

DELPHI SURVEY WEB ©

DELPHI SURVEY WEB V2 MULTILANGUAGE



• • • • • • • • • •

User manual of the DSW Delphi survey system

*The Web to study illness natural history
using the Delphi protocol*

Jean-François Vibert

INSERM UMR-S 1136

On an idea of Alain-Jacques Valleron

INSERM U 707

Faculté de Médecine Pierre et Marie Curie

Sorbonne Université

Paris

France



Content table

Presentation of the DSW survey system	4
Delphi method background	4
Architecture of the DSW survey system	5
People management and user categories	7
The DSW survey system home page.....	8
Super Administrator login	10
User management	15
Adding a new user	15
Adding a new administrator/referent/expert	17
Survey Administrator login	18
Referent login	21
Expert login	23
Survey content generation	24
Create new pathology stages for this survey	25
Create new transition covariates for this survey	25
Define transition covariate values for covariates	27
Create cases collections for this survey.....	28
Add comment and/or help, modify, hide or show cases for this survey.....	29
Answering the Delphi survey	30
Database management.....	33

User manual of the DSW V2 survey system

<https://epar4.iplesp.upmc.fr/dsw/>

Presentation of the DSW survey system

The Web site presented here (Delphi_Survey_Web) is a fully configurable application in order to be used in many different Delphi studies to test different hypotheses.

The application is written in PHP and JavaScript. It uses a MySQL/MariaDB database in which are stored both the page description (titles, questions, labels, files), the administrators and users rights, and evidently the results of the surveys (answer to questions, probability estimations, etc.). The users can chose the language in which the application is presented to their screen. Using the Web technology makes possible to experts disseminated around the world to participate to the survey design and simplifies the iterative answer inherent to the Delphi method. It makes cost effective such a major tool, usually costly, time consuming and tedious to prepare.

Delphi method background

Originally developed by the RAND Corporation in 1969 (Dalkey, Norman C., The Delphi Method An Experimental Study of Group Opinion, RM-5888-PR, June 1969) for technological forecasting, the Delphi Method is a group decision process about the likelihood that certain events will occur. Today it is also used for environmental, marketing and sales forecasting ([Linstone H.A., Turoff M. The Delphi Method. Techniques and Applications. 2nd ed. Portland State University Ed. 2002, H.A. Linstone, M. Turoff, Delphi: A brief look backward and forward, Technol. Forecast. Soc. Change \(2010\), doi:10.1016/j.techfore.2010.09.011](#)) [*NB : if you PDF reader, does not allow to activate the web links, see the version in your language since it allows it.*]. The Delphi method is dependent upon the judgment of knowledgeable experts. This is a particular strength because, in addition to quantitative factors, predictions that will lead to public health decisions could be influenced by personal preferences and expectations.

The Delphi method utilizes repeated rounds of questioning, including feedback of earlier-round responses, to take advantage of group input while avoiding the biasing effects possible in face-to-face panel deliberations. It makes use of a panel of experts, selected based on the areas of expertise required. The notion is that well-informed individuals, calling on their insights and experience, are better equipped to predict the future than theoretical approaches or extrapolation of trends. Their responses to a series of questionnaires are anonymous, and they are provided with a summary of opinions before answering the next questionnaire. It is believed that the group will converge toward the "best" response through this consensus process. The midpoint of responses is statistically categorized by the median score. In each succeeding round of

questionnaires, the range of responses by the panellists will presumably decrease and the median will move toward what is deemed to be the "correct" answer (Figure 1).

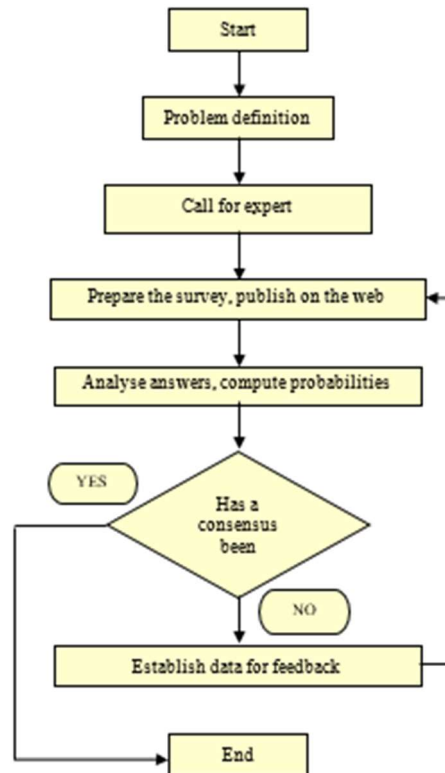


Figure 1: The Delphi survey process.

One distinct advantage of the Delphi method is that the experts never need to be brought together physically, and indeed could reside anywhere in the world. The process also does not require complete agreement by all panelists, since the majority opinion is represented by the median. Since the responses are anonymous, the pitfalls of ego, domineering personalities and the "bandwagon or halo effect" in responses are all avoided. On the other hand, keeping panelists for the numerous rounds of questionnaires is a challenge that can be overridden by using the Web technology.

An example of the application of this method can be found in the following article : [A Web-Based Delphi Study on the Indications of Chest Radiographs for Patients in ICUs. G. Hejblum, V. Ioos, J-F. Vibert, P-Y. Boëlle, L. Chalumeau-Lemoine, Ch. Chouaid, A-J. Valleron and B. Guidet. Chest, 2008; 133:1107-1112.](#)

Architecture of the DSW survey system

A **Super administrator** is in charge of administering all the system, and notably to create the survey administrators. Nevertheless, each actor can manage all the actors under its hierarchy, but not above. Each "Survey" is under the responsibility of a principal investigator (called **Survey administrator**), that can manage several surveys. When the studies are multicentre, each centre can be under the responsibility of a coordinator (called **Referent**). Each coordinator is in charge of a group of **Experts**. Diseases are modelled as a multistage process. "Patients" may progress through n stages. Among all the $n \times n$ possible transitions between any two stages, those who are plausible are specified by the model builder (the Administrator) (Fig 2).

