

# Indicators and Quality Care

**WINANDY Patricia**, Head of Nursing Department

**Quintens Carole**, Project Coordinator, Coordinator of clinical pathways Nursing Department



[WWW.CMSENAMUR.BE](http://WWW.CMSENAMUR.BE)

CLINIQUE ET MATERNITE  
SAINTE-ELISABETH • NAMUR



# St-Elisabeth clinic and maternity

311 beds

2 sites : General hospital and palliative hospital

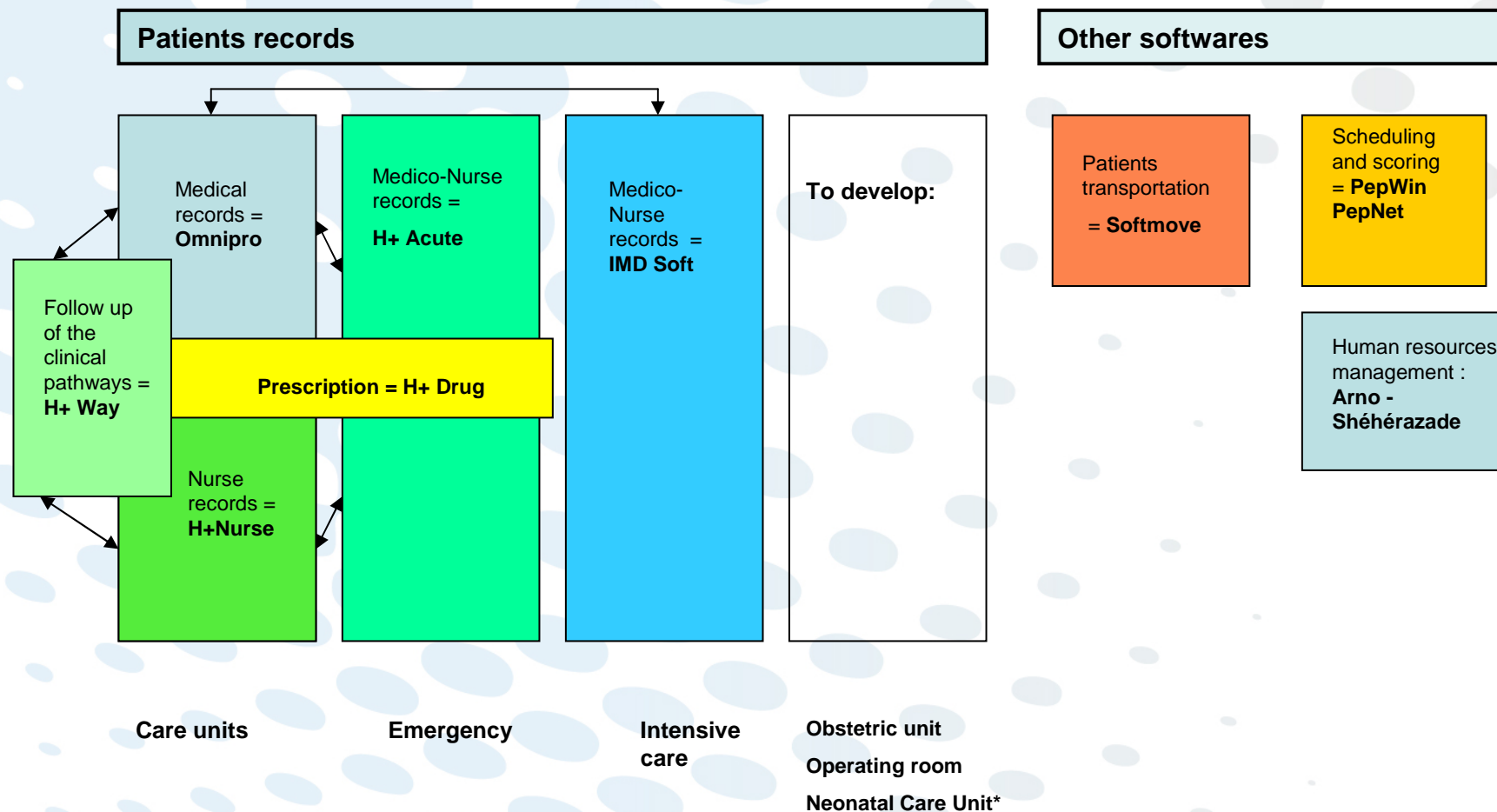
Attractive poles :

- maternity,
- dialysis (33 places),
- maxillofacial surgery,
- SORMN : Nuclear Medicine, Oncology, Radiotherapy  
(Certification ISO9011)

# Communication Map.

- Informatic tools in the Nursing Department
- Informatic structure in different patients records
- Indicators in the Nursing Department
- Building these indicators : audits and extractions
- From theory to practice : exemple
- Remarks
- Conclusions

# The informatic tools in the Nursing Department





# Informatic structure in different patients records

**Planning**

Données depuis le 01/06/2011 17:08

04/06/2011 17:08

04/06/2011 17:08

1 m 1/4 h 1/2 h 1 h 2 h 6 h

		04/06/2011																							
		21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
(1... V	Suivre état comportemental																								
(2... V	Surveiller paramètres vitaux																								
(1) Z	Concerter avec autres disciplines																								
(1... Z...	Réaliser soin plaie buccale																								
(4) Z...	Réaliser soins plaie fistule artéri...																								
(1... Z...	Suivre fistule artério-veineuse																								
(8) Z...	Suivre hématome																								
(1... Z...	Suivre la douleur																								

**Médicaments (5/7)**

Changement de st

Propriété

Suivre la douleur

Echelles de douleur\*

Echelle verbale simple

Localisation

Douleurs: effets induits

Niveau de bien-être

Informeur sur la gestion de la douleur

Informeur sur

Médecin informé

Commentaire

Verbale simple

A

F

M

I

E

ombaire

Les effets thérapeutiques des antidouleurs

La posologie des antidouleurs

Les effets secondaires des antidouleurs

Commentaire

How to define the indicators we need :



**Structuration**  
**Codification**  
**Archiving**

# Informatic structure in different patients records

## Onglet - 301492 Suivre la douleur

Code	301492
Libellé	Suivre la douleur
Sous-écran	[300199,\$acte_di_poly] Activité
Ecran ACT	

Each code used for the screen develops the data in a specific screen

### Activités

Code	Libellé
1E_140043	Suivre la douleur

One code for the activity

### Onglet

301518 (DICO Donnée énumérée) C  
Echelles de douleur  
303333 (DICO Donnée énumérée) A  
Echelle verbale simple  
1999 303333 Echelle verbale simple Donnée énumérée : EchelleVerbale  
Eche - A2 - F3 - M4 - I5 - E  
301543 (DICO Donnée énumérée) A  
Visage  
301544 (DICO Donnée énumérée) A  
Renard

Propriété Suivre la douleur

Echelles de douleur\*

Echelle verbale simple

Localisation

Douleurs: effets induits

Niveau de bien-être

Verbale simple

A  
F  
M  
I  
E

Combinaire

Each item has a code and often a dictionary.  
The dictionary data are codified.

# Informatic structure in different patients records

**Planning** Données depuis le 01/06/2011 17:08

04/06/2011 17:08 04/06/2011 17:08

1 m 1/4 h 1/2 h 1 h 2 h 6 h

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		21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
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(4) Z...	Réaliser soins plaie fistule artéri...																								
(1... Z...	Suivre fistule artério-veineuse																								
(8) Z...	Suivre hématome																								
(1... Z...	Suivre la douleur																								

**Activity status**

**Historical data**

**Action**

Imprimer Historique

**Liste des suivis journaliers**

Date du suivi	Créé par
aujourd'hui à 16h42 (depuis 2 m)	Quintens Carole aujourd'hui à 16h42 (depuis 2 m)
le 07 Apr 2011 à 10h41 (depuis 59 j 6 h 3 m)	Bajet Véronique le 07 Apr 2011 à 10h41 (depuis 59 j 6 h 3 m)



# Informatic structure in different patients records

H:Madame AQWERTY Marie(F) (N° dossier: 4679076) 34 ans 2m, 21j. - 05 06 2011 - Chirurgie générale (IDS) -

**Chirurgie** | Opération | Description

**Tumorectomie**

Conservatrice

☐ Tumorectomie

☐ Zonectomie

☐ Réduction mammaire

**Abord**

☐ Direct

☐ A distance

**Incisions**

☐ Arciforme

☐ Radiaire

☐ Périaréolaire

☐ Trait de refend

☐ Sous-mammaire

☐ Axillaire

**Types de reglage**

☐ Rien

☐ Rapprochement glandulaire

☐ Lambeau de glissement

☐ Lambeau de rotation

☐ Clips de repérage

**Reprise**

☐ Conservatrice

☐ Totalisation

Medical records :

