

Legends

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Table 1 Steps in experimental design [8]

1. Define performance measures
2. Analyze the existing workflow
3. Determine the existing performance
4. Brainstorm about improvements
5. Define alternatives
6. Experiment with alternatives
7. Select best alternatives

Table 2 Performance measures of the current screening and the US-screening at the age of 3 months. Percentages reflect the number of missed cases, false positives and true positives as proportion of the total number of screened children [5]

Item	Current screening	US-screening
Missed cases	0.6 %	0.6%
False positives	86 %	39 %
True positives	2.8 % (14)	3.2% (61)

Table 3 Experimental variables

Experimental variables	
A. Number of portable US machines	1. As many as necessary US machines 2. Limited number of US machines 3. Externally organized (no US machines purchased)
B. Consult	1. Integrated consult with regular consult at the age of 3 months 2. Extra consult
C. Screener	1. Infant health care physician 2. Infant health care nurse 3. Radiographic technician (RT) 4. Medical specialist (radiologist or orthopedic surgeon)
D. Location and time	1. Daytime at IHC 2. Organized in buildings not owned by IHC (external) 3. Organized in evening hours at IHC.

Table 4 Cost items, source and values

Item	Source	Value
IHC physician	IHC – CAO fwg 65	€ 75 per hour
IHC nurse	IHC – CAO fwg 45-50	€ 42 per hour
Radiographic technician	Hospital CAO	€ 70 per hour
Radiologist	Hospital CAO	€ 106 per hour
Ultrasound at hospital	Soundchec 1	€ 61 per hour
Treatment missed case	Average of type 2, D,3 and 4	€ 1217
Travel time	Dutch guideline for CE- analyses (price per kilometer)	€ 0.20
Training	Soundchec 2	€ 1300
Treatment	Soundchec 1	
Percentages:		
after first consult at IHC.		- € 571
after US type 2b/c	1.4%	- € 897
after US type D	1.5%	- € 717
after US type 3 / 4	0.5%	- € 2043
Referral percentage first consult	Soundchec 1	0,61%
Treated after first consult IHC	Soundchec 1	0,31%
Time Parents	Dutch guideline for CE analyses	€ 36 per hour
Use US machine	Dutch guideline for CE studies	€ 5 per child
Overhead evening hours	35% of average salary of screeners	€ 5 euro per child

Table 5 Quality of screening results for different screener type. Presented percentages reflect the number of missed cases or false positives as proportion of the total number of screened children

Experimental variable	False positives	Missed cases
Infant health care physician	1.4 %	0.6 %
Infant health care nurse	1.5 %	0.7 %
Radiographic Technician[18]	1.3 %	0.6 %
Medical specialist	0.6 %	0.3 %

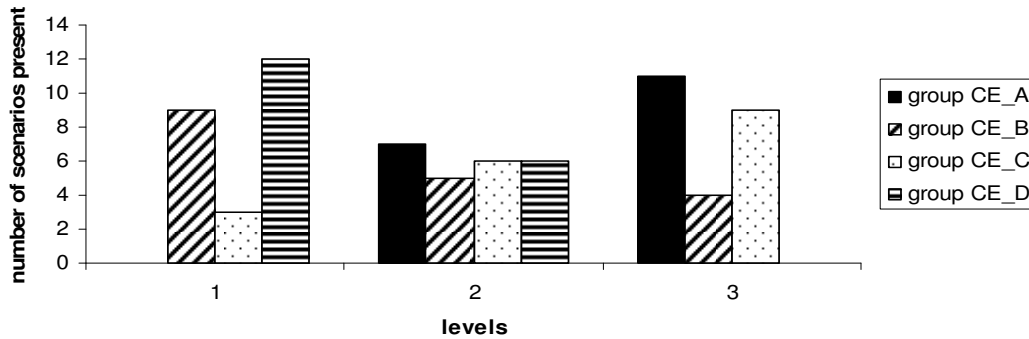
Table 6 Ranges of Cost effectiveness groups of 72 scenarios

Group	Cost-effectiveness range
CE_A low	3231 – 3469
CE_B moderate	3473 – 4188
CE_C intermediate	4190 – 4549
CE_D high	4794 – 5310

Table 7 Five Least en most cost effective scenarios

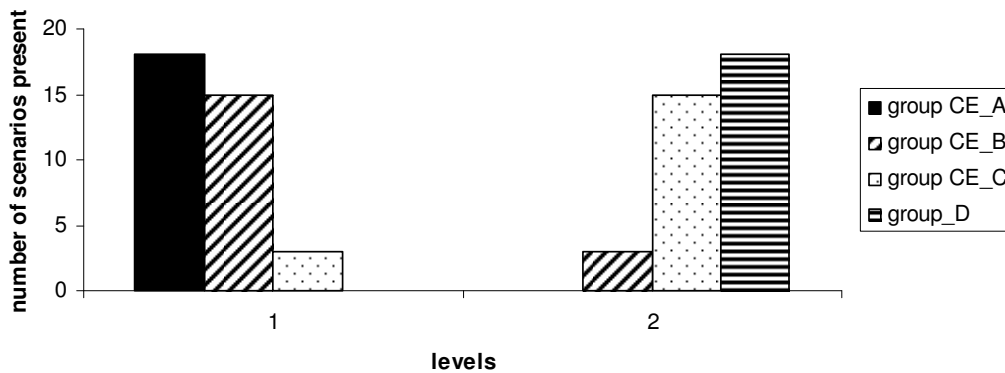
Scenarios	Experimental variable A Ultrasound machines	Experimental variable B Consult	Experimental variable C Screener type	Experimental variable D Location/time	Cost / Effect
47	3	1	2	1	3231
29	2	1	2	1	3273
55	3	1	4	1	3299
49	3	1	3	1	3321
64	3	1	2	3	3329
61	1	2	4	2	5159
15	1	2	2	2	5159
21	1	2	3	2	5249
69	1	2	4	3	5256
9	1	2	1	2	5310