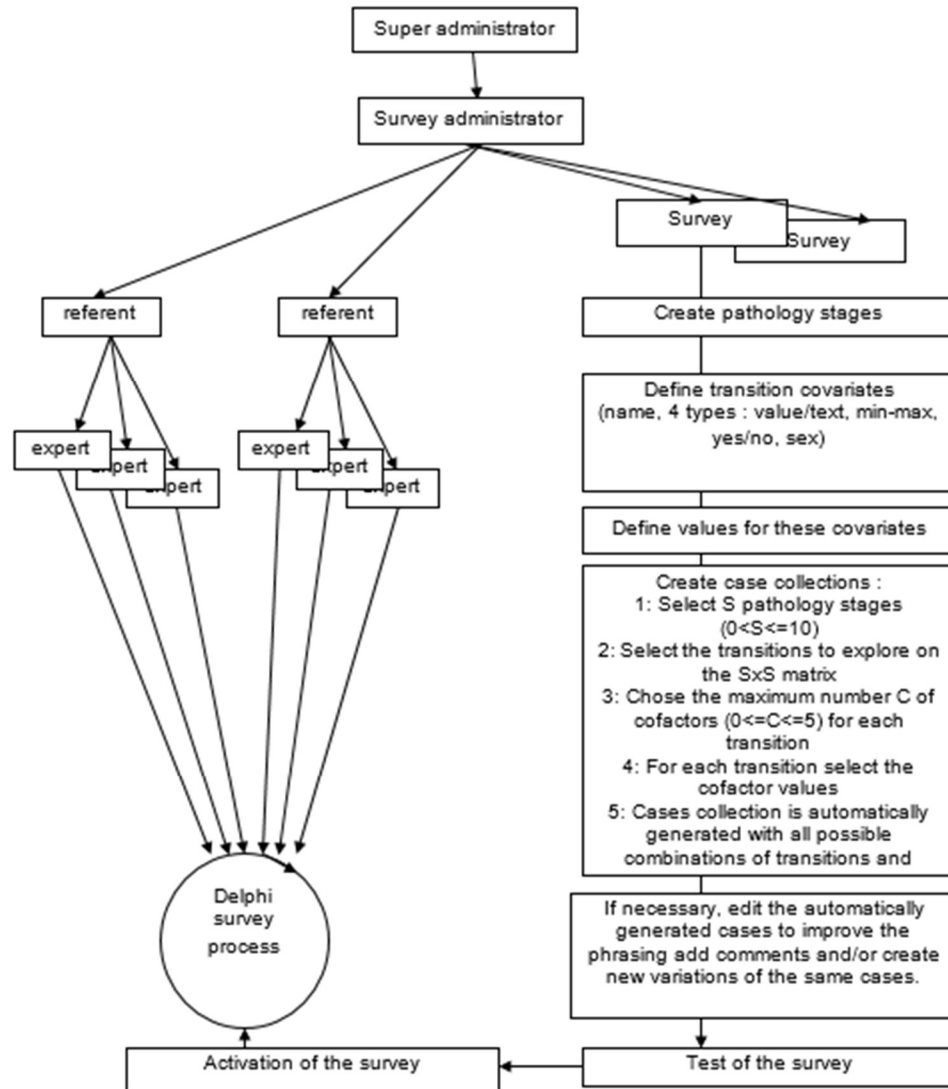


Figure 2 : Architecture of the DSW survey system

The transition probabilities may be governed by cofactors, such as age, sex, genetic characteristics, etc. Each cofactor can be text, value, range or binary choice. Quantitative cofactors (e.g. age) are categorized in classes. A series of case histories is then automatically generated for all possible combinations of transitions (<10), of cofactors (<5) per transition and of levels of the cofactors. For example, this can lead to $5 \times 3 \times 3 = 45$ cases. This sample may be repeated r times (for example, $r=2$). A repetition is called a case avatar. The administrator can edit the case stories and add clinical details, either by improving the case description, or by providing a file with images (radios, photos, etc.). The final design of experiment is therefore a factorial design with r repetitions. This allows a statistical analysis testing the perceived role of each cofactor. The experts receive cases histories and questions such as “*this is a man presenting liver cirrhosis. Age 50, likely infected by HCV 20 years before. Give your estimate of the probability that this subject will die during the next year*”. At each round, the answers are analysed and the probabilities are computed on line. After the first round, the histogram of the answers for the same case and its avatars of all other experts is shown, along with the mean answer of the expert him/herself.

The administrator can manage the survey, decide to begin a new round, stop the survey, examine the survey results during the survey, etc.

The referent can follow the participation of the experts under its authority.

Anybody can access information about ongoing surveys.

Cookies must be allowed by the navigator, in order to keep the ongoing survey and user names. No password or answers are kept in the cookies.

People management and user categories

It is important to understand the way people are managed in the DSW survey system.

People authorized to use DSW are divided into 4 categories with different access rights:

1. **Super administrator**
2. **Survey administrator**
3. **Referent**
4. **Expert**

Any people must first be created in the data base with its first name, last name, sex, speciality, birth date, address, etc., whatever be its future hierarchical category. Thus, to add a new user, it is necessary to create it in the people database.

Then it is possible to create a member of any of the 4 above categories by choosing among the peoples already created and to attribute to him/her a survey. He/she will be affected to the people creating him/her.

It is very important to select a survey before adding a survey admin, a referent or an expert before creating them, since they will be attached to this selected survey. If they are concerned by several surveys, they must be entered several times (they can have the same login and password or not, no matter).

This is during the creation of the survey administrator, referent or expert that the login and initial password are attributed. This initial password is a temporary password that must be changed by the user at the first connection. This password is crypted in the database and cannot be recovered. If it is lost, a new temporary password must be asked to the people hierarchically above. This password must have 8 characters minimum, with almost one upper case letter and almost one figure.

Important : If an administrator (super or survey), or a Referent needs to participate and to answer to the survey, he/she must be declared also as an Expert, in order to be able to login as an expert and have access to the survey itself.

The first super administrator must be created when the DSW survey system is installed and configured, and when the DSW database is created, either using the command line MySQL/MariaDB command or using phpMyAdmin. The way to do is outside the scope of this manual. We assume that almost one Super Administrator is created.