- progressive structuration
- dictionaries should avoid ambiguity
- currently no codification
- no historia

**Post-op Chirurgie**

**Ganglions**

**Sentinelle**

☐ Ganglion Visualisé

**Ganglion**

☐ Sentinelle (+voisins)

☐ Sentinelle + curage

☐ Curage d'emblée

☐ Réintervention + date

**Opération**

Date d'intervention :

**Complications**

☒ Hématome

☐ Infection

☐ Lymphocèle

☐ Lymphoedème

Autre :

**Mobilité du bras :**

**Générer une prescription de kinésithérapie**

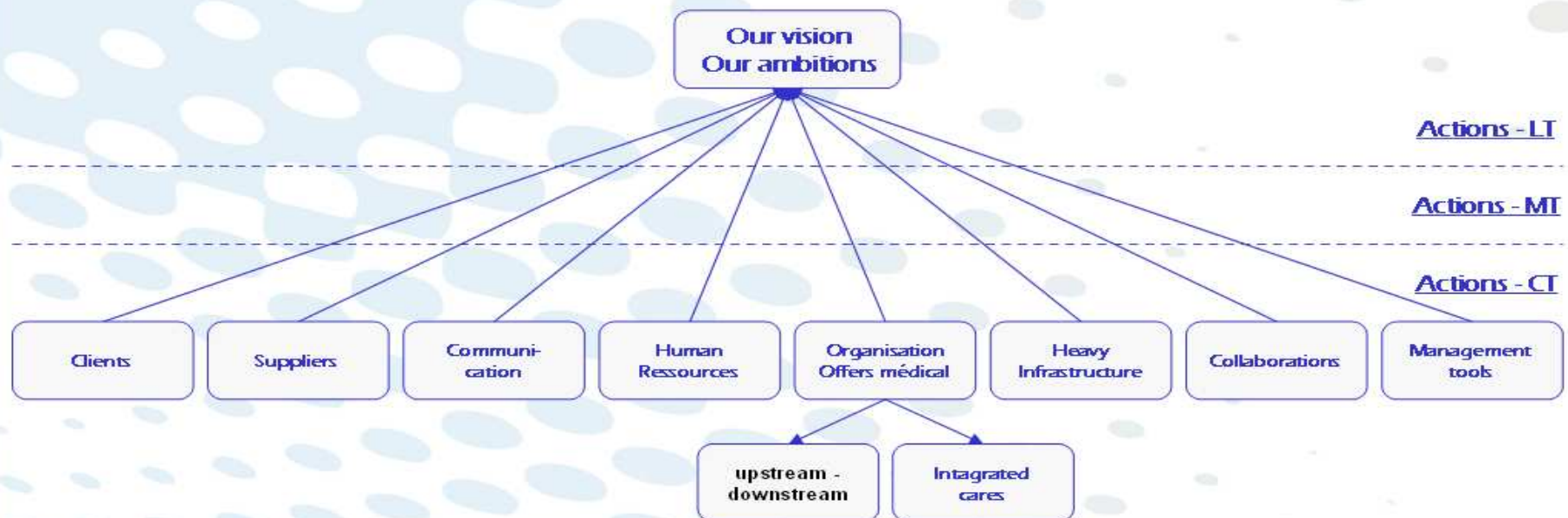


# Indicators in the Nursing Department

- Business plan
- « Russian dolls » :
  - actions and indicators located in each institutional level and in each strategic axis
- Indicators production: Goals !!!
  - Initialize actions
  - Score effects
  - Monitor the performance

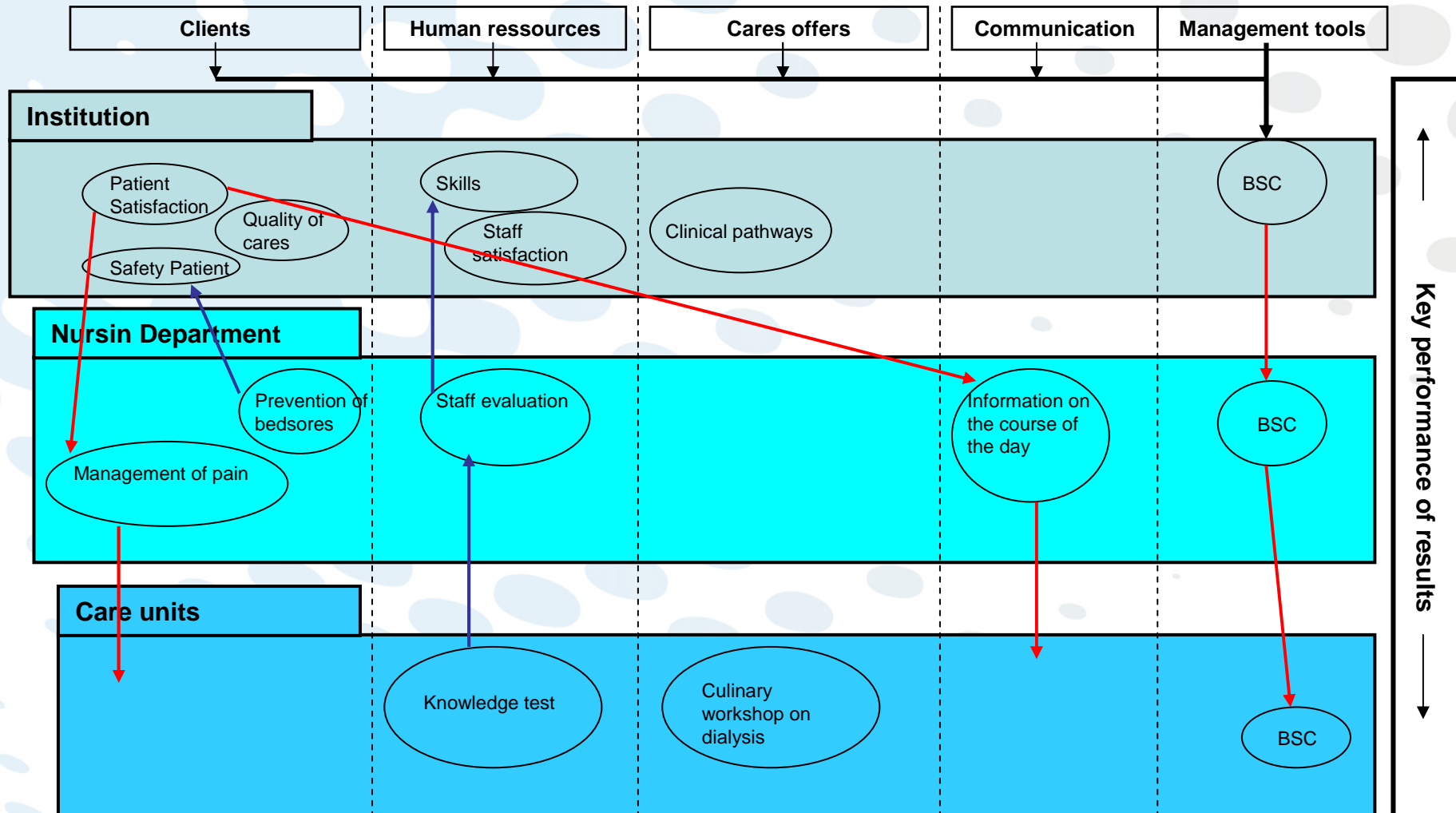
# Business plan

▪ By cultivating its values of life and mutual respect, CMSE places the patient at its heart, through careful listening and comprehensive care. Cope with external constraints, staff and all of its employees guarantee high quality of specific care and personalized support ▪



