

S1: cost assessment of the systematic screening for occupational exposures: method, formulas and results

1. Personnel costs

Measurements of the time required from staff for each specific task were assessed for each patient by using manual chronometers. For each category of staff (i.e. physician, technician, social worker, medical assistant), times were then multiplied by the unit wage costs.

Formally, the cost C_{p_i} for a personnel resource p_i with
 $i \in \{\text{Physician, Clinical research assistant, Social worker, Medical assistant}\}$
is expressed as:

$$C_{p_i} = UWC_{p_i} \times t_a = \frac{AWC_{p_i}}{AWTp_i} \quad (\text{A1})$$

with UWC_{p_i} the unit wage cost (all taxes included) of the personnel p_i , AWC_{p_i} the annual wage cost of the personnel p_i , AWT_{p_i} the annual working time of the personnel p_i and t_a the duration of activity a.

2. Health information system cost

The health information system (HIS) cost per consultation including coding, software, maintenance and hardware was calculated by the accounting department with the courtesy of the Information System board.

Formally,

$$HIS \text{ costs} = \text{costs of coding} + \text{software} + \text{maintenance} + \text{hardware} \quad (\text{A2})$$

With

$$C_{coding} = \frac{\text{Payroll coding team}}{\text{Nb of consultations in 2014}} \times K_1$$

$$C_{software} = \frac{\text{Annuity of software amortization}}{\text{Nb of consultations in 2014}} \times K_2$$

$$C_{maintenance} = \frac{\text{Maintenance cost}}{\text{Nb of consultations in 2014}} \times K_3$$

$$C_{hardware} = \left(\frac{(\sum \text{Computer invest.})/\text{Amort. duration}}{\text{Nb of computers}} \right)$$

And

$$K_1 = \frac{\sum \text{Coding days for HIS (consultation)}}{\sum \text{Total coding days for HIS}}$$

$$K_2 = \frac{\sum \text{Software investment (consultation)}}{\sum \text{Total software investment}}$$

$$K_3 = \frac{\sum \text{Maintenance investment (consultation)}}{\sum \text{Total maintenance investment}}$$

3. Costs of structure

Costs of structure (e.g. the costs of logistics and general management) were determined to be 27% of the other costs based on the ENCC (National Study on Common Costs) data (http://www.atih.sante.fr/sites/default/files/public/content/70/atih_national_cost_studies.pdf).

4. Total cost

$$CT = (\sum_{i=1}^4 C_P + HIS \text{ cost}) \times 1.27 \text{ (A3)}$$