The DSW survey system home page

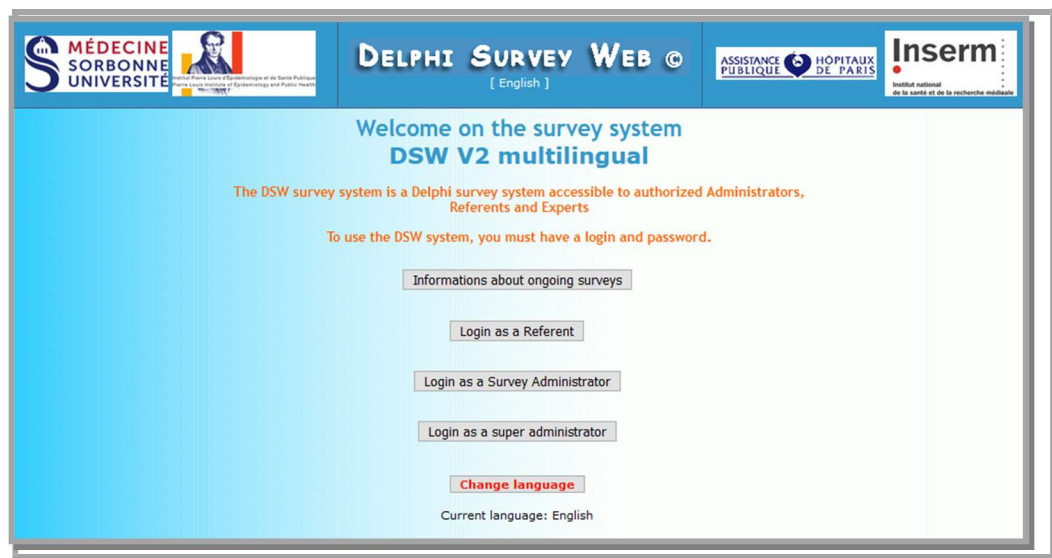
This page is the home page of the Web site. It allows to log in the DSW system as an expert. This is the default user login since Experts will be the most frequent users. Nevertheless, it is possible to login with another status if authorized.

The screenshot shows the 'DELPHI SURVEY WEB' login page. At the top, there are logos for 'MÉDECINE SORBONNE UNIVERSITÉ', 'ASSISTANCE PUBLIQUE HÔPITAUX DE PARIS', and 'Inserm'. The main heading is 'Welcome as an EXPERT on the survey system DSW V2 multilingual'. Below this, a message states: 'To access to the survey system as an EXPERT, you must have a login and password .'. There are input fields for 'Login:' and 'Password:'. A note explains that the password can be changed by providing a new password and a confirmation, with a warning that empty or different fields will not change the password. There are input fields for 'New password' and 'Verification'. Below these are two buttons: 'Connection as an Expert' and 'Connexion with an other authorized status'. At the bottom, there is a 'Change language' button and a status 'Current language: English'.

This panel allows also to change the language in which all the site will display information and also add a new language.

The screenshot shows the language management section of the website. It features a dropdown menu labeled 'language: Select a language' and a button 'Submit'. Below this is a section titled 'Add a new language' with an 'ATTENTION' note stating that the language must be given using the norm ISO 639-1. A bulleted list provides instructions: 'language name in the chosen language and its english name between parentheses', 'language two letters of the ISO 639-1 code of the chosen language s', and 'language 5 characters of the chosen language (2 letters - local dialect in uppercase)'. An example is given: 'ex : english, en, en-GB or Français (French), fr, fr-FR'. At the bottom, there is a red button labeled 'X FERMER'.

To log as Super administrator, Survey administrator, Referent (since Experts can directly connect to the site, see above) the user must use the button [Connection with another authorized status]. It opens the page below; allowing to load the login pages for the corresponding status.



These login pages, identical to those of the Expert logging page, open a page allowing to obtain basic information about the ongoing surveys (name of the survey, its description, its survey administrator, the number of questions, answers, experts change and the survey status). It allows also to change the language of the site, 14 languages are available. The current language is displayed in the blue title panel.

For example, in French or Chinese (all other screen captures in this manual are in English) :






To log as a member category, a login/password is necessary. It is given by any member of the category hierarchically superior. The login is given once, and the password can be changed by the actor if he/she knows its current password.



Important : The initial password is a temporary password that must be changed by the user at the first connection. This password is crypted in the database and cannot be recovered. If it is lost, a new temporary password must be asked to the people hierarchically above. This password must have 8 characters minimum, with almost one upper case letter and almost one figure.

The login panel is the same for each category (except the page title). An explanation is given on the page itself. After login the page presents the possibilities according to the actor category. We found on this page always the same sections, adapted to the logged actor category:

Super Administrator login



DELPHI SURVEY WEB 
[English]



Welcome on the **DSW** survey system as an **SUPER ADMINISTRATOR**

To access to the survey system as an **SUPER ADMINISTRATOR**, you must have a login and password .

Login:

Password:

It is possible to change the above given password by giving a new password below (the old password must be given above first, then the new password below and a confirmation).
If both fields are empty or different, the password will be unchanged.

New password

Verification

Current language: English

If logged as a Super administrator it is possible to do actions from the following page (most links are self-explaining):

Welcome VIBERT, you are currently logged in as a SUPER ADMINISTRATOR (Log out)

► Management of DSW surveys

Current survey : Choose a survey

Hello VIBERT, you can manage this web site

Select a survey before creating a survey administrator, a referent or an expert
If they are concerned by several surveys, they must be entered several times.

► People management

◉ Add a new people ◉ Modify a people profile

◉ Modify my own people profile

► Add a new choice in the following lists:

List of existing Institutions	Add a new Institution
List of existing Locations	Add a new Location
List of existing Practices	Add a new Practice
List of existing Services	Add a new Service
List of existing status	Add a new status
List of existing Specialities	Add a new Speciality
List of existing Titles	Add a new Title

► Creation or modification of survey

◉ Create a new survey

Reload this page to be able to work on the new survey.

Choose a survey ▾ Validate

◉ List of the survey administrators sorted by survey

◉ List of the referents sorted by survey

◉ List of the experts sorted by survey

► DSW database administration

◉ Modify the database structure (second login necessary)

◉ Complex SQL interrogations of the database








X FERMER

- **People management:** it is possible to create new users of the hierarchical category below the Super administrator category, or modify their profile, to modify its own profile.
 - Thus, it is possible to create or modify a survey administrator, a user, a referent or an expert. In any case it is necessary to select a survey before adding a survey admin, a referent or an expert. If they are concerned by several surveys, they must be entered several times.
- **Add new choice in lists**
 - This allow to add a new choice in several lists which appears in dropdown selection lists or list the items in the lists
- **Survey creation :** it is possible to create and modify the description of a survey
 - This creates or modifies only the description of the survey (name, textual description, administrator, status).