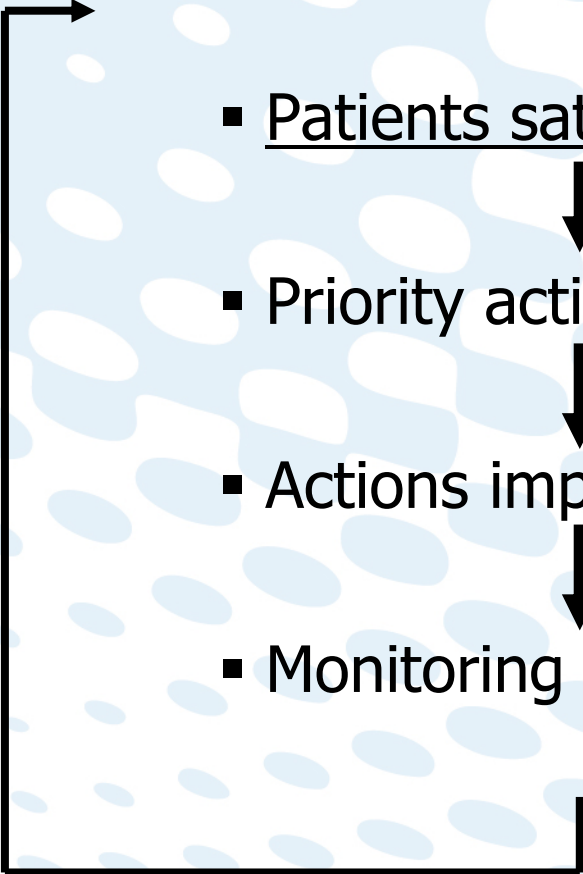
Previous situation  
Our values | Diagnostic | Strengths & weaknesses - Opportunities & threats

# At every institutional level: actions & indicators



# Indicators in the Nursing Department

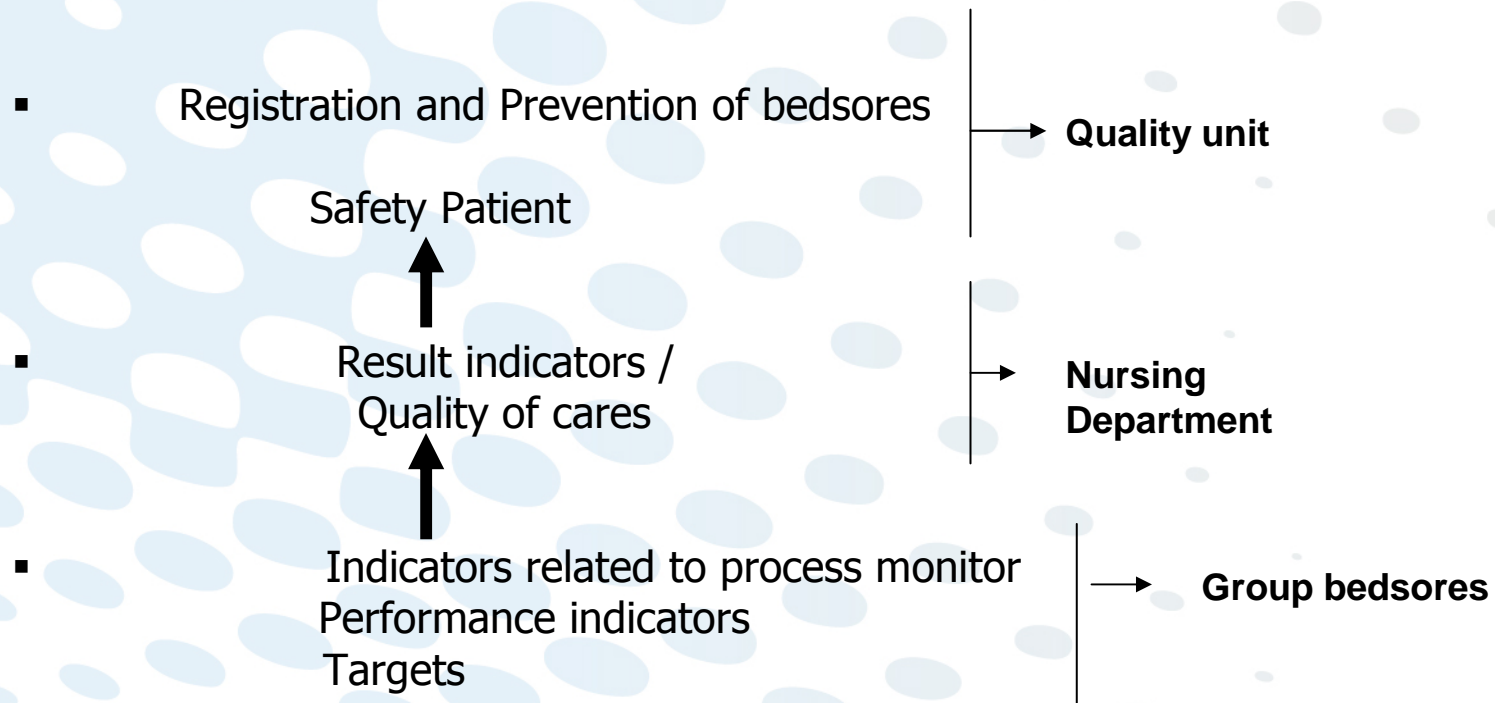
Indicators « Top / Down » (To initialize actions) :

- 
- ```
graph TD; A[Patients satisfaction Result indicators] --> B[Priority actions fixed at the institutional level]; B --> C[Actions implemented in the Nursing Department]; C --> D[Monitoring these actions by indicators]; D --> A;
```
- Patients satisfaction (Result indicators)
  - Priority actions fixed at the institutional level
  - Actions implemented in the Nursing Department
  - Monitoring these actions by indicators

