

- 20% -

**Development of a Decision Support Program to minimize  
Health Insurance Claims Reject  
-20% albumin infusion and perineal care procedure-**

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### Abstract

This study was focused on developing a computerized decision support program for physician order entry of 20% albumin infusion and perineal care procedures in order to minimize inpatients' insurance claims rejects. The frequency of inpatients health insurance reimbursement claims rejects of a 800-bed tertiary care teaching university hospital in Seoul area was reviewed and the most common two orders of the reject were chosen for the study. The order decision support program was designed on the basis of Korean Health Insurance Reimbursement Guidelines. The server system used for the study was ProLiant 7000 and Pentium III was used for the program development. Windows 2000 was used as the operating system, MS SQL v7.0 was used for the database. The software development languages were Visual basic V6.0 and Spread v3.0. This Decision Support Program was proven to be very useful when doctors and nurses wanted to reflect the Health Insurance Reimbursement Guidelines in their ordering practices. (*Journal of Korean Society of Medical Informatics 9-1,63~72, 2003*)

**Keyword** : Decision Support System, Insurance Claims Rejects, Health Insurance Guidelines

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III.

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(Fig 1).

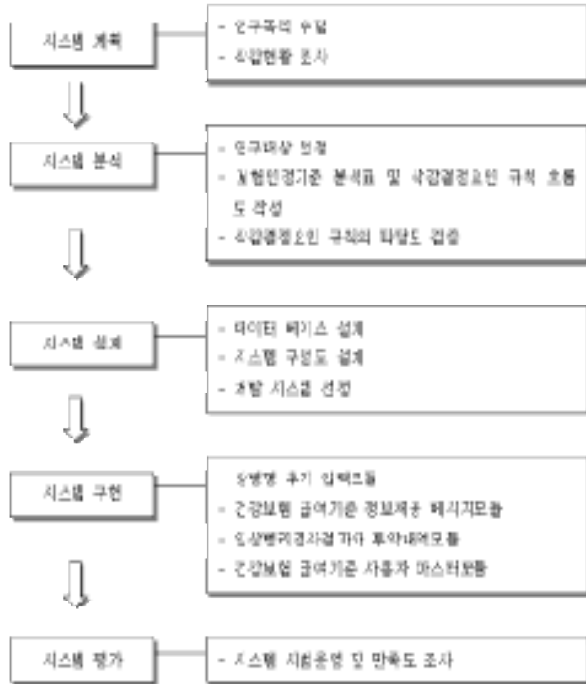


Fig 1. System development life cycle

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Table 1. Health Insurance Reimbursement Guidelines for 20% Albumin Infusion

3.0g/d	Acute ascites
	Dyspnea
	Acute edema
	Burn
	ARDS
	Cardiopulmonary bypass
	Hemolytic disease of the newborn
	Acute nephrosis
	Shock
	1B/1
2.5 g/dl	2B/1
3.1 ~ 3.4 g/dl	가
3.0 g/d	

가

3) MS-SQL™ DB

3

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20%

(Table 1, 2).

Table 2. Health Insurance Reimbursement Guidelines for Perineal Care Procedure


3

20%

(Fig 2, 3).