The following items appear when a new survey is created. Note that all texts entered must be written in the current language (those indicated on the top blue panel) in order to be translated in any other language.

Add survey in the table dsw_survey of DSW for the survey 'survey_1'.

WARNING : You MUST write the descriptions in the current language ('English') so that it can be translated in an other language.

survey_name	<input type="text"/>
admin	Choose admin  Select one of the items Add admin
date_design	2020 - 05 - 08  Enter dates as AAAA-MM-JJ (Put 00 on month or day if unknown).
date_end	2012 - 00 - 00  Enter dates as AAAA-MM-JJ (Put 00 on month or day if unknown).
status	Choose status  Select one of the items
phase	<input type="text"/>
iteration	<input type="text"/>
date_first_entry	2020 - 05 - 08  Enter dates as AAAA-MM-JJ (Put 00 on month or day if unknown).
date_last_entry	2012 - 00 - 00  Enter dates as AAAA-MM-JJ (Put 00 on month or day if unknown).
description	<div><div></div></div>
stage_order	Choose stage_order  Select one of the items
phrase_before	<input type="text"/>
phrase_middle	<input type="text"/>
phrase_after	<input type="text"/>
file_info	<input type="text"/>

X FERMER

Reload this page to be able to work on the new survey.

survey_1 Validate

The survey survey_1 is in mode **active** (phase: 6, iteration: 6, repetitions: 1)
Description: No description available.

- Modify this survey
- Survey definition
 - Create new questions for this survey
 - Create new pathology stages for this survey
 - Create new transition covariates for this survey
 - Define transition covariate values for covariates
 - Create cases collections for this survey
 - Modify a question (hide or make visible, add a comment and / or help) for this survey
 - Delete a question for this survey
- Administration of this survey

In test <input type="radio"/>	Active <input checked="" type="radio"/>	Suspended <input type="radio"/>	Finished <input type="radio"/>
Investigation Should Not Have Been Announced All responses will be destroyed upon activation	The answers from the test phase will be deleted. Survey can be announced If it was suspended it is reactivated.	The survey is no longer available online, but the results can be analyzed.	The investigation is closed. No one can answer.

Reload this page after choosing a status.

 - Start the next iteration of the survey 'survey_1'
 - Start the next phase of the survey 'survey_1'
- Survey administrator, Referent and Expert management for the survey 'survey_1'

This survey has already 1 survey administrator, 1 referents and 2 experts.

 - Add a new survey administrator
 - Add a new referent
 - Add a new expert
 - Modify a survey administrator profile
 - Modify a referent profile
 - Modify an expert profile
 - List of the survey administrators for this survey
 - List of the referents for this survey
 - List of the experts for this survey
- Data browsing

For phase 6 and iteration 6 Validate

(Type 'A' for Any value)

 - View results from the survey 'survey_1'
 - List of the survey administrators sorted by survey
 - List of the referents sorted by survey
 - List of the experts sorted by survey
- DSW database administration
 - Modify the database structure (second login necessary)
 - Complex SQL interrogations of the database

- **Survey exploitation:** a drop down box allows to select one of the existent surveys in order to prepare the survey questions and cases.
 - **Create new pathology stages for this survey**
 - This allows to define the different pathology stages from which the transition matrix will be built.
 - **Create new transition covariates for this survey**
 - This allows to define the different covariates that can influence the transitions.
 - **Define transition covariate values for covariates**
 - This allows to define the type and the possible values of the just defined covariates
 - **Create cases collections for this survey**
 - Allows to select the case transitions to study from the whole matrix, as well as their covariates, and the cases are automatically generated, using the case itself and a random combustion of the different cofactors and their values..
 - **Add comment and/or help, modify, hide or show cases, or create case avatars for this survey**
 - Allows to modify or edit the original cases and to create cases avatars

- **Survey administration**
 - This allows to control the different phases or finish the survey
 - **Start the next iteration of the survey 'essai_1'**
 - When a new iteration is started, a mail is automatically sent to the people involved in this survey (experts, referents, and survey administrators)
 - **Start the next phase of the survey 'essai_1'**
 - When a new phase is started, a mail is automatically sent to the people involved in this survey (experts, referents, and survey administrators)
 - **Suspend the survey 'essai_1'**
 - **Close definitely the survey 'essai_1'**
- **Data browsing**
 - Allows to view the survey results
 - **View results from the survey 'essai_1'**
- **DSW database administration**
 - **Modify the database structure**
 - This allows to modify the database structure and modify the data in the database. For example this allows to modify rights in the different tables of the database. Since this allow dangerous operations, second login is necessary. (This part is detailed in a special chapter)
 - **Complex SQL interrogations of the database**
 - This allow:
 - to display the full content of a table
 - to build complex SQL requests on any table of the database (see below).

DELPHI SURVEY WEB
[English]

DSW database queries

Informations are organized into tables of a database.

- The top panel allows to show the content of these tables.
- The middle panel starts a request generator allowing to show the content of a table according to a selection criteria.
- The bottom panel shows the generated SQL code, allowing to modify it manually and consequently create complex SQL requests.

Simple display of the content of a table

Display the following table :

Preparation of the SQL request

ATTENTION : first choose the table, then press (Send) and select the corresponding field list.

Table to use: Field to test: Operator : Give a value:

Send this SQL request as is or modify it before sending

Final request to run: SELECT ...

```
* FROM dsw_people WHERE * LIKE "0%
```

In this page, it is possible either to display the full content of a table from the DSW database, or to prebuild SQL requests that can be modified manually.

- The top panel allows to show the content of these tables.
- The middle panel starts a request generator allowing to show the content of a table according to a selection criteria.
- The bottom panel shows the generated SQL code, allowing to modify it manually and consequently create complex SQL requests.

The request result is displayed as a table;

User management

User management is possible for any category of users, except Experts, as previously explained.

Adding a new user

During this process some fields are mandatory. They are indicated with a star. Field on green background are visible on the public directory if the list of people is shown. If a value is lacking in a dropdown menu, it is possible to add a new item by clicking on “Add item”. This opens a new window to add the new item. **ATTENTION:** it is necessary to reload the page to see the new added item in the drop down menu.

Only peoples added to the people table can be agreed as super or survey administrator, referent or expert. In fact when declaring one of these status for a people, the people must be chosen using a dropdown list (see below).

Mandatory fields are indicated with a red asterisk on the form. Fields on light green background in the form are visible by other users, while those on grey background are confidential. Only the super user can see it..