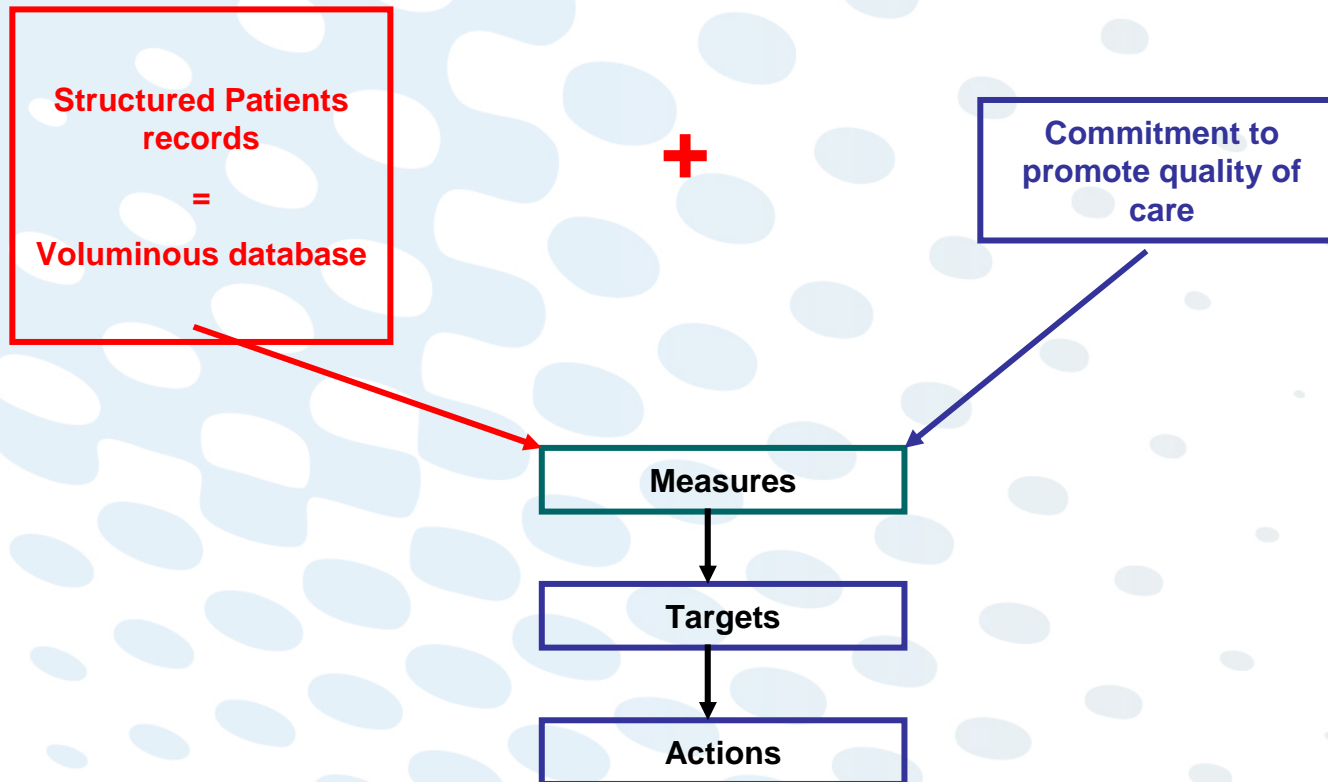


# Indicators in the Nursing Department

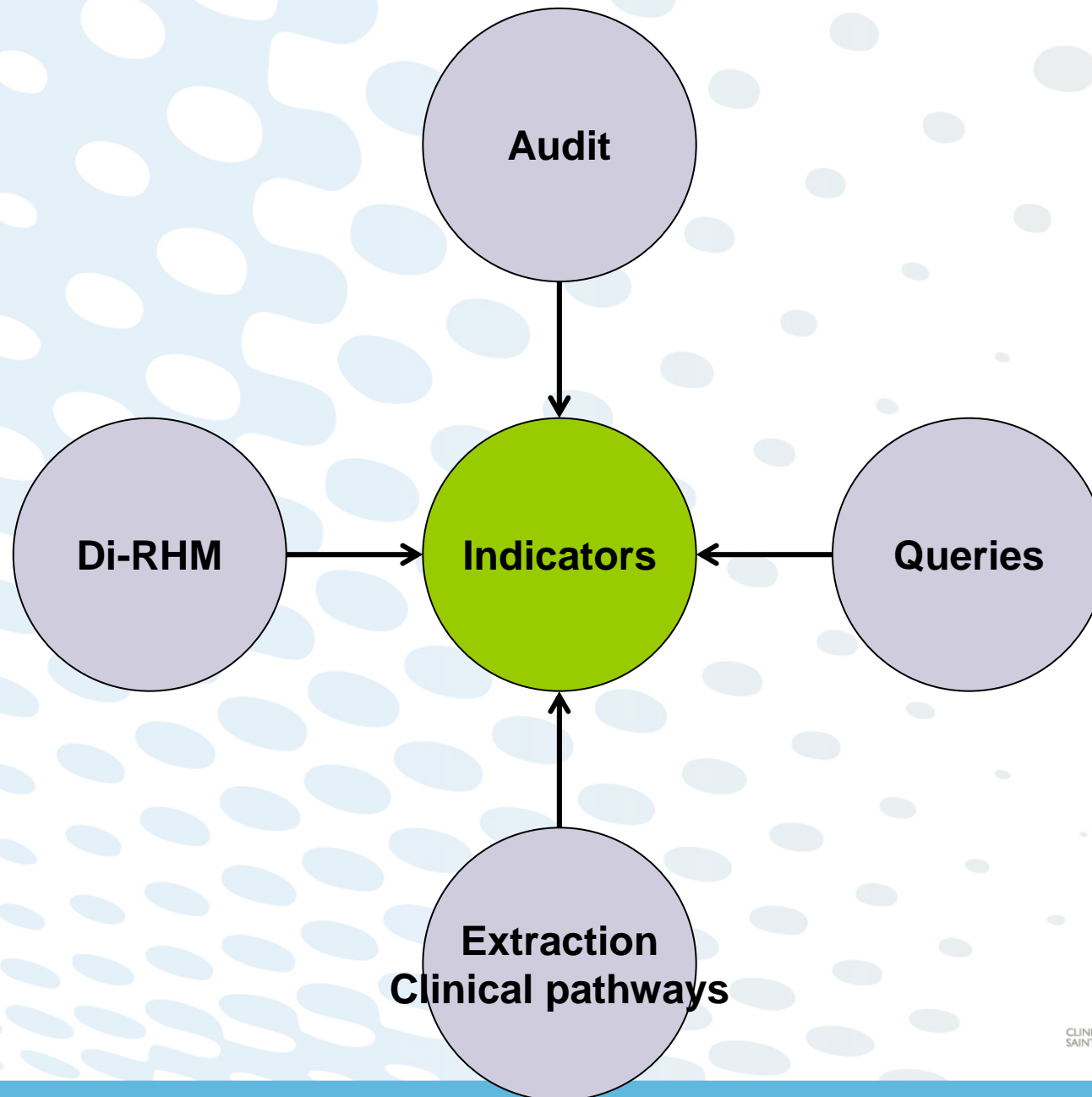
Indicators « Bottom/ Up » ( Monitoring the performance)



# Indicators and quality of care



## How to obtain these indicators ?



# How to obtain these indicators ?

Audit

Opening balance sheet for all hospitalized patients

Indicators

NAC = Nbr of histories fenced  
NAO = Nbr of open histories  
NHC = nbr of hours fenced  
NHO = Nbr of hours open  
MHC = Mean of hours fenced  
MHO = Mean of hours open

Audit

Quintens Carole

Liste des rapports disponibles : Anam V1.0

Paramètre : null

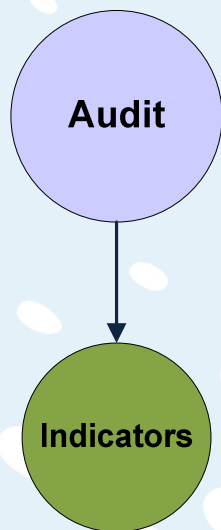
Paramètres

Utilisateur connecté : 1982

| Box   | Polvid | Nom            | NAC | NAO | NHC | NHO | MHC | MHO |
|-------|--------|----------------|-----|-----|-----|-----|-----|-----|
| 227 1 | 230437 | X BERNARD      | 2   | 0   | 0   | 0   | 0   | 0   |
| 227 2 | 235842 | US JEAN-PIERRE | 2   | 0   | 0   | 0   | 0   | 0   |
| 228 1 | 233367 | Y CARINE       | 1   | 0   | 0   | 0   | 0   | 0   |
| 228 2 | 231738 | N MARIE-JEANNE | 2   | 0   | 0   | 0   | 0   | 0   |
| 229 1 | 228185 | MARIE          | 1   | 0   | 0   | 0   | 0   | 0   |
| 229 2 | 235845 | REGINA         | 2   | 0   | 0   | 0   | 0   | 0   |
| 230 1 | 236083 | O CARMELINA    | 2   | 0   | 0   | 0   | 0   | 0   |
| 230 2 | 229827 | N MARGUERITE   | 2   | 0   | 0   | 0   | 0   | 0   |
| 231 1 | 235098 | FRANCOISE      | 2   | 0   | 5   | 0   | 5   | 0   |
| 231 2 | 233553 | T MARGUERITE   | 2   | 0   | 0   | 0   | 0   | 0   |
| 233 1 | 235388 | R CHRISTIANE   | 2   | 0   | 0   | 0   | 0   | 0   |
| 233 2 | 235163 | STITA JULIANA  | 2   | 0   | 0   | 0   | 0   | 0   |
| 234 1 | 233881 | RENE           | 2   | 0   | 0   | 0   | 0   | 0   |
| 234 2 | 233021 | E MARCEL       | 3   | 0   | 0   | 0   | 0   | 0   |
| 235 1 | 235612 | OLETTE         | 1   | 0   | 0   | 0   | 0   | 0   |
| 236 1 | 235826 | RD ARTHUR      | 1   | 0   | 0   | 0   | 0   | 0   |
| 237 1 | 234813 | E EUGENIE      | 1   | 0   | 0   | 0   | 0   | 0   |
| 239 1 | 230446 | T PAUL         | 1   | 1   | 0   | 844 | 0   | 844 |
| 240 1 | 234471 | Z BLANCHE      | 1   | 0   | 0   | 0   | 0   | 0   |
| 240 2 | 235881 | CORINNE        | 2   | 0   | 0   | 0   | 0   | 0   |
| 241 1 | 236007 | FRANCIS        | 1   | 1   | 0   | 17  | 0   | 17  |
| 241 2 | 236017 | PONT JEAN      | 2   | 0   | 0   | 0   | 0   | 0   |
| 242 1 | 235615 | X JOCELYNE     | 2   | 0   | 0   | 0   | 0   | 0   |
| 243 1 | 232758 | YLVIE          | 2   | 0   | 0   | 0   | 0   | 0   |
| 244 1 | 235880 | PONT NANCY     | 2   | 0   | 0   | 0   | 0   | 0   |



# How to obtain these indicators ?



Who ?

Nursing Direction, Head of service,  
... manager rights in the application

How ?

In the application in 3 clicks

When ?

At every moment



Creation of audits is currently managed by the company



CMSE has to describe the request.

# How to obtain these indicators ?

Audit

The activity is weighted following the choices of the institution  
An audit of the planned activity offers a glimpse of the workload per day, per week, ...

