Author's response to reviews

Title: Technology-dependency among patients discharged from a children's hospital: a retrospective cohort study

Authors:

Chris Feudtner (feudtner@email.chop.edu)
Nanci Larter Villareale (nanci.villareale@seattlechildrens.org)
Barbara Morray (barb.morray@seattlechildrens.org)
Virginia Sharp (ginny.sharp@seattlechildrens.org)
Ross M Hays (ross.hays@seattlechildrens.org)
John M Neff (john.neff@seattlechildrens.org)

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Author's response to reviews: see over
The Editors  
*BMC Pediatrics*

Dear Editors:

On behalf of my coauthors, I am again pleased to resubmit our manuscript, “Technology-dependency among patients discharged from a children's hospital: a retrospective cohort study,” to *BMC Pediatrics* for consideration of publication.

Just as with the first set of reviews, we greatly appreciate the comments of the 2 reviewers. We amended the text, tables, or figures in response to each of the remaining suggestions, as outlined below in our detailed response to the reviewers’ comments.

Please don’t hesitate to contact me with any questions or concerns.

Sincerely,

Chris Feudtner, MD PhD MPH  
Director of Research and Attending Physician  
The Pediatric Advanced Care Team (PACT)  
The Integrated Care Service (ICS)  
The Children’s Hospital of Philadelphia
REVIEWER ONE:

Minor Essential Revisions

1. Make the parenthetical remark in second paragraph of the background section a dependent clause. Do the same for the sentence that begins, "Four investigators ..."

   We apologize for not removing all parenthetical grammatical constructions from the text. For these two sentences, we restructured them as follows:

   “TD children and the complexity and costs of their care gained widespread attention in the United States during the 1980s.”

   “Four investigators, consisting of three pediatricians and one nurse with a range of 6 to 40 years experience caring for children with special health care needs, then independently reviewed all 100 chart abstractions and determined whether each subject at the time of discharge from the hospital met the definition specified in Figure 3.”

2. In the sentence that begins "The OTA report ..." revise to read, "both consensus opinion for groups I-III and the government's ..."

   We reworded this sentence as follows:

   “The OTA report underscored how their hierarchical definition reflected both consensus expert opinion that OTA groups I-III were technology-dependent and the government’s desire to limit expenditures by excluding OTA group IV from the definition, since the prevalence of children meeting the group IV definition was so large.”

3. State how many charts were abstracted for the pilot test?

   We performed parallel abstraction of 5 charts during the pilot test phase. We now state this number in the text.

4. In the last paragraph of the results, the presentation of the statistics is unusual. I would revise to the following conventional style of reporting: (43.9% vs. 61.0%, p=0.06)

   We reconfigured the reporting of results as follows:

   “TD patients were older than non-TD patients (median age category 10-14 years versus 1-4 years, respectively, p=0.01), and were less likely to be covered by private insurance than non-TD patients (43.9% versus 61%, p=0.06). TD patients were discharged with a greater number of prescriptions than patients without TD (mean 4.1 versus 1.3, p<000.1, with the respective ranges being 0 to 15 versus 0 to 3). Overall, TD patients were not more likely to receive home services than non-TD patients (14.6% versus 8.5%, p=0.3), but those patients dependent upon devices were more likely to receive home care than patients without device dependency (25% versus 7.5%, p=0.03).”
REVIEWER TWO:

Major Compulsory Revisions

I still have concerns over how they define technology dependency but they do make their definition explicit in the text. Including medications (non-intravenous, non-device related) is unconventional and I would like them to present a stronger justification in the background section of why they have included this group of children and the types of medications they are referring to which would lead to an emergency admission. Their inclusion of this group of children accounts for a higher prevalence rate than might be expected.

We agree that by including medications as technologies, we are not following convention. We now note in the background section of the text: “Although most studies of TD have focused only on reliance on machines or devices, we also considered medications as a form of technology, in keeping with the definition of technology put forth in the OTA report[11], and in keeping with our underlying concern regarding the effectiveness, safety, and burden of medical interventions that persist beyond the period of hospitalization.”

I feel that wheelchairs should be excluded from the analysis (and from Table 2) as noted before. They cannot be included in the study’s definition – their failure or discontinuation would not result in as adverse health consequence warranting hospitalization! It could be noted in the text that two children were wheelchair users.

We have deleted the 2 occurrences of wheelchair use from the table and the text. This exclusion does not influence the analysis, since these 2 cases were also dependent upon other devices.

It would be helpful to know why some technologies/devices, commonly covered by the term in the research literature, are not represented in the sample – naso-gastric/jejunal tubes, ventilators, oxygen therapy, dialysis. It may reflect the small sample size and if so this could be noted in the discussion.

We now include the following sentence in the discussion section regarding limitations of the study, specifically regarding the impact of the small sample size: “For example, the small sample likely explains why certain technologies such as oxygen therapy, ventilator support, or renal dialysis were not observed.”

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Minor Essential Revisions

Figure 4 (bar chart) – there are errors in presentation that need amending.

We have redrew Figure 4 to make the meaning clearer.