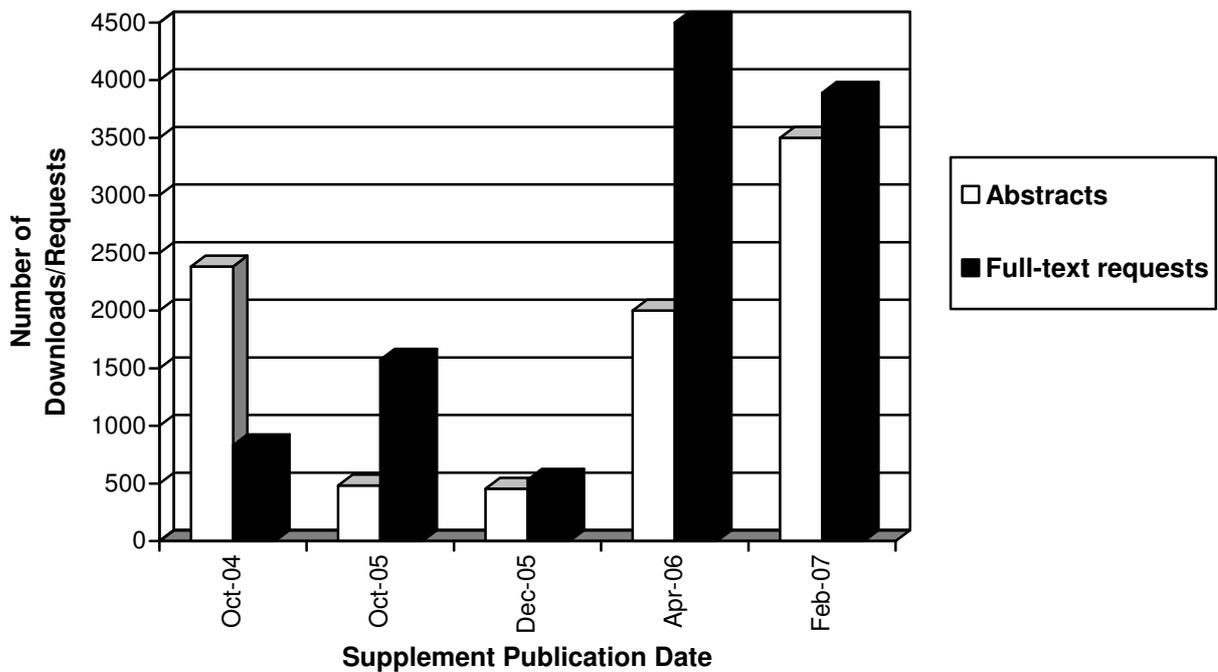
This figure shows that for each CARI supplement, nearly 500 copies are distributed to Australia and New Zealand members of the Australia & New Zealand Society of Nephrology (ANZSN). In addition, nearly 300 copies are sent to members living in Asia (i.e. Hong Kong, South Korea, Taiwan) and about 200 copies are sent to personal subscribers living in a variety of countries (e.g. UK, USA). Further copies are sent to the CARI office and sponsors as requested.