Indicators

rapports disponibles : Actions planifiées/unité V1.0

debut (YYYY-MM-DD)\*

2011-06-05

fin (YYYY-MM-DD)\*

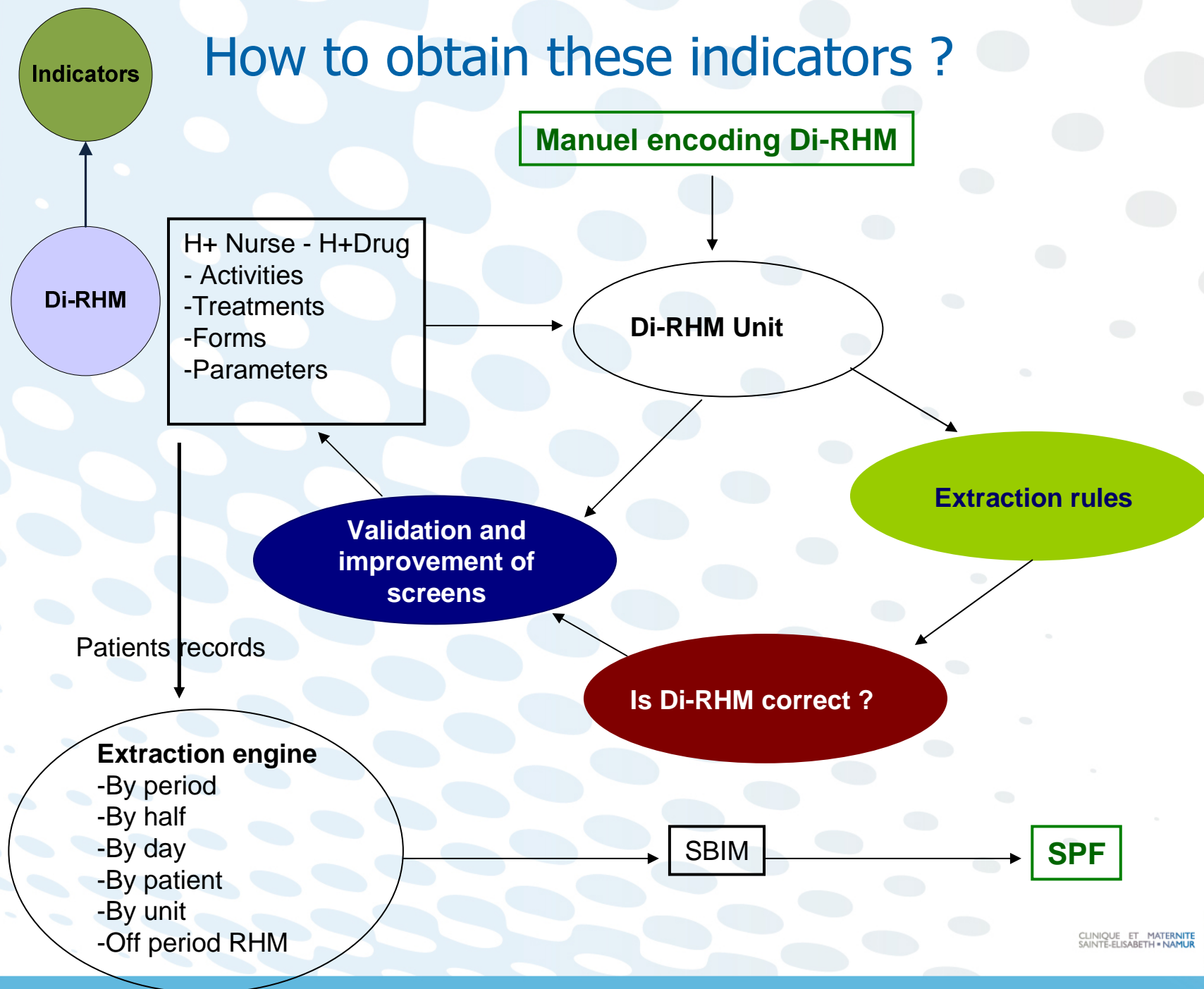
2011-06-05

Paramètres

Utilisateur connecté : 1982

| UN   | TID     | CA        | QTE | Lib                           | poidsDoc | poidsMult | poidsMultCumul | newUnit |
|------|---------|-----------|-----|-------------------------------|----------|-----------|----------------|---------|
| A01  | acte_di | 2L_358410 | 1   | Changer lange                 | 2        | 2         | 2              | ***     |
| A01b | acte_di | 2K_335000 | 1   | Suivre respiration            | ND       | 1         | 1              | ***     |
| A01c | acte_di | 1C_084033 | 1   | Changer de position           | 3        | 3         | 3              | ***     |
| A01c | acte_di | 2N_402804 | 1   | Dégonfler bracelet compressif | ND       | 1         | 4              |         |
| A01c | acte_di | 4V_668000 | 1   | Surveiller paramètres vitaux  | ND       | 1         | 5              |         |
| A02  | acte_di | 1C_084033 | 1   | Changer de position           | 3        | 3         | 3              | ***     |
| A02  | acte_di | 2G_900700 | 2   | Suivre glycémie capillaire    | 1        | 2         | 5              |         |
| A02  | acte_di | 2L_358410 | 1   | Changer lange                 | 2        | 2         | 7              |         |
| A02  | acte_di | 4V_644002 | 1   | Suivre état confusionnel aigu | 3        | 3         | 10             |         |
| A02b | acte_di | 2G_900700 | 1   | Suivre glycémie capillaire    | 1        | 1         | 1              | ***     |
| A02b | acte_di | 2L_358410 | 1   | Changer lange                 | 2        | 2         | 3              |         |
| A02c | acte_di | 1B_059013 | 1   | Suivre première miction       | ND       | 1         | 1              | ***     |
| A02c | acte_di | 2G_900700 | 2   | Suivre glycémie capillaire    | 1        | 2         | 3              |         |

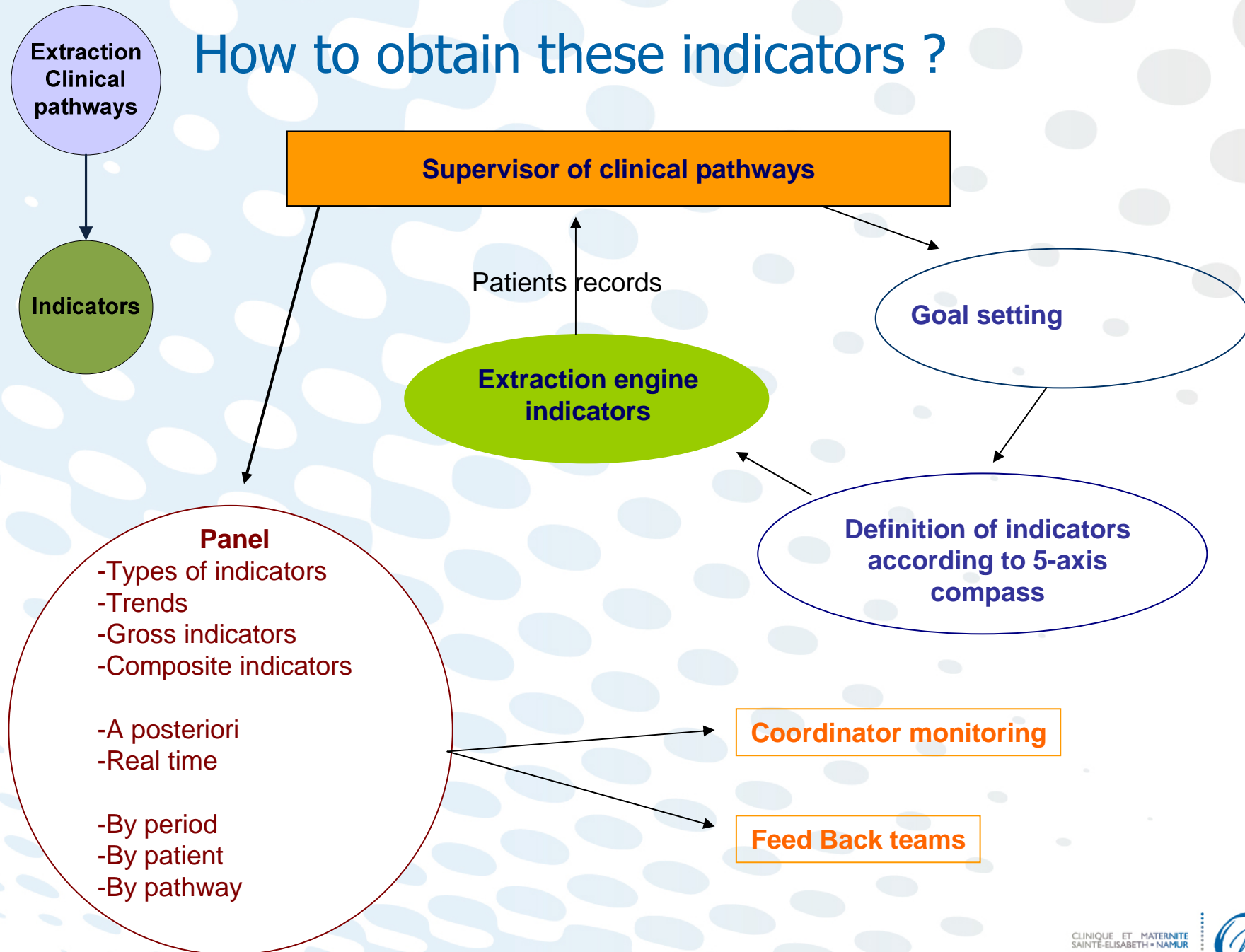
# How to obtain these indicators ?







