Case Tracking – Design Selection
Design Assignment #10
March 11, 2005

Below, you will find Pugh charts that we have completed for different components of the case tracking project. For some of the issues discussed, we have made a decision regarding the specific design. For others, the final design will include several of the options that are compared in the Pugh charts.

Decision Support: We envision comprehensive decision support to consist of most of the options presented: including paper packets, computers at the central clinic, and PDAs. We are also looking into using content from an existing medical program for the PDA – such as Pepid – instead of continually updating the content.

Record Analysis: We envision our design having the capacity to do all of the functions delineated in the Pugh chart. However, the Pugh chart points out that training and complexity for using each of these components differ. Thus, the Pugh chart helps us prioritize that the functionality of the record analysis should be with basic computations and list making. Advanced statistical capabilities will not be used as often in the day-to-day workings of the clinic.

Paper Form Analysis: The paper forms will be a combination of icons and text.

Evaluation of System Success: There will be several ways to evaluate the case tracking system including monthly surveys of Powers of Love workers, efficiency analysis, and analyzing trends in quality of care.

Data Transmission; PDA vs. Paper: We will be using both paper and PDA forms for data transmission. The family caregivers will be filling out paper forms that will be entered in at the central clinic. The community health workers will be inputting data on a PDA that will then be synched with the central clinic. Synching with the central clinic will update the PDAs with the information inputted from the family caregivers.

Database Technology: We will be using a Sql Server database.

Training Methods: We are planning of using all of the training methods that are detailed in our Pugh charts. These training methods include one-on-one training, classroom training, user manuals, and internet-based and PDA-based training.

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Role of Decision Support

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Criteria	No Formal Decision Support	Computer based @ central clinic	Paper packet for each CHW	Nightly scripts	PDA – content made by us	PDA – using content from other program
Cost (2x)	0	0	0	0	0	-
Reliability (quality of content) (2x)	0	+	+	+	+	++
Reliability (there when need it) (2x)	0	0	0	+	+	+
Scalability	0	0	0	+	+	++
User friendly (2x)	0	+	+	+	++	+
Maintenance (Trouble shooting)	0	+	+	0	0	0
Ease of Updating	0	0	0	+	+	++
Complexity	0	+	+	0	0	0
Total	0	+6	+6	+8	+10	+10

Record Analysis

	Option 1	Option 2	Option 3	Option 4
Criteria	Paper Based – Formal Record Analysis by Hand	List/categorizing; Simple Computations	Graph/chart-making	Advanced Statistical Capabilities
Cost	0	+	0	-
Reliability	0	0	0	0
Scalability	0	+	+	+
User friendly (2x)	0	+	0	-
Regular Use? (2x)	0	+	+	-
Maintenance	0	0	0	0
Complexity	0	+	0	-
Training	0	+	0	-
Total	0	+8	+3	-6

Paper Form Structure

	Option 1	**Option 2**	**Option 3**	**Option 4**
Criteria	Handwritten	Check-Boxes	Iconic-based	Combination
Cost	0	+	+	+
Reliability	0	+	+	+
Training Difficulty	0	+	-	-
Scalability	0	+	-	+
User friendly (2x)	0	+	+	+
Transfer Of Information	0	+	-	+
Complexity (2x)	0	-	+	+
Ease of Information Access (Future Patient Visits)	0	+	-	+
Total	0	+6	+2	+8

Evaluation of System Success

	Option 1	**Option 2**	**Option 3**
Criteria	Monthly Survey of PoL workers	Efficiency analysis	Analyzing trends in quality of care
Cost	0	0	0
Effectiveness	0	+	+
Scalability (more community health workers)	0	0	0
Sustainability	0	+	+
Maintenance	0	-	-
Complexity (2x)	0	-	-
Total	0	-1	-1

Data Transmission (Transfer of information from patient to database)

	Option 1	**Option 2**	**Option 3**	**Option 4**	**Option 5**
Criteria	Paper Forms	Memory (No written records)	PDA	Internet	Satellite Phones
Cost	0	+	-	-	--
Reliability (2x)	0	-	+	-	+
Training Difficulty	0	0	-	-	-
Scalability	0	-	+	+	+
User friendly (2x)	0	0	-	-	-
Maintenance	0	+	-	+	-
Complexity	0	-	-	-	-
Ease of Information Access (Future Patient Visits)	0	-	+	0	-
Total	0	-3	-2	-5	-4

Training Methods

	Option 1	**Option 2**	**Option 3**	**Option 4**	**Option 5**
Criteria	One on one training with D-Lab team members	Classroom training with D-Lab team members	User Manual (no formal training)	Internet based training, remote instruction by D-Lab team	PDA Based Interactive Training
Cost (2x)	0	0	+	+	+
Effectiveness (2x)	0	-	-	-	-
Scalability (more community health workers)	0	+	+	+	+
Sustainability	0	0	+	+	+
Maintenance	0	0	0	-	-
Complexity	0	0	0	-	-
Total	0	-1	+2	0	0

Database technology

	Datum			
Criteria	MS Access	MySQL/Open Source	Oracle	Sql Server
Cost(2x)	0	+	-	0
Reliability	0	-	+	0
Scalability	0	0	+	+
User friendly	0	0	-	+
Maintenance(2x)	0	-	+	0
Multi-literacy Support	0	0	0	0
Complexity	0	0	-	+
Redundancy	0	0	-	0
Total	0	0	1	3

Types of Interaction with form, pda versus paper

	Datum		
Criteria	Paper Forms	PDA	Software Forms
Cost (2x)	0	-	-
Reliability	0	-	-
Scalability	0	+	+
User friendly	0	0	0
Maintenance	0	-	-
Multi-literacy Support	0	+	+
Complexity	0	-	-
Portability (2x)	0	+	-
Ability to manipulate data (2x)	0	+	+
Total	0	0	-2