Nephrology Online Website Statistics for CARI Guidelines

Downloads of CARI Full-text Requests from Nephrology Online from Jan-Dec 2006



Downloads of CARI Full-text Requests from Nephrology Online from Jan-Jun 2007*

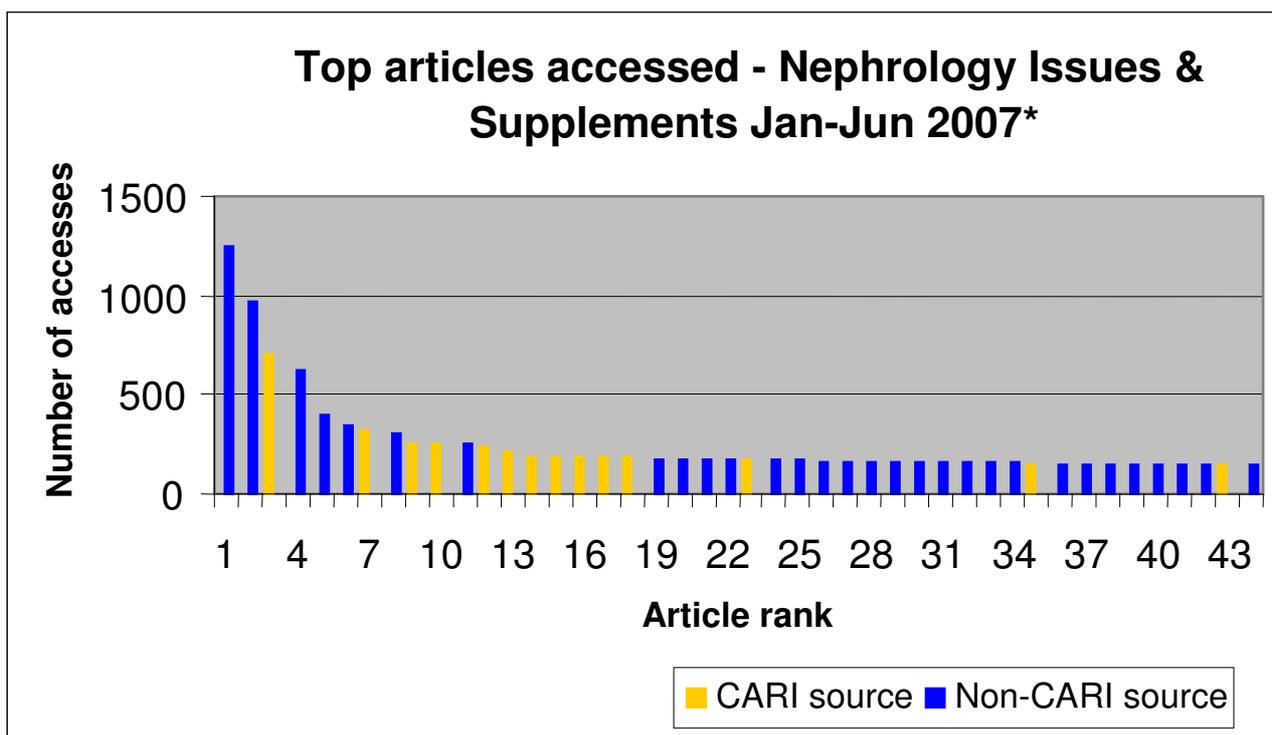


* Data for Jul-Dec 2007 is not available.

Nephrology Online Website Statistics cont.

Volume content guide:

<p><u>October 2004 Supplement (Vol 9, Suppl 3)</u></p> <ul style="list-style-type: none"> • Proteinuria • Peritonitis • CMV Infection 	<p><u>April 2006 Supplement (Vol 11, Suppl 1)</u></p> <ul style="list-style-type: none"> • Prevention of Progression of Kidney Disease • Biochemical and Haematological Targets • Management of Bone Disease, Calcium, Phosphate and Parathyroid Hormone
<p><u>October 2005 Supplement (Vol 10, Suppl 4)</u></p> <ul style="list-style-type: none"> • Acceptance onto Dialysis • Dialysis Adequacy • Haemoglobin • Deceased Kidney Donor Suitability • Evaluation of Renal Function 	<p><u>February 2007 Supplement (Vol 12, Suppl 1)</u></p> <ul style="list-style-type: none"> • Kidney Stones • Prevention of Progression of Kidney Disease • Calcineurin Inhibitors in Renal Transplantation
<p><u>December 2005 Supplement (Vol 10, Suppl 5)</u></p> <ul style="list-style-type: none"> • Nutrition and Growth in Kidney Disease • Lipid-lowering Therapy 	



This figure shows that of the top 44 articles accessed from Nephrology Journals and Supplements during the period January to June 2007, 14 were CARI Guideline subtopics. Of the top 20 articles accessed during this time, 11 were CARI Guideline subtopics. The latter were ranked 3, 7, 9, 10, 12, 13, 14, 15, 16, 17 and 18.