Fig 3. Decision rule of perineal care on the basis of insurance claims guideline

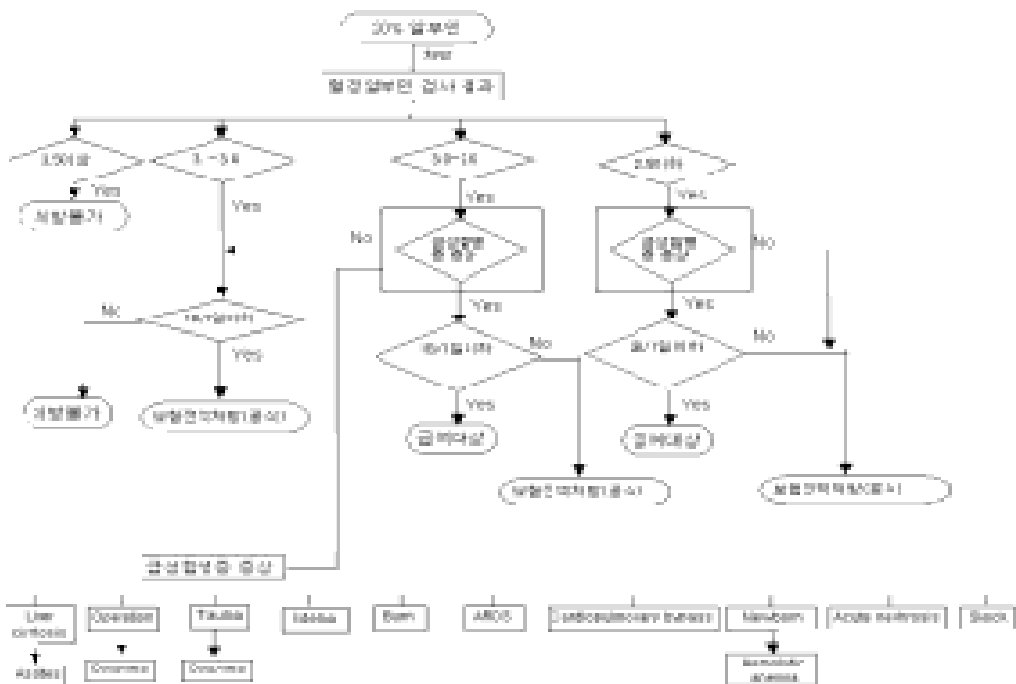


Fig 2. Decision rule of 20% abumin infusion on the basis of insurance claims guideline

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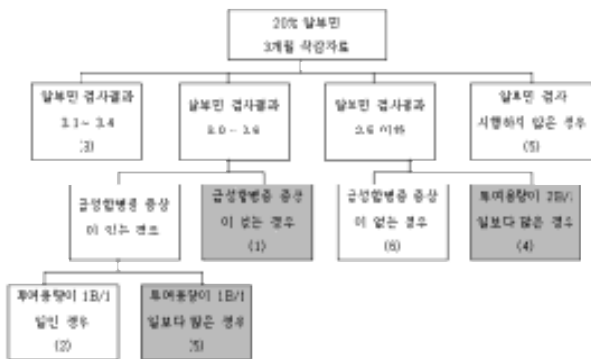
1

가

(1) 20%  
 가 3.0 2.6g/dl 가  
 가 가  
 20%

가 3.0 2.6g/dl  
 1Bottle/1

(Fig 4).



\* Numbers in parentheses indicate sequential order of frequency of conditions caused insurance claims rejects. The 1 indicate the most frequent condition.

Fig 4. Ordering conditions caused insurance claims rejects previously of 20% albumin infusion

(2)

(Foley catheter)

가 가

(Fig 5).



\* Numbers in parentheses indicate sequential order of frequency of conditions caused insurance claims rejects. The 1 indicate the most frequent condition.

Fig 5. Ordering conditions caused insurance claims rejects previously of perineal care

3.

1)

3

2)

가

DB ' 20%

가

(table)

(view)

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3) 가

PC ProLiant 7000server (Fig 6, 7).  
 PC Pentium  
 Windows2000 VB6.0, 5 가  
 Spread 30 DB MS SQL 70  
 16 16  
 2  
 4 20%  
 가 20% 가 4 32  
 가 93.7%가

Table 3. Relationship between cutback deciding factors and order communication system

/						
20%						
	1Bottle/1					
	2Bottle/1					



Fig 6. Screen view of entry of additional disease names and codes

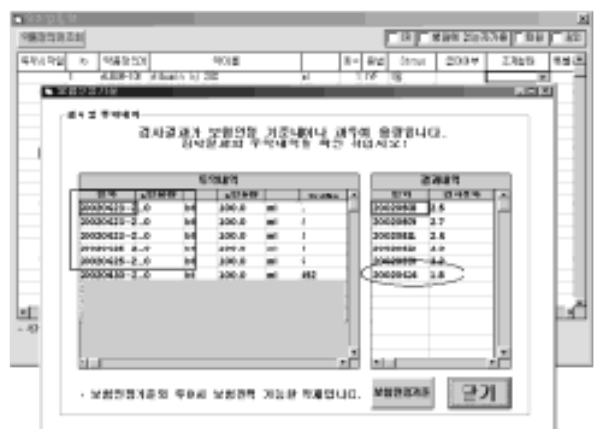


Fig 7. Simultaneous screen view of serum albumin results and Lists of 20% albumin order