# How to obtain these indicators ?



# How to obtain these indicators ?

Extraction  
Clinical  
pathways

APCOS

05/06/2011 09:29:18

Tableau de bord

Nouvelles

Indicators

Quic (Carole, Quintens)

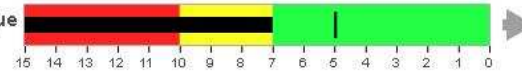
Mon Profil

Déconnexion

Rafraîchissement

## Tableau de bord du cancer du sein

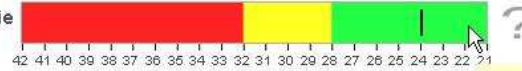
délai inclusion - CMO pré-thérapeutique  
(day)



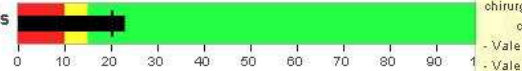
délai sortie salle d'op. - kinésithérapie  
(hour)



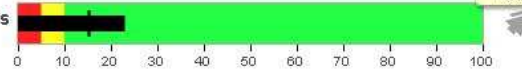
délai CMO post-chir. - chimiothérapie  
(day)



nouveaux IC durant les 3 derniers mois  
(unité)



Nombre de traitement néo-adjuvant durant les 3 derniers mois  
(unité)

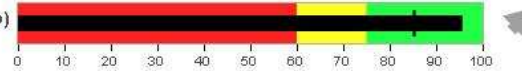


Nombre de rencontres avec la coordinatrice clinique du sein lors du bilan  
(unité)

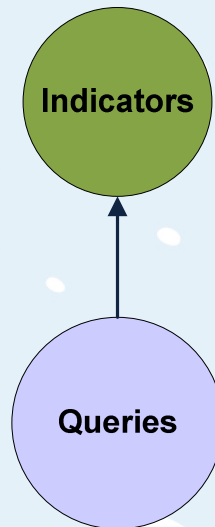


Values presented are not real

Coordinatrice clinique du sein lors du bilan (ratio)  
(%)

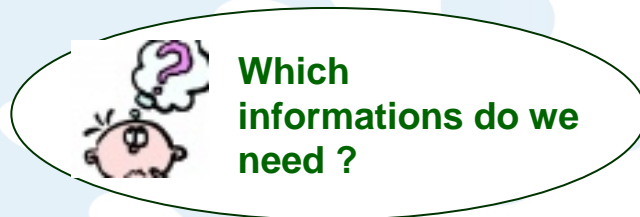


La moyenne, exprimée en jour, du délai entre la CMO post chirurgicale et le traitement de chimiothérapie  
- Valeur mesurée = NaN  
- Valeur cible = 24  
- Tendance inconnue



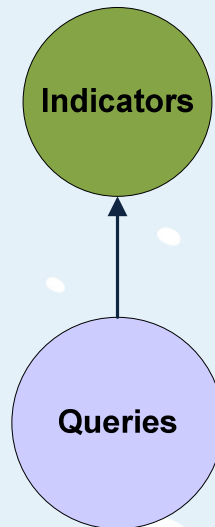
## How to obtain these indicators ?

**Indicators need as part - of a study - of an internal process**



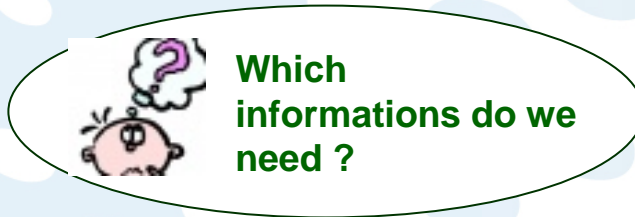
Application on pain : how do we measure the pain feeling at the CMSE

- Number of survey activities related to administered analgesic drugs
- Use of the verbal scale of pain (N= ?)



# How to obtain these indicators ?

Indicators need as part - of a study - of an internal process



Application on pain : how do we measure the pain feeling at the CMSE

- Number of survey activities related to administered analgesic drugs
- Use of the verbal scale of pain (N= ?)

## - **Nutrition**

- Pilot Project Teams Nutritional SPF  
Groupe 1
- Institutional follow-up

## - **Bedsore**

- Currently conducting a query to demand

## - **Education in Diabetes**

- Conducting a query to demand

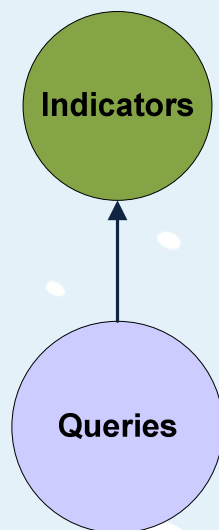
## - **Baby-friendly hospital institution**

- Conducting a query to demand



# How to obtain these indicators ?

Indicators need as part - of a study - of an internal process



Which informations do we need ?

Definition of indicators accurately :

- Used data
- Any mathematical function
- Query : automatic or not
- Extraction date

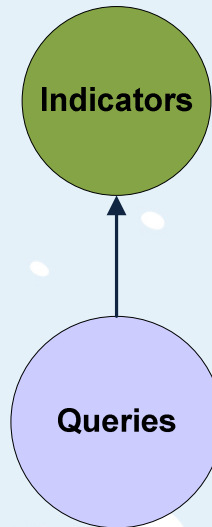
- Activity with the code 140043 and the state « administered » in all hospital records :

- from 1 to March 31, 2008
- from 1 to March 31, 2009
- from 1 to March 31, 2010
- from 1 to March 31, 2011

- Given number of "simple verbal scale" in the display code 303333 code 301492, and if a value is validated in the dictionary

- On the number of activities whose condition is « administered » in all hospital records

- from 1 to March 31, 2010
- from 1 to March 31, 2011



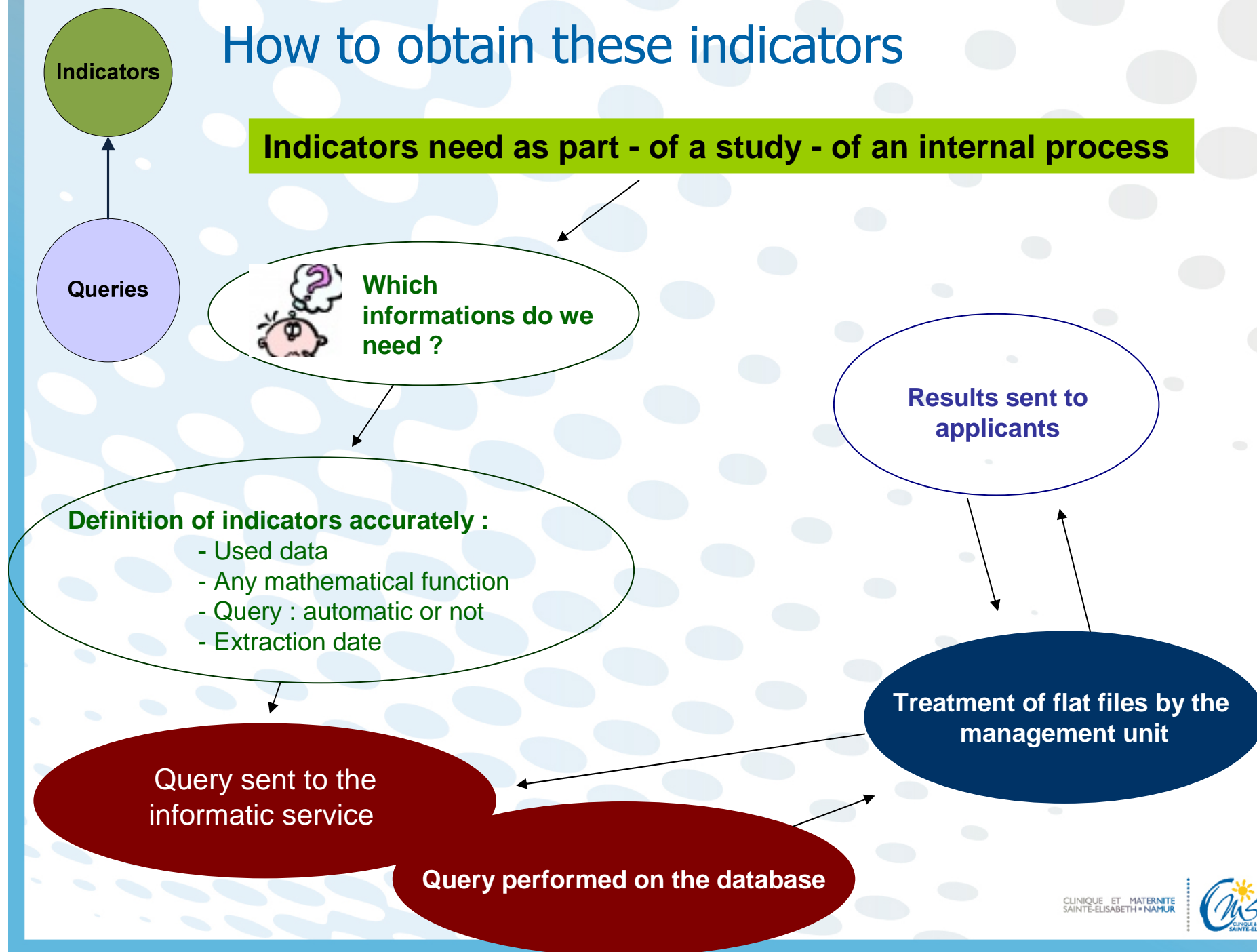
## How to obtain these indicators ?