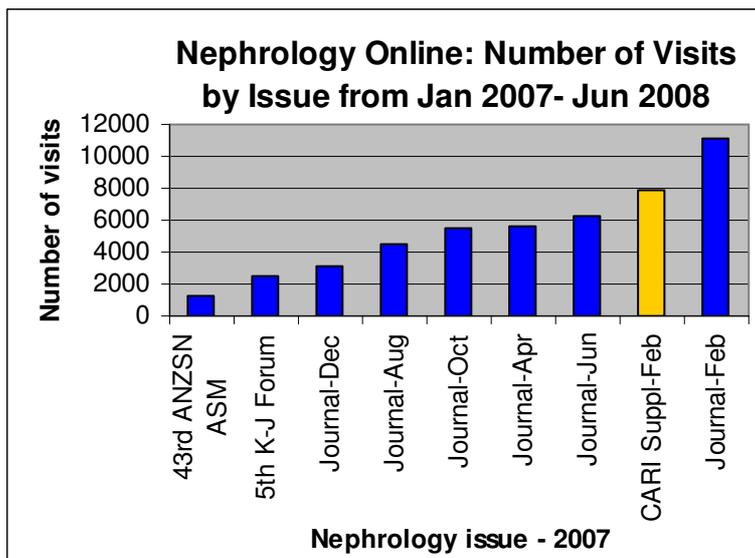
* Data for Jul-Dec 2007 is not available.

Nephrology Online Website Statistics cont.

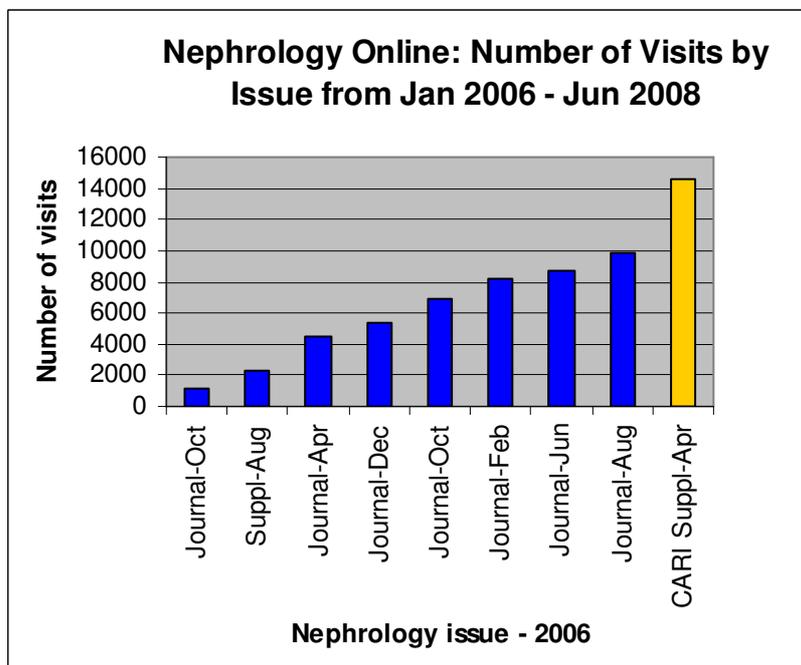
Top CARI Guideline Subtopics Accessed from Nephrology Online during Jan-Jun 2007

Volume / Issue	Guideline Subtopic	Author	Number of Accesses	Rank
Volume 12, Suppl 1, February 07	Prevention of recurrent calcium nephrolithiasis	Lukas Kairaitis	702	3
Volume 12, Suppl 1, February 07	Clinical diagnosis of kidney stones	Mark Thomas	313	7
Volume 11, Suppl 1, April 06	Prevention of progression of kidney disease	David Harris, Merlin Thomas, David Johnson, Kathy Nicholls, Adrian Gillin	257	9
Volume 10, Suppl 4, October 05	Direct measurement of glomerular filtration rate	David Johnson	255	10
Volume 12, Suppl 1, February 07	Early detection of patients with kidney disease	Merlin Thomas	236	12
Volume 12, Suppl 1, February 07	Metabolic evaluation	Peter Hughes	209	13
Volume 12, Suppl 1, February 07	Radiological diagnosis of kidney stones	John Richmond	190	14
Volume 10, Suppl 4, October 05	Dialysis membranes	Peter Kerr	189	15
Volume 12, Suppl 1, February 07	Kidney stones epidemiology	Peter Hughes	188	16
Volume 12, Suppl 1, February 07	Uric acid stones	Gavin Becker	188	17
Volume 12, Suppl 1, February 07	Autosomal-dominant polycystic kidney disease	Merlin Thomas	183	18
Volume 12, Suppl 1, February 07	Cystine stones	Gavin Becker	171	23
Volume 12, Suppl 1, February 07	Pre-dialysis education for patients with chronic kidney disease	Merlin Thomas	152	35
Volume 12, Suppl 1, February 07	Therapeutic drug monitoring	Paul Trevillian	146	43

Nephrology Online Website Statistics cont.