Add a new member in the database

(*) = Necessary field.



Fields on green background are visible on the public directory.

Fields on grey background are confidential and only visible by the survey manager and the referent

last_name (*)	<input type="text"/>
first_name (*)	<input type="text"/>
service	Choose service <input type="button" value="Select one of the items"/> Add service
title	Choose title <input type="button" value="Select one of the items"/> Add title
speciality (*)	Choose speciality <input type="button" value="Select one of the items"/> Add speciality
fonction	<input type="text"/>
sex	Choose sex <input type="button" value="Select one of the items"/>
location (*)	Choose location <input type="button" value="Select one of the items"/> Add location
tel (*)	<input type="text"/>
fax	<input type="text"/>
mobile	<input type="text"/>
email (*)	<input type="text"/>
address	<input type="text"/>
date_birth	2004 - 05 - 27 <input type="button" value="Enter dates with format AAAA-MM-JJ"/> Type 00 for unknown month.
home_page	<input type="text"/>
thematics	<input type="text"/>
descriptive	<input type="text"/>



Submit Cancel

The modification of a user presents the available users

DELPHI SURVEY WEB

[English]

List of people in the DSW database





Click on the column name to sort the table on this criteria





M	people	last_name	first_name	service	title	speciality	fonction	sex	location	tel	fax	mobile	email	date_birth	date_first_con	date
Modify 1	vibert	jean-françois		Dr	pneumologist	0		Male	France	01 43 07 79 27			vibert@u444.jussieu.fr	1944-11-29	0000-00-00	2020-
Modify 2	valleron	alain-jacques		Pr		0		Male						0000-00-00	0000-00-00	2010-

X FERMER

Adding a new administrator/referent/expert

This can be done only when the future administrator/referent/expert has been entered as a new user (called people). People and the referent or survey administrator are chosen from a dropdown list. Name is repeated and e-mail is given. Login name and password are attributed. If several surveys apply, the referent must be entered several times. It can have different names, login and password for the user convenience. Nevertheless it will be always the same user, with the same address, speciality, etc.

 		DELPHI SURVEY WEB [English]				 														
SURVEY: survey_1																				
Add admin in the table dsw_admin of DSW																				
people	Choose people ▾																			
survey	survey_1 ▾																			
name	<input type="text"/> <i>If left blank, the people name will be used</i>																			
login	<input type="text"/> <i>If left blank, the people name will be used</i>																			
password	<input type="password"/> ATTENTION : mandatory field!																			
mail	<input type="text"/> ATTENTION : mandatory field!																			
super_admin	Choose super_admin ▾ Select one of the items																			
Submit Reset																				
X FERMER																				





SURVEY: survey_1
 survey_ID: 2
 admin_ID: 1

Add referent in the table dsw_referent of DSW

people	Choose people ▾	
admin	vibert ▾	
name	<input type="text"/>	If left blank, the people name will be used
login	<input type="text"/>	If left blank, the people name will be used
password	<input type="password"/>	ATTENTION : mandatory field!
mail	<input type="text"/>	ATTENTION : mandatory field!
survey	survey_1 ▾	

Submit Reset

X FERMER

SURVEY: survey_1

Add expert in the table dsw_expert of DSW

people	Choose people ▾	
referent	Choose referent ▾	
name	<input type="text"/>	If left blank, the people name will be used
login	<input type="text"/>	If left blank, the people name will be used
password	<input type="password"/>	ATTENTION : mandatory field!
mail	<input type="text"/>	ATTENTION : mandatory field!
survey	survey_1 ▾	

Submit Reset

X FERMER

Note that only a super administrator can create survey administrators, and decide if they are allowed to be a super administrator. In fact it exists only an unique data table with administrators, and a flag indicating if they are super and survey administrator, or only survey administrator (see below).

Survey Administrator login

If logged as a Survey administrator it is possible to do basically the same actions as a Super administrator:



- **Users management:** it is possible to create new users of the hierarchical category below the Survey administrator category (referents and experts), to modify their profile and to modify its own profile.
 - Thus, it is possible to create or modify a user, a referent or an expert. In any case it is necessary to select a survey before adding a referent or an expert. If they are concerned by several surveys, they must be entered several times.
- **Survey creation and modification :** it is possible to create and modify the description of a survey
 - **Create a new survey**
 - This creates or modifies only the description of the survey (name, textual description, administrator, , dates, status). This point was already described (see above).
 - **Modify this survey**
 - Allows to modify the survey description and status and see the number of questions and answers.
- **Survey exploitation:** a drop down box allows to select one of the existent surveys in order to prepare the survey questions and cases.

The following very important items will be described extensively in special sections.

- **Create new pathology stages for this survey**
 - This allows to define the different pathology stages from which the transition matrix will be built.
- **Create new transition covariates for this survey**
 - This allows to define the different covariates that can influence the transitions.
 - **Define transition covariate values for covariates**
 - This allows to define the type and the possible values of the just defined covariates
- **Create cases collections for this survey**
 - Allows to select the case transitions to study from the whole matrix, as well as their covariates, and the cases are automatically generated.
- **Add comment and/or help, modify, hide or show cases, or create case avatars for this survey**
 - Allows to modify the or edit the original cases and to create cases avatars
- **Survey administration**
 - This allows to control the different phases or finish the survey
 - **Test the newly created survey**
 - Investigation Should Not Have Been Announced
All responses will be destroyed upon activation
 - **Activate the survey**
 - This remove all data recorded during the test, in order to start the survey cleanly. The answers from the test phase will be deleted. Survey can be announced
If it was suspended it is reactivated.
 - **Suspend the current survey**
 - The survey is no longer available online, but the intermediate results can be analyzed.
 - **Close definitely the current survey**
 - The investigation is closed. No one can answer. The final results can be analyzed.
 - **Start the next iteration of the current survey**
 - **Start the next phase of the current survey**
- **Data browsing**
 - **View results from the current survey**
 - Allows to view the survey results

- **DSW database interrogation**
 - **Complex SQL interrogations of the database**
 - This allows to build complex interrogation SQL requests on any table of the database.