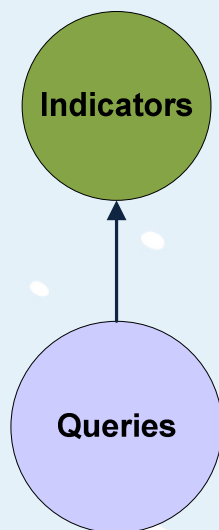
**Structuration  
Codification  
Archiving of informations**

- Average use of the verbal scale by patient or patient category
- Relationship between a value of the verbal scale and specific actions
- Analysis of the pain management by pathology
- Analysis of the evolution stage of bedsores
- ....

# How to obtain these indicators

Indicators need as part - of a study - of an internal process





## How to obtain these indicators ?

**Indicators need as part - of a study - of an internal process**

### **Comparable indicators between hospitals :**

Total prevalence of bedsores.

Prevalence of bedsores emerged during hospitalization.

Prevalence of bedsores emerged in certain care units.

Total incidence of bedsores on admission.

Total emergence of bedsores during hospitalization.

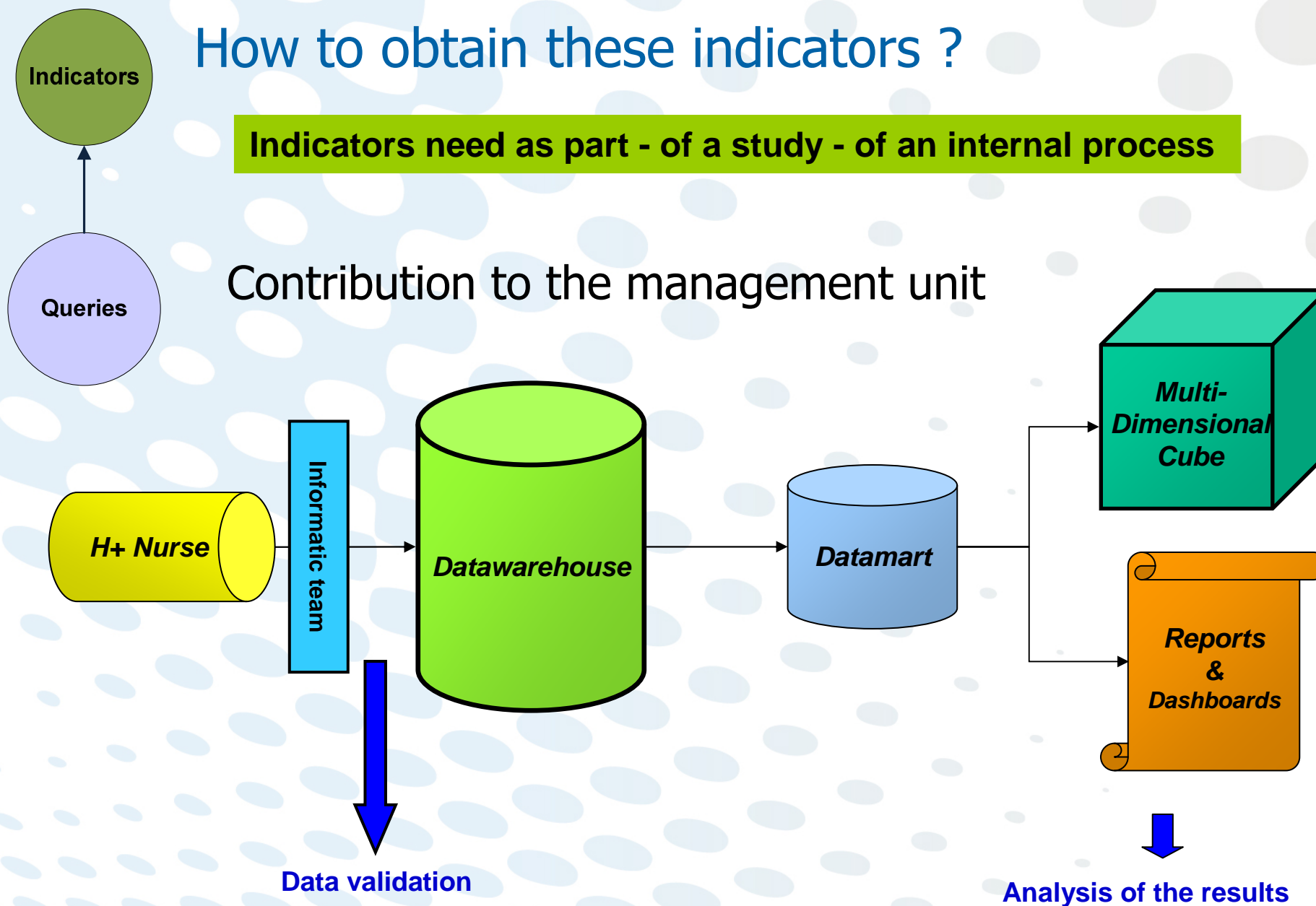
Emergence of bedsores according to their location during hospitalization.

Number of patients at risk, continuously (24h/24h) receive adequate preventive measures.

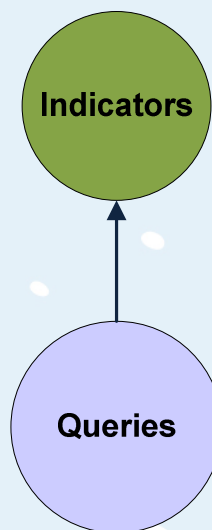
# How to obtain these indicators ?