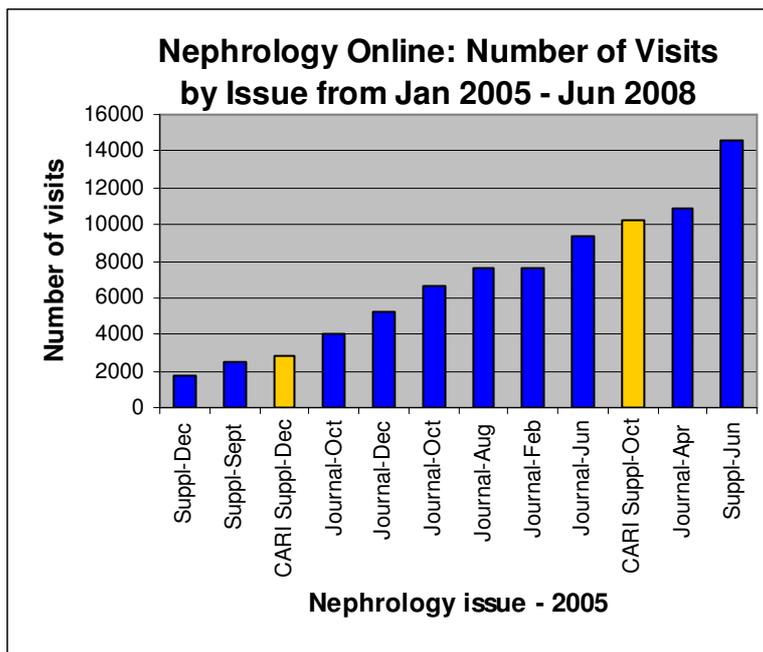


This figure shows that of the 6 Nephrology journal issues and the 3 supplements published by Blackwell-Wiley in 2007, the CARI supplement received the second highest number of visits of all the publications, with 7922 visits over the 18 months from January 07 to June 08. This issue included guidelines on: Kidney Stones; Prevention of Progression of Kidney Disease; and Calcineurin Inhibitors in Renal Transplantation.

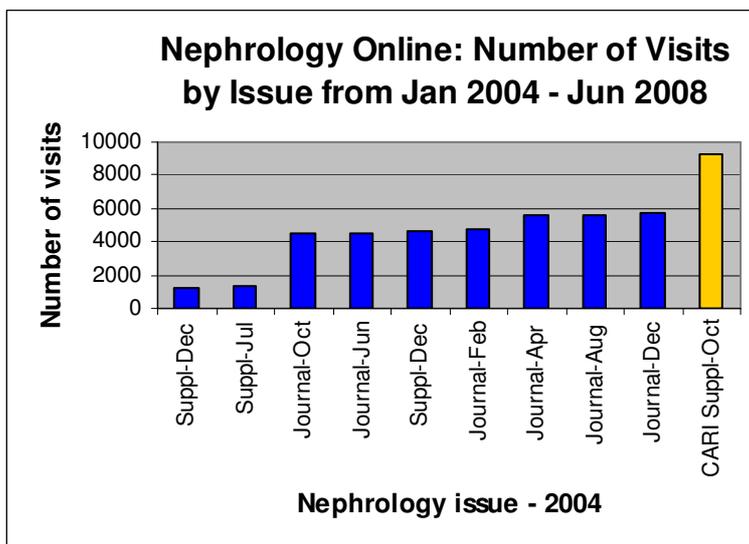


This figure shows that of the 6 Nephrology journal issues and the 3 supplements published by Blackwell Asia P/L in 2006, the CARI supplement received the highest number of visits of all the publications, with 14,649 visits over the 2.5 years from January 06 to June 08. This issue included guidelines on: Prevention of Progression of Kidney Disease; Biochemical and Haematological Targets; and Management of Bone Disease, Calcium and Phosphate.

Nephrology Online Website Statistics cont.



This figure shows that of the 6 Nephrology journal issues and the 6 supplements published by Blackwell Asia P/L in 2005, the Oct CARI supplement received the third highest number of visits of all the publications, with 10,221 visits over the period from January 05 to June 08. This issue included guidelines on: Acceptance onto Dialysis; Dialysis Adequacy; Haemoglobin; Deceased Kidney Donor Suitability; and Evaluation of Renal Function. The Dec CARI Supplement was a smaller publication containing Nutrition and Growth in Kidney Disease; and Lipid lowering therapy guidelines. It was accessed 2828 times during the same period.



