Author's response to reviews

Title: A retrospective review of telehealth services for children referred to a paediatric nephrologist

Authors:

Peter Trnka (peter.trnka@health.qld.gov.au)
Megan M White (megan.white@uq.edu.au)
William D Renton (wdrenton@gmail.com)
Steven J McTaggart (steven.mctaggart@health.qld.gov.au)
John R Burke (jburke@gil.com.au)
Anthony C Smith (asmith@uq.edu.au)

Version: 3 Date: 31 May 2015

Author's response to reviews: see over
Author’s response to reviews

Title: A retrospective review of telehealth services for children referred to a paediatric nephrologist

Authors: Peter Trnka, Megan M White, William D Renton, Steven J McTaggart, John R Burke, Anthony C Smith

Version 2     Date: 31 May 2015

Author’s response to reviews: see over
Responses to Reviewers

We thank the reviewers for their thoughtful reviews of our manuscript. We have considered the comments, questions and suggestions, and have incorporated these into our revised manuscript. We believe that the changes/additions have improved the quality of our manuscript.

Reviewer No 1 – Brian McCrossan

Reviewer comment: Introduction – good background and rationale.

Author response: Acknowledged.

Methods

Reviewer comment: Cost analysis: societal / patient costs are not generally recognized as important factors in health economics (P8 L3-4). The point-of-view is generally that of the provider ie the health service. Therefore the real analysis is what was the difference in health care costs to the Queensland State of providing the 2 care pathways. Therefore the state subsidy should be included but not the patient/family's direct costs.

Author response: The costs associated with travel expenses were calculated assuming all patients would have travelled for face-to-face appointment with the specialist in Brisbane. In the analysis, we only included costs incurred that could be refunded using Patient Travel Subsidy Scheme (PTSS) and not direct cost to the family (which would have been significantly higher).

We clarified this point by including the statement that “only direct costs to the health system were included in cost analysis” in the last paragraph of the methods.

Unfortunately, we have no way of knowing which of the patients would have actually claimed PTSS for their appointments if they did not have telehealth as an option. We think the costs outlined are fair and reflect what our health system is prepared to pay to get regional patients to an appointment.

Reviewer comment: If possible it would be preferable to employ some standardized costs so that other institutions within Australia and further afield may replicate these results ie in the UK it would be the PSSRU. However, perhaps this type of health economic data is not available in Australia.

Author response: We agree that a standardized set of costs would be ideal for the purposes of this study but we don’t have a PSSRU equivalent in Australia. The closest would be the Independent Health Pricing Authority
(http://www.ihpa.gov.au) which unfortunately does not include information on patient subsidy costs.

Discussion

Reviewer comment: A “result” such as the average consultation time should be stated in the Results.

Author response: The statement about the average consultation time has been moved to Results section.

Reviewer comment: Again it is not permissible to describe results in the discussion section: ie the ESKD patients undergoing transplantation. What is meant by similar results? I think it is fine to describe the range of patients in a bit more detail in the discussion to highlight special subgroups of patients who probably particularly benefit from the telemedicine service. However, unless there is supportive data presented one should not insert results and assertions of outcomes in the discussion.

Author response: We described kidney transplant patients in more detail in Discussion section because these children, as you have pointed out, are a special group who particularly benefits from telehealth service. We wanted to highlight that the specialist supervised/regional health care team delivered care for kidney transplant recipients can be safely provided. We agree that the assertions of outcomes do not belong to Discussion and we removed the statement “the transplant outcomes were comparable to the outcomes of recipients living in Brisbane” from Discussion.

Reviewer comment: The last paragraph suggests that the telemedicine service may be cost saving to the health service. This may well be true but it is not how the data have been presented as the investigators state in the methods section that they lumped health service and family cost together. However, in Table 2 it is not stated what family costs were. If the investigators only included costs borne by the health service then this should be made clearer in the Methods.

Author response: As stated above, we clarified this point by including the statement that “only direct costs to the health system were included in cost analysis” in the last paragraph of the methods.

Reviewer comment: It is also not a good practice to calculate the costs on the year of greatest activity as this will naturally bias the results in favour of telemedicine.