Referent login

If logged as a Referent it is possible to do, after having selected a survey (the other possibilities appears only after having validated the survey choice) :

The screenshot displays the 'DELPHI SURVEY WEB' interface. At the top, there are logos for 'MÉDECINE SORBONNE UNIVERSITÉ', 'ASSISTANCE PUBLIQUE HÔPITAUX DE PARIS', and 'Inserm'. The main header area includes the text 'DELPHI SURVEY WEB [English]' and a welcome message: 'Welcome VIBERT, you are currently logged in as a REFERENT (Log out)'. Below this, a blue banner reads 'Access to DSW surveys'. The main content area has a light blue background and contains the text 'Hello VIBERT (ID: 1), you are allowed to answer to a survey as a REFERENT'. A section titled 'Survey Choice' features a dropdown menu labeled 'Choose a survey' and a 'Validate' button. Below this, there are three red circular icons with corresponding text: 'Liste of peoples involved in DSW surveys', 'List of the referents sorted by survey', and 'List of the experts sorted by survey'. A 'Help (pdf file)' link with a question mark icon is located on the right side. At the bottom left, there is a red button labeled 'X FERMER'.

Welcome VIBERT, you are currently logged in as a REFERENT (log out)

► Access to DSW surveys

Hello VIBERT (ID: 1), you are allowed to answer to a survey as a REFERENT

Help (pdf file) ?

► Survey Choice

survey_1 ▾ Validate

The survey survey_1 is in mode **active** (phase: 6, iteration: 6, repetitions : 1)

Description : No description available.

► REFERENT menu

Select a survey before adding a referent
If he/she is concerned by several surveys, he/she must be entered several times.

1 referents can already analyse this survey

- Add a new people
- Modify a people profile
- Modify my own user profile
- Modify my own referent profile
- List of referents for this survey

► Add a new choice in the following lists:

List of existing Institutions	Add a new Institution
List of existing Locations	Add a new Location
List of existing Practices	Add a new Practice
List of existing Services	Add a new Service
List of existing status	Add a new status
List of existing Specialities	Add a new Speciality
List of existing Titles	Add a new Title

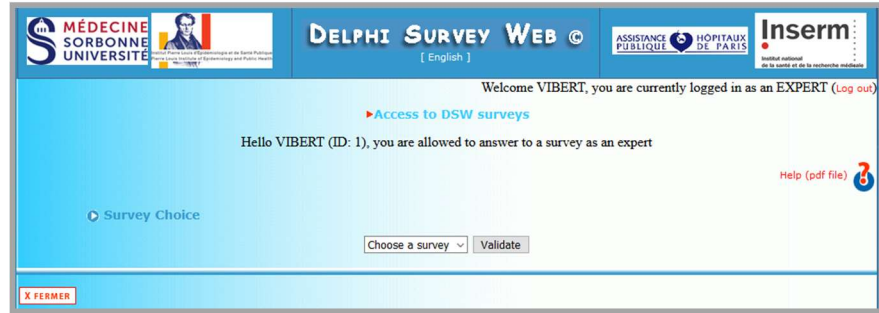
► Data browsing

- View results from the survey 'survey_1'
- Liste of peoples involved in DSW surveys
- List of the referents sorted by survey
- List of the experts sorted by survey

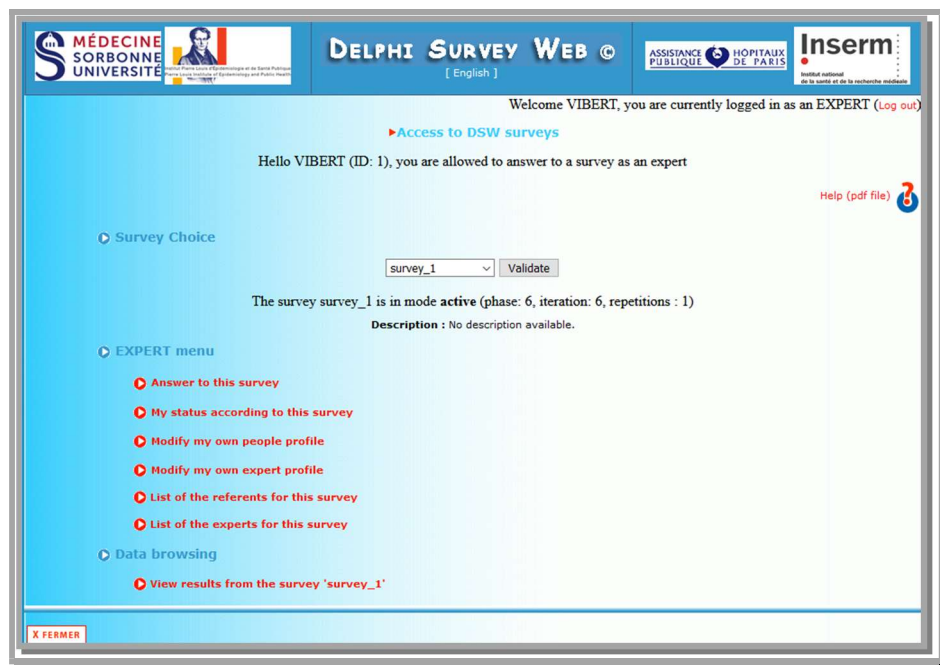
- **Users management:** it is possible to create new users of the hierarchical category below the Referent category, or modify their profile, to modify its own profile.
- **Data browsing**
 - **View results from the survey 'essai_1'**
 - Allows to view the survey results

Expert login

Important : This is the only way to access the survey questions and to answer to the questions.