This figure shows that of the 6 Nephrology journal issues and the 4 supplements published by Blackwell Asia P/L in 2004, the Oct CARI supplement received the highest number of visits of all the publications, with 9260 visits over the period from January 04 to June 08. This issue included guidelines on: Urine Protein as Diagnostic Test; CMV Disease and Kidney Transplant; and Peritonitis Treatment and Prophylaxis.

CARI Guidelines Website

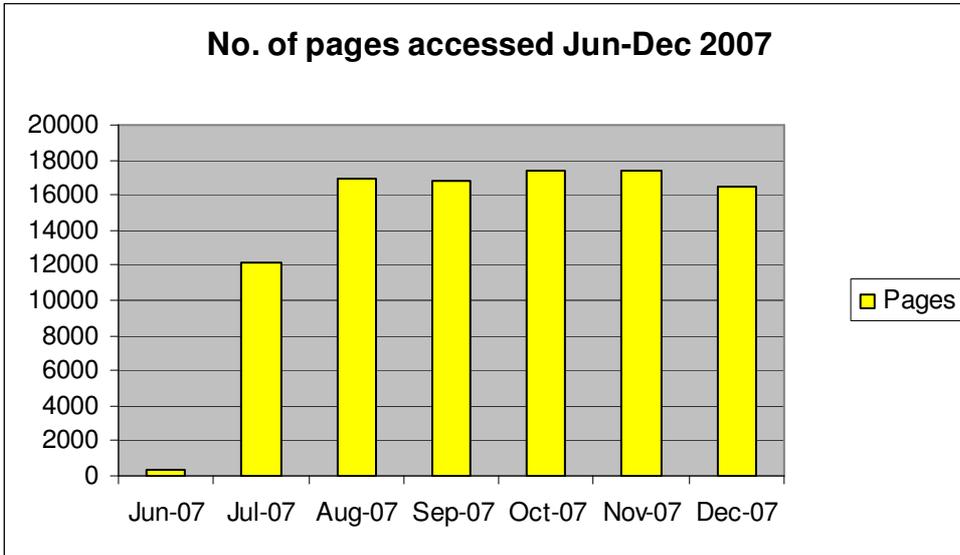
Five most accessed pages on CARI Guidelines website: Jun – Dec 2007*

June	Search the website What's new? About CARI: CARI Guidelines About CARI: CARI staff About CARI: CARI logo
July	CARI Guidelines: an overview Newsletters: July 2003 Search the website Newsletters: September 1999 Newsletters: November 1999
August	CARI Guidelines: an overview Newsletters: July 2003 Newsletters: September 1999 Evaluation of Renal Function Guideline: Use of estimated GFR to assess level of kidney function Prevention of Progression of Kidney Disease guidelines
September	CARI Guidelines: an overview Newsletters: July 2003 Newsletters: September 1999 Evaluation of Renal Function Guideline: Use of estimated GFR to assess level of kidney function Vitamin D, Calcimimetics and Phosphate Binders Guideline: Use of phosphate binders in CKD
October	CARI Guidelines: an overview Evaluation of Renal Function Guideline: Use of estimated GFR to assess level of kidney function Newsletters: September 1999 Newsletters: July 2003 Vitamin D, Calcimimetics and Phosphate Binders Guideline: Use of phosphate binders in CKD
November	CARI Guidelines: an overview Newsletters: July 2003 Newsletters: September 1999 Evaluation of Renal Function Guideline: Use of estimated GFR to assess level of kidney function Newsletters: Issue 5, 2002
December	Newsletters: July 2003 CARI Guidelines: an overview Newsletters: September 1999 Newsletters: Issue 5, 2002 Evaluation of Renal Function Guideline: Use of estimated GFR to assess level of kidney function

