INTRODUCTION
In the current reimbursement environment, it is important to be able to educate payers on the functional benefits and improved outcomes that advanced prosthetic devices may provide for individuals with upper limb loss or deficiency.

The Patient Care Pathway (PCP) is an online tool designed to collect information before and after a patient is fitted with a prosthesis. This tool has built a patient registry designed to analyze outcomes for the upper limb patient population. The PCP is being used internationally in clinics fitting i-limb prosthetic devices.

The PCP collects validated outcome measures of the Disabilities of the Arm, Shoulder and Hand (DASH) and Trinity Amputation and Prosthesis Experience Scales - Revised (TAPES-R) and documents a client-centered approach to the prosthetic rehabilitation experience and achievement of personal and functional goals.

It was hypothesized that differences may be seen between groups of those individuals that had previously been fit with a prosthesis in comparison to first time prosthetic wearers. Differences may also be seen between individuals with congenital limb deficiencies in comparison to individuals who experience limb loss later in life.

METHOD
Subjects: 69 individuals with upper limb loss or deficiency; 57 males and 12 females; 67% in the 35-65 years old age range; 12 with congenital limb deficiency, 57 with limb loss

Apparatus: Patient Care Pathway, incorporating DASH pre and post and TAPES post-fitting

Procedures: In partnership with local prosthetists fitting the i-limb ultra revolution and i-limb ultra hands, pre and post fitting data was collected.

Data Analysis: DASH and TAPES data compared to determine change as a result of prosthetic intervention, statistical analysis completed to determine significant differences between groups.

RESULTS
The DASH score ranges from 0-100 with higher numbers indicating more self-reported disability. As was hypothesized, a Mann and Whitney statistical test indicated significant differences in DASH scores for those individuals with congenital limb deficiencies (p=0.001). In fact, in this group post-fitting scores approached the general population, where scores average 10.1 (Hunsaker, 2002).

No significant differences were found statistically between those with prior prosthesis use compared to no prior use (p=0.485).

Figure 1. Comparison of overall group scores to those with congenital limb deficiency vs. limb loss as well as group comparisons for those with previous prosthesis use.

DISCUSSION
Additional analysis may be warranted based on type of prosthetic intervention. When justifying prosthetic need of individuals with congenital limb deficiency, subjective goal setting may be vital to identifying the need.

CONCLUSION
As additional data is collected there may be variances based on cause of limb loss or deficiency. Many individuals with congenital limb deficiency have been able to verbalize the benefits of a prosthesis, and these goals and the accomplishment of them should be highlighted to payers. Additional study in this area is warranted and data will continue to be collected for future comparisons.

CLINICAL APPLICATIONS
It is important that the type of prosthesis being fit meet the goals of the individual and demonstrate functional benefit. The research identifies patient criteria that warrants extensive occupational therapy training to fully incorporate the prosthesis into the individual’s daily life.

REFERENCES