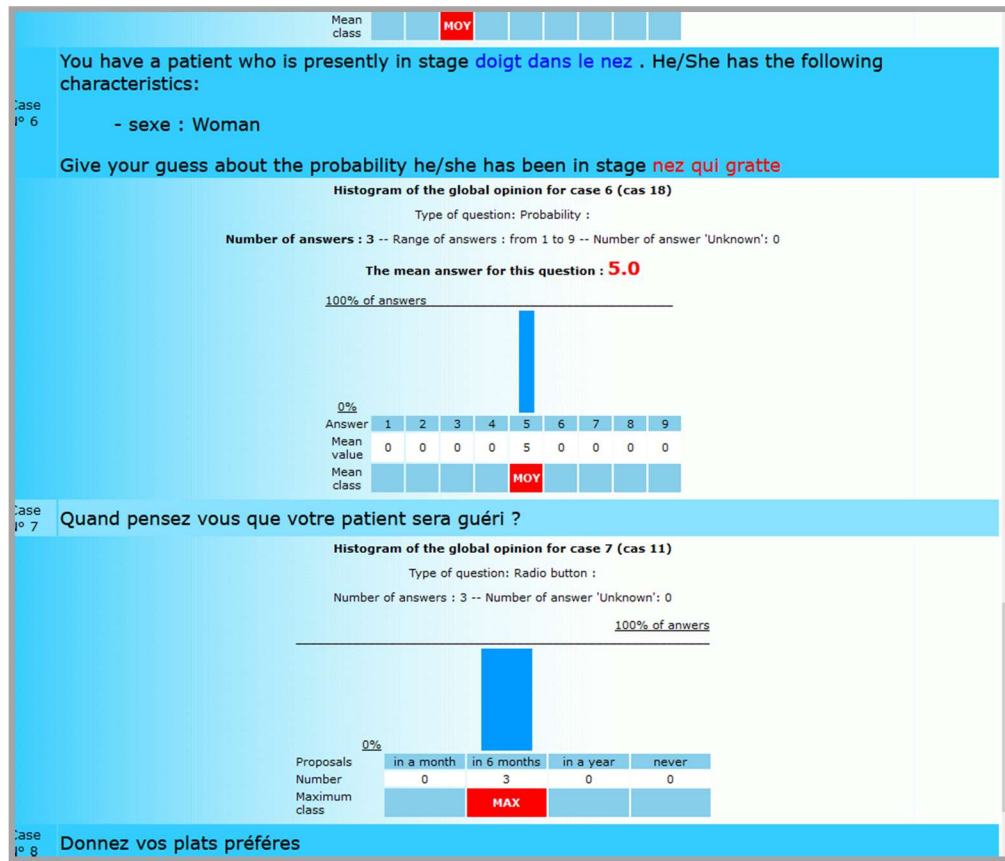
When a survey is selected among the survey the expert heva access, new possibilities appear:



If logged as an Expert it is possible to do, after having selected a survey (the other possibilities appears only after having validated the survey choice) :

- **Answer to this survey**
 - This is the entry point to answer to the survey (see below),
- **My status according to this survey**
 - This shows the number of answered questions, skipped questions and the number of questions not yet seen or answered.
- **Modify my own user profile**

- **Modify my own expert profile**
- **Data browsing**
 - **View results from the current survey**
 - Allows to view the survey results



Results are presented original case by original case (avatar cases are pooled with their original case), as histograms with the mean indicated in red

Number of answers, skipped responses, and mean are given.

If all answers have the same value, no histogram is drawn, only the unique answer is shown.

Survey content generation

Only an administrator (super or survey) can create a survey.

The process was described in the “DSW Architecture” section.. Here is a brief summary. Diseases are modelled as a multistage process. Patients may progress through n stages. Among all the $n \times n$ possible transitions between any two stages, only those who are plausible will lead to case definitions.

We saw that we found on the home page of an administrator the following links to populate a survey with questions. They must be reactivated in the order they appear, from top to bottom.

Create new pathology stages for this survey

This allows to define the different pathology stages from which the transition matrix will be built. This stages will be proposed as a transition matrix in one of the following steps.

The screenshot shows the 'DELPHI SURVEY WEB' interface with logos for Médecine Sorbonne Université, Assistance Publique Hôpitaux de Paris, and Inserm. The main heading is 'Add illness_stage in the table dsw_illness_stage of DSW for the survey 'survey_1''. A warning states: 'WARNING : You MUST write the descriptions in the current language ('English') so that it can be translated in an other language.' The form includes a text input for 'illness_stage', a dropdown for 'survey' (currently showing 'Choose survey'), and a link 'Select one of the items Add survey'. There are 'Submit' and 'Reset' buttons at the bottom, along with a red 'X FERMER' button.

Create new transition covariates for this survey

Since the transition probabilities may be governed by cofactors, such as age, sex, genetic characteristics, etc. these transition covariates, or cofactors, must be defined. Each cofactor can be text, value, range or binary choice. Quantitative cofactors (e.g. age) are categorized in classes. This allows to define the different covariates that can influence the transitions.

The screenshot shows the 'DELPHI SURVEY WEB' interface with the same logos as the previous form. The main heading is 'Add cofact_category in the table dsw_cofact_category of DSW for the survey 'survey_1''. A warning states: 'WARNING : You MUST write the descriptions in the current language ('English') so that it can be translated in an other language.' Below the warning, there is a text input for 'cofactor', a dropdown for 'data_type' (showing 'Choose data_type'), and a text input for 'nb_data'. A link 'Select one of the items' is next to the 'data_type' dropdown. There are 'Submit' and 'Reset' buttons at the bottom, along with a red 'X FERMER' button.

In this panel, the data-type is one of the following 4 types: Value/Text, Min-Max, Yes/No, Sex. The number of data gives the number of min-max pairs, or the number of possible text/value for the same cofactor. It has no sense for yes/no and sex.. In any case it can be left blank. The next panel will still allow to change all these values except the covariate names.

Define transition covariate values for covariates

This allows to define the type and the possible values of the just defined covariates.

Current survey: survey_1

Number of cofactors to define for survey_1: 3

Cofactor	Data type	Number of values
weight	min-max <small>Select one of the data types</small>	2 <input type="text" value="2"/>
sexe	sex <small>Select one of the data types</small>	Checkbox
Age	min-max <small>Select one of the data types</small>	2 <input type="text" value="2"/>

Submit

X FERMER

Current survey: survey_1

Number of cofactors to define for survey_1: 3

Cofactor	Data type	Number of values
weight	min-max	1: Minimum: <input type="text" value="50"/> Maximum: <input type="text" value="80"/> 2: Minimum: <input type="text" value="80"/> Maximum: <input type="text" value="100"/>
sexe	sex	1: <input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Age	min-max	1: Minimum: <input type="text" value="50"/> Maximum: <input type="text" value="70"/> 2: Minimum: <input type="text" value="70"/> Maximum: <input type="text" value="100"/>

Submit

X FERMER

In this panel, it is possible to modify the previous definitions. When done, a button allows to give the values for the data types.

Create cases collections for this survey

Allows to select the case transitions to study from the whole matrix, as well as their covariates, and the cases are automatically generated. When the chosen transitions are selected by checking the corresponding checkbox, We indicate the maximum number of cofactors the program will propose for each transition.

Covariates are chosen using the drop down boxes. If less than the maximum number of covariates is needed, we chose STOP in the dropdown boxes.

