Nuance to Numbers: Transforming Unstructured Physical Therapist Field Data to Structured Farm Task Data for an Injured/Ill Return to Work Software Application

Problem
Serious, restrictive, non-fatal injuries are commonplace in large animal agriculture including in pork and dairy. Primary care clinicians often have few resources to effectively facilitate workers’ return to work.

This project is developing a return to work (RTW) software application that will produce applicable job task assemblies.

Challenges
[Challenge #1]
</Can a computer read it?>
if db_name(FieldData) = 'narrative'
begin
   Print 'We cannot help your algorithm'
   Print 'So collect structured data instead'
end

[Solution #1]
• Narrative data was converted by therapists to Physical Job Description (PJD) forms in Microsoft Word
• The PJD endured 23 rounds of revisions
• Data was then entered into REDCap database
• Select task data from REDCap (e.g., weights) was entered into the RTW application
• Developed consistent naming conventions

Progress as of Year 4 (2015)
• Visited 32 farms for data collection, interviews, or focus groups
• Visited 4 implement dealers and manufacturers for data collection
• Collected data on over 250 farm tasks
• Revised data collection form to version 23
• A REDCap form was created, REDCap is now the database for all field data
• Developed a functional, mobile-friendly, web-based prototype
• Created initial designs of an output sheet (in English and Spanish) through the use of focus groups and interviews with farmers and farm workers

Plans for Year 5 (2016)
• Usability testing with clinicians, insurance agents, and human resource managers
• Fine-tune and expand app features based on usability results
• Quality reviews of task data, identify any gaps in farm tasks, collect additional data
• Add farm task photos (.gif and .jpg) to the app, to be an education tool for clinicians
• Stage the app for EMR integration, including admin securities and PHI management

Sustainability (2017-)
• Refine the data collection form on mobile
• Will be available at SafeReturnToWork.com
• EMR integration with CattailsMD (MCIS.com)
• Potential partners:
  • Other EMRs
  • Human Resource Directors/Managers in agriculture and other industries
  • Insurance companies covering Workers Compensation claims

Contact Us
Bryan Weichelt, MS, MBA, PMP
National Farm Medicine Center
1000 N. Oak Ave, M11
Marshfield, WI 54449
Email: weichelt.bryan@mcrf.mfldclin.edu
Phone: 715-221-7276
Web It: MarshfieldResearch.org/NFMC
Like It: facebook.com/FarmMedicine
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