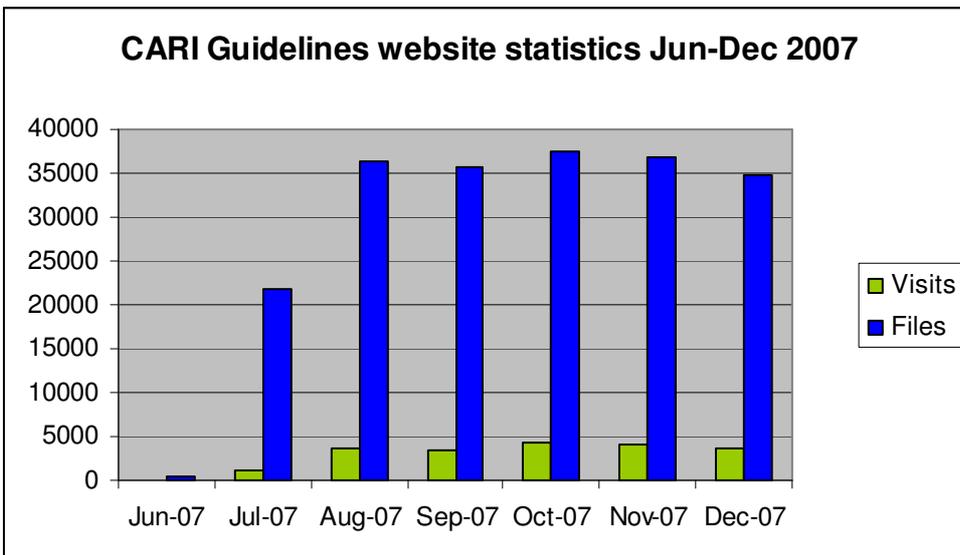
This table shows that the parts of the website most commonly visited are pages that give background information about CARI, newsletters, the search function and two guidelines in particular – “Use of estimated GFR to assess level of kidney function” by Dr David Johnson and “Use of phosphate binders in CKD” by Dr Pauline Branley.

* Data for Jan-May 2007 is not available.

CARI Guidelines Website cont.



The CARI website moved from being managed by Kidney Health Australia to Sydney University in June 2007. Unfortunately, the website statistics for the first 6 months of 2007 are not available to us. The figure above shows that on average, 16,191 pages were accessed each month from July to December 2007. The term “Pages” is defined as: those URLs that would be considered the actual page being requested, and not all of the individual items that make it up (such as graphics and audio clips). Some people call this metric *page views* or *page impressions*, and defaults to any URL that has an extension of **.htm**, **.html** or **.cgi** (we have **.php**).



This figure shows that on average, 3342 visits to the website and 33,831 files were downloaded each month from July-December 2007. On average, each visit results in approximately 10 files being downloaded. The term “Visits” is defined as the total number of requests made to the website during the given time period. The term “Files” represents the total number of requests that actually resulted in something being sent back to the user. Not all hits will send data (e.g. 404-Not Found requests & requests for pages that are already in the browser’s cache).

Finances 2007

The following is an extract of the Financial Statements received from the accountants at Kidney Health Australia.

Financial Activities: 1 Jan 2007 to 31 Dec 2007	A\$
INCOMING RESOURCES	
Income from industry sponsors	240,000
TOTAL INCOMING RESOURCES	240,000
RESOURCES EXPENDED	
Administration fee (KHA)	10,500
Publication costs	18,624
Staff costs	136,335
Travel/ meeting costs	48,764
TOTAL RESOURCES EXPENDED	214,223
Balance of funds	25,777
Total funds brought forward (2006)	9,755
Total funds carried forward	35,532

CARI Steering Committee

- Rowan Walker (Chair)
Renal Unit
Royal Melbourne Hospital, VIC
- Tim Mathew
Kidney Health Australia
North Adelaide, SA
- Jonathan Craig
CARI Guidelines Office
Children's Hospital at Westmead,
NSW
- Fiona Brown
Monash Medical Centre
Clayton, VIC
- David Mudge
Dept of Renal Medicine
Princess Alexandra Hospital, QLD
- Stephen McDonald
ANZ Dialysis & Transplant Registry
Queen Elizabeth Hospital, SA
- Deirdre Fetherstonhaugh
Research Fellow
La Trobe University, VIC
- Pamela Deans
Sir Charles Gairdner Hospital
Nedlands, WA
- Martin Gallagher
Concord Hospital & George Institute
Sydney, NSW
- Kevan Polkinghorne
Monash Medical Centre
Clayton, VIC
- Rob MacGinley
Renal Unit
Geelong Hospital
Geelong, VIC
- Maha Yehia
Auckland City Hospital
Auckland, NZ
- Denise Campbell
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NSW