Indicators need as part - of a study - of an internal process

Contribution to the management unit





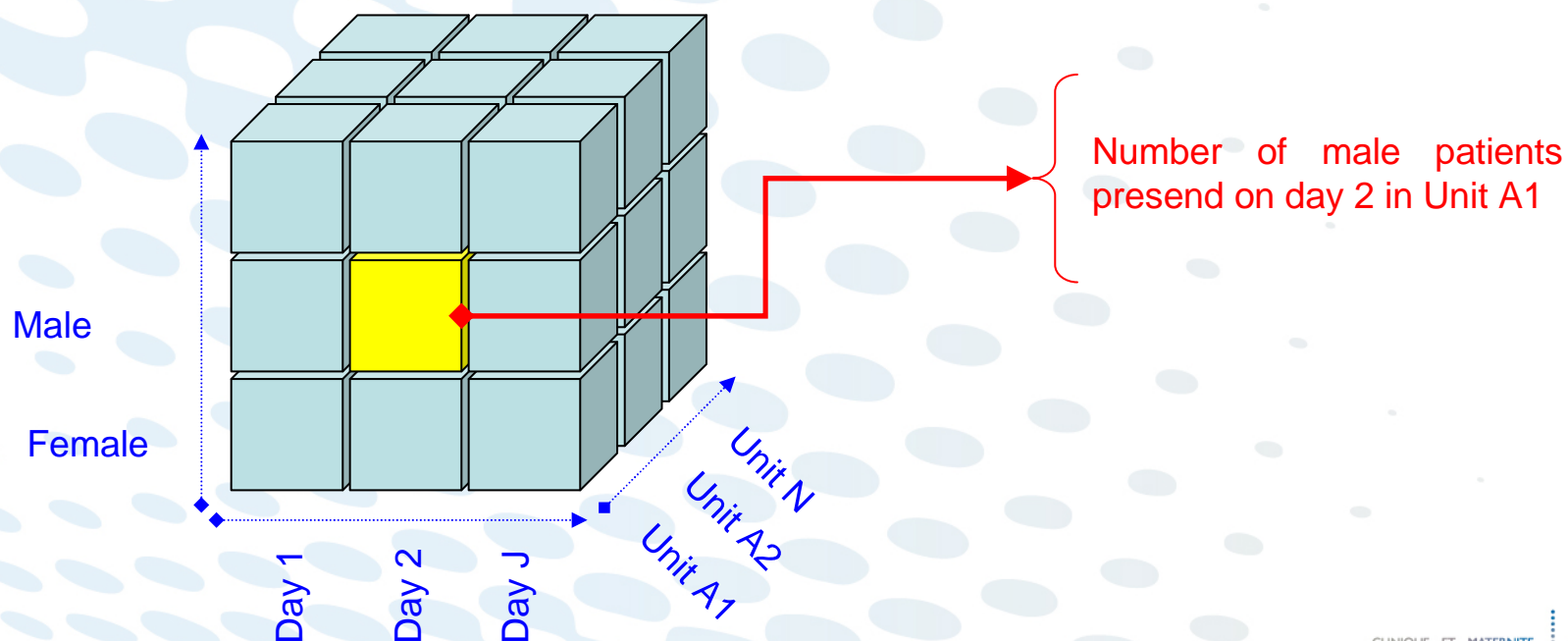


## How to obtain these indicators ?

Indicators need as part - of a study - of an internal process

What's a multidimensional cube ?

A multi-dimensional cube is used to analyze numerical *indicators* (number of patients, number of bedsores, etc.) in a context described by the intersection of several dimensions of analysis (time, care units, sex, etc.).



# Bedsore indicators

Cognos TM1 Executive Viewer Client - Windows Internet Explorer

http://icare-cse01/evserver?toolbar=true&tabbar=true&theme=cognos

Fichier Edition Affichage Favoris Outils ?

Favoris Cognos TM1 Executive Viewer Client

Yues Enregistrer... Connexion Imprimer Annuler Rétablir Calculatrice Tri/Sélection Les deux Courbes Dimensions Options

Tableau 2: Répartition selon âge...

ACTIVITE : Tous les ACTIVITE SCORE : Tous les SCORE I : Tous les INCONTINENCE MOBILITE : Tous les MOBILITE ETAT\_MENTAL : Tous les ETAT\_MENTAL E : Tous les ETAT\_PHYSIQUE

UNITE : Tous les UNITE P : Toutes les périodes d'enregistrem... AGE : Tous les AGE SEXE : Global SCORE2 : Tous les SCORE

| Avertisse...  | Age Moyen | Minimum | Maximum |
|---------------|-----------|---------|---------|
| Sans Escarres | 62,60     | 5,00    | 98,00   |
| Avec Escarres | 77,40     | 49,00   | 92,00   |
| Global        | 62,84     | 5,00    | 98,00   |

Sélectionner membre hors-grille pour 'PERIODE'

Sélectionner

- Toutes les périodes d'enregistrement
  - 2009/01/06
  - 2009/02/03
  - 2009/03/03
  - 2009/04/07
  - 2009/05/05
  - 2009/06/02
  - 2009/07/07
  - 2009/08/04
  - 2009/09/01
  - 2009/10/06
  - 2009/11/03

☐ Sélectionner plusieurs membres

Les plus bas en aval de Sélectionner tout Développer tout

Les plus bas Désélectionner tout Réduire tout

Rechercher...

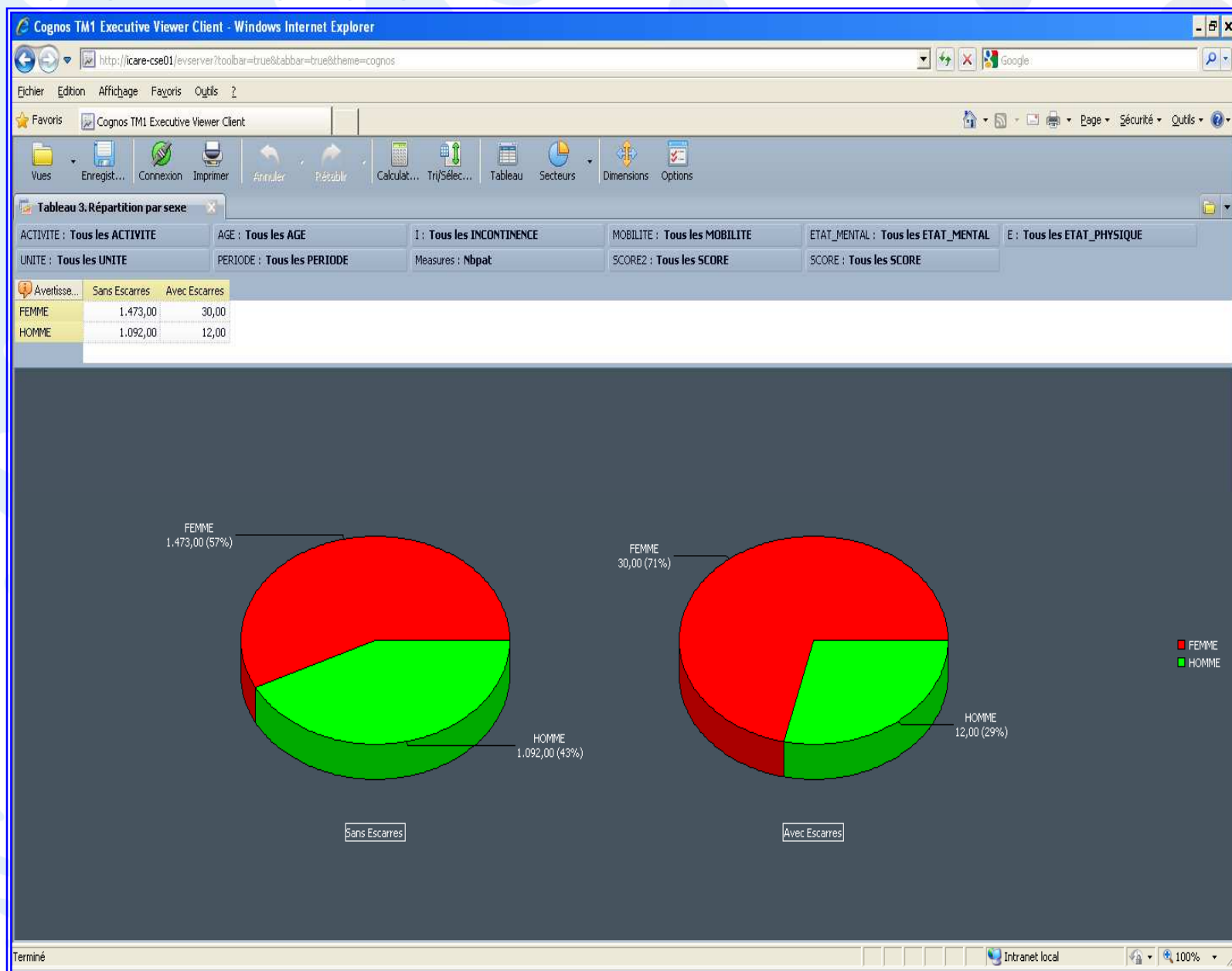
Nombre de membres sélectionnés: 1 de 20

OK Annuler

Terminé

Intranet local 100%

# Bedsore indicators



## Remarks

### Benefits of the extraction systems of indicators

- Structures data / Common language  
(ex: definition of hypotension arterial)
- Systematization
- Saving time and resources
- Centralization of data
- Data sharing
- Data linking
- Data linking clinical data with human resources  
(number of persons present, qualifications of the persons present in the unit ...)
- Comparison with the costs per stay

## Remarks

### Difficulties

- Path of extraction : stakeholders (IT, management unit)
- Query formulation: what do we wish ?
- Adaptation of the structure of the data
- Choice of appropriate indicators.



# Conclusions

- Production of indicators and quality management are inseparable
- Excess is harmful : « Cave » too many indicators
- Control by a procedure extracting indicators
- Skill for ever: Training at different levels of the institution (indicators, query formulation ...)
- Institutional structuring of a multidisciplinary management unit (organizing the data warehouse, making the information readable ...)
- Choosing data structures (within acceptable limits)
- Create TBE for all institutional levels

Thank you for your mercy !

*Dank u voor uw aandacht !*

**Merci de votre attention.**



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