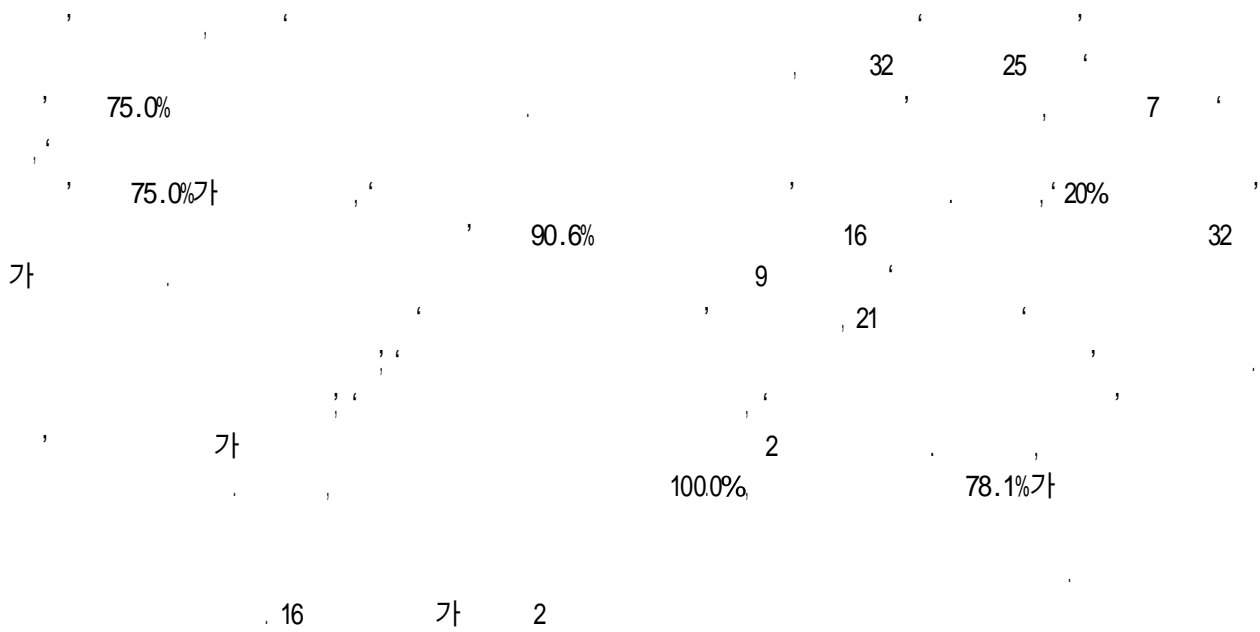


Table 4. User's evaluation of the program with simulation

	(%)	(%)	(%)	(%)	(%)
-	-	-	-	-	-
-	-	1	6.25	1	3.13
1	6.25	-	-	1	3.13
9	56.25	14	87.50	23	71.87
6	37.50	1	6.25	7	21.87
16	100.00	16	100.00	32	100.00
-	-	-	-	-	-
1	6.25	-	-	1	3.13
3	18.75	4	25.00	7	21.87
8	50.00	10	62.50	18	56.25
4	25.00	2	12.50	6	18.75
16	100.00	16	100.00	32	100.00
-	-	-	-	-	-
-	-	2	12.50	2	6.25
3	18.75	3	18.75	6	18.75
10	62.50	10	62.50	20	62.50
3	18.75	1	6.25	4	12.50
16	100.00	16	100.00	32	100.00
-	-	-	-	-	-
-	-	-	-	-	-
1	6.25	2	12.50	3	9.38
8	50.00	10	62.50	18	56.25
7	43.75	4	25.00	11	34.37
16	100.00	16	100.00	32	100.00

IV.

가<sup>13)</sup>

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8)

9)

10)

20%

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11)

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12)

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32  
100.0%

가 78.1%가



가 가

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20% , 1996

2. 가

가 , 1998

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1993

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1995;28(3):640-650

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, 1995

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, 1994

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17

2001;332 333

12.

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2002;233

13.

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