Author response: We decided to calculate our cost analysis on the most current year (2013) of the study which was also the year of the highest telehealth activity because we expected that the increasing trend of high telehealth activity will continue (the reasons being more regular telehealth clinics with some of the regional centres and increased demand for
paediatric nephrology consultations from the regional centres). The review of paediatric nephrology telehealth activity in the subsequent years confirms our prediction – 79 nephrology appointments in 2014 and 54 appointments in the first 5 months of 2015. We therefore feel that the calculation of the costs on the busiest year correctly reflects the activity of nephrology telehealth clinics.

**Reviewer comment:** It is a pity the investigators did not conduct a survey of the attitudes of the patients and healthcare staff involved in the telemedicine service.

**Author response:** As this was a retrospective review of telehealth service we were not able to survey the patients or the staff involved in the provision of the service. However, we agree that a survey would provide useful information about the quality of our service that can potentially improve our services.

**Reviewer comment:** This study certainly supports the “feasibility” of tele-nephrology as it is a well-established service. However, it does not support the term “effectiveness” – there is no data presented which describes either “cost-effectiveness” or health care outcomes.

**Author response:** We agree with the reviewer. In the technical sense the term “effectiveness” does imply that certain clinical outcomes were measured and compared. Since the perceived value of the service has already been described in the manuscript, we have deleted the last sentence in the conclusion.

**Level of interest:** An article whose findings are important to those with closely related research interests.
Reviewer No 2 – Sabe Sabesan

Reviewer comment: well written document of a telehealth service.

Author response: Acknowledged.

Reviewer comment: page 3 "telehealth useful for ambulatory care" is not entirely correct. Many centres are using it for inpatient care as well.

Author response: We agree that telehealth is useful also in an inpatient setting although our study’s focus was on outpatient care. We have changed the wording from “an alternative means of ambulatory care” to “an alternative means of health care” to include both inpatient and outpatient care.

Reviewer comment: page 6-to make it easy to read, sub headings under patients and methods will be useful-clinic model, data collection, cost analysis etc rather than writing them continuously.

Author response: As suggested, we have included subheadings in Patients and Methods section.

Reviewer comment: page 9-figure 3 not needed, info is already in Table 1.

Author response: Figure 3 is the graphical presentation of the spectrum of diseases with relative representation of the main groups of kidney problems reviewed during telehealth consultations. If there are no space concerns, we would prefer to include this figure.

Reviewer comment: page 11 lines 1-12 in discussion--I think content of this paragraph needs to be incorporated into clinic model in page 6.

Author response: We have moved this part of discussion into the Methods section under the subheading Clinic Model.

Reviewer comment: page 14 line 12-15 what is the evidence that telehealth is not suitable for establishing rapport with new patients? A study from Townsville teleoncology network in your own state titled: “Teleoncology replacing face to face care” clearly shows you could establish rapport via telehealth.

Author response: The reviewer makes a valid point. Telemedicine has been shown to be valuable for both new and review consultations. This sentence has been revised so that it better describes the limitations experienced by the nephrologists involved in the service. There were limited situations where consultants had to discuss matters which (in hindsight) may have been better done in person. We have rephrased this paragraph in the manuscript.
to make this point more clearly. We have also included the recommended reference which supports the notion that telemedicine may be used to establish good rapport with patients.

Reviewer comment: Cost analysis – this is not complete and only applicable to centres that have already established telehealth networks. So, we can’t generalize to centres that are starting up.

Author response: Presentation of any cost-analysis will always be dependent on a clearly described set of assumptions. This paper described one model of economic evaluation from the perspective of the health service. The analysis was developed on the assumption that the infrastructure was in place (as is the case in the Queensland health service). The reviewer is correct in suggesting that new centres (without the required infrastructure) would need to factor in the cost of establishing a new telehealth network. There are many factors which influence the cost of achieving this - hence the importance of assessing the economic implication on a case by case basis.

Reviewer comment: Conclusion says – more studies are needed. This is misleading because COH has many examples of telehealth success and Queensland has many telehealth networks that are successful. I’d like to see something along these lines “since we have many examples at COH and reasonable evidence in the literature, telehealth needs to be incorporated as a core business (see recent MJA perspective)”

Author response: The authors have purposely been careful in the assertions made in the paper. Studies in telemedicine are difficult to generalize for a range of reasons including differences in patient profiles, health system configuration, reimbursement models and demographics. Whilst we agree that telemedicine should be incorporated as core business, we cannot assume that this is the case for every health system because of the findings reported in the current paper. We have removed the last sentence of the conclusion – so that the focus is on the positive contribution of telemedicine.

Level of interest: An article of importance in its field.