Figure 1. Experimental variable A Ultrasound machines



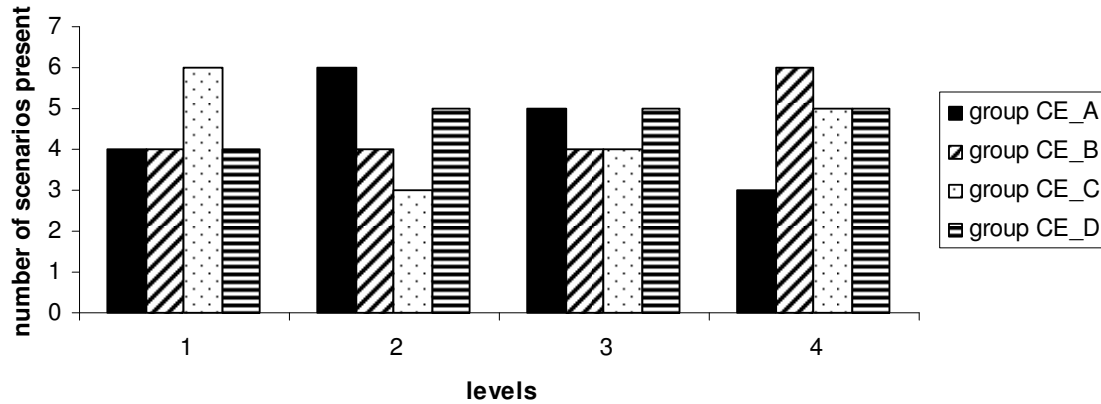
Quartiles of cost effectiveness (CE_A to CE_D) ranging from most cost effective (group CE_A) to least cost effective (group CE_D). Levels used: 1. As many as necessary US machines, 2. Limited number of US machines and 3. Externally organized (no US machines purchased).

Figure 2 Experimental variable B Consult



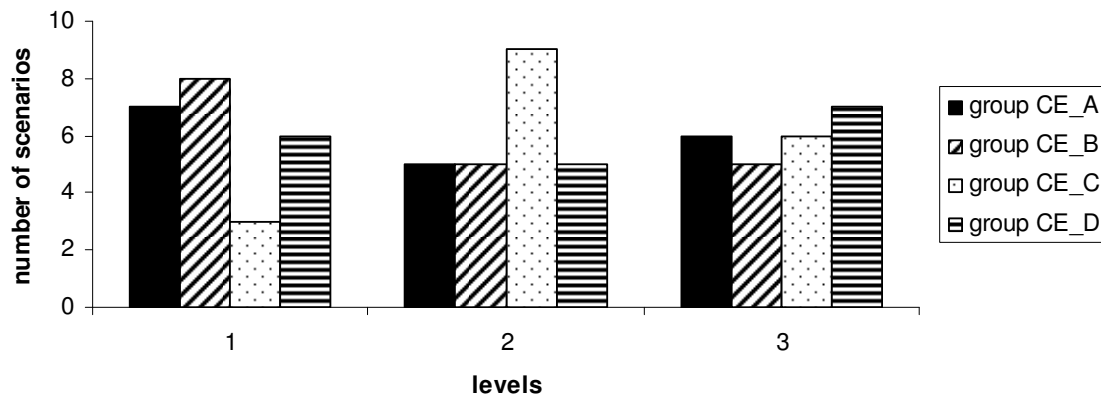
Quartiles of cost effectiveness (CE_A to CE_D) ranging from most cost effective (group CE_A) to least cost effective (group CE_D). Levels used 1. Integrated consult with regular consult at the age of 3 months and 2. Extra consult.

Figure 3 Experimental variable C Screener type



Quartiles of cost effectiveness (CE_A to CE_D) ranging from most cost effective (group CE_A) to least cost effective (group CE_D). Levels used 1. Infant health care physician, 2. Infant health care nurse, 3. Radiographic technician (RT) and 4. Medical specialist (radiologist or orthopedic surgeon).

Figure 4 Experimental variable D Location/time



Quartiles of cost effectiveness (CE_A to CE_D) ranging from most cost effective (group CE_A0 to least cost effective (group CE_D). Levels used 1. Daytime at IHC, 2. Organized in buildings not owned by IHC (external) and 3. Organized in evening hours at IHC.