This will allow to automatically generate the cases from all combinations of illness stages and cofactor values. It is possible to choose if these cases will replace the previously generated cases or will be added to theses previous cases (this is useful when new cofactors or cofactor values are added).

When pressing the “Validate” button, cases are generated. A series of case histories is then automatically generated for all possible combinations of transitions (<10), of cofactors (<5) per transition and of levels of the cofactors. For example, this can lead to $5 \times 3 \times 3 = 45$ cases. This case may be repeated in a different way r times (for example, $r=2$). A repetition is called a case avatar.

Clicking on « Modify this case » opens the following page :

Modify item 25 of the table dsw_cases of the DSW database

WARNING : You MUST write the descriptions in the current language ('English') so that it can be translated in an other language.
(dem for Cofactors, proposals and Comments.
**You can add color (ex : `a text`) or bold (`xx`) or italic (`<i>xx</i>`) or next line (`
`).**

langue	fr	WARNING : if you change the language, you MUST translate le case in this language !
a_case	You have a patient who is presently in stage <code>guéri</code> . He/She has the following characteristics: <code><blockquote></code> - weight : 50 to 80 <code>
</code> - sexe : man <code>

</blockquote></code> Give your guess about the probability he/she has been in stage <code>nez qui gratte</code> after one year?	
cofact	- weight : 50 to 80 <code>
</code> - sexe : man <code>
</code>	
type_case	Probability	Sélectionner un des items. If type_cas is Probability, left peopositions blank, else give propositions separated by , (coma).
propositions	If type_case is Probability, left this line blank, else give propositions separated by , (coma).	
visible	yes	Sélectionner un des items.
survey	survey_1	
comment		
file_help	Give here only the file name with its extension, without its full path. This name will be the name of the file on the server side. If this field is left blank, the name will be the original one. If the field is left blank, the file is not modified on the server WARNING: no space, accent or punctuation in the file name, except dot. Extension necessary. <input type="button" value="Parcourir..."/> Aucun fichier sélectionné.	

The administrator can edit the case stories and add clinical details, either by improving the case description, or by providing a file with images (radios, photos, etc.). It is therefore possible to modify the way the case is presented, the cofactors and add comment, as well as a file, that can be necessary if it is helpful to display figures (X-ray for example).

It is also possible to hide the case (visible = no) or to affect it to another survey (but it will disappear for the current survey, since a case can only be affected to one survey).

Clicking on « Create a case avatar » opens a similar page, with the same possibilities, but instead of modifying the case, it adds a new case called case avatar labelled with the original case number followed by a A instead of a O. This is the way to make masqueraded repetition of the same case, as explained above.

Answering the Delphi survey

Only experts authorized to answer a given survey can answer to the questions of this given survey.

At each round, the answers are analysed and the probabilities are computed on line. Consequently, except during the first Delphi survey round (phase 0), the histogram of the

responses of other experts to the same question is shown as an histogram, along with the mean answer given by the expert him/herself during the preceding survey rounds.

Three types of questions are proposed :

1. Probability case

Each case is presented, along with the number of cases still to evaluate. The expert does not know if the case is an original case or a case avatar. He/she must indicate his/her estimation of the risk to be in the second stage (in blue) while he/she is in the first stage (in red). This opinion is indicated on a probability scale . One scale is proposed : 0 to 9 where 0 is never and 9 always.

2. Radio box case

Only one choice is possible.

3. Checkbox case

Several choices are possible.

The expert can also have no opinion or skip the question. If the question is skipped; it will be presented at the next session. The evaluation can be stopped at any time. Not answered question are presented next session. This allow to answer the survey in several sessions, or to skip a question in order to take the time of reflexion for a complex case.

At the end of the session, the expert status is displayed (here in a French study).

The survey : survey_1 (phase: 6 iteration: 6)

There are 8 questions to answer in this survey.

CAUTION : you are not obliged to answer all questions during a single session.
Unanswered questions will be presented at the next connection

You have still 8 cases to evaluate after this one (thus this one included)...

You have a patient who is presently in stage **nez qui gratte** . He/She has the following characteristics:

Case 22

- sexe : Woman
- Age : 51 to 80



Give your guess about the probability he/she has been in stage **doigt dans le nez**

To answer, select a value on the scale below (you can skip cases or stop before the end. Unanswered cases will be presented at the next connection):

Your opinion		The global opinion for case 22 at the previous phase of DSW																															
<p>1 : never. 9 : always.</p> <p>- <-----> +</p> <p>1 2 3 4 5 6 7 8 9</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p>I have no opinion : <input type="radio"/></p>		<p>Number of answers : 1 -- Range of answers : from 1 to 9 -- Number of answer 'Unknown': 0</p> <p>The mean answer for this question: 3.0</p> <p>100% of answers</p> <table border="1"> <thead> <tr> <th>Answer</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> </tr> </thead> <tbody> <tr> <td>Number</td> <td>0</td> <td>0</td> <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Mean class</td> <td></td> <td></td> <td>MOY</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Answer	1	2	3	4	5	6	7	8	9	Number	0	0	3	0	0	0	0	0	0	Mean class			MOY						
Answer	1	2	3	4	5	6	7	8	9																								
Number	0	0	3	0	0	0	0	0	0																								
Mean class			MOY																														


I skip (I will answer when I will connect again) : ☐

Validate OR Stop the case evaluation Avoid to close this window by the window's close button. Use the button at left in order to close and see your status.

DELPHI SURVEY WEB
 [English]

ASSISTANCE
PUBLIQUE
HÔPITAUX
DE PARIS



Previous answer (case 17) recorded ()

The survey : survey_1 (phase: 6 iteration: 6)

There are 8 questions to answer in this survey.

CAUTION : you are not obliged to answer all questions during a single session.
Unanswered questions will be presented at the next connection

You have still 4 cases to evaluate after this one (thus this one included)...

Case 11



Quand pensez vous que votre patient sera guéri ?

To answer, select a radio button below (you can skip cases or stop before the end. Unanswered cases will be presented at the next connection):

Your answer	The global answer for case 11 at the previous phase of DSW
1 : <input type="radio"/> in a month 2 : <input type="radio"/> in 6 months 3 : <input type="radio"/> in a year 4 : <input type="radio"/> never 5 : <input type="radio"/> I have no opinion	Number of answers : 3 -- Number of answer 'Unknown': 0<p>Not yet previous data.

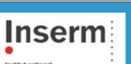
I skip (I will answer when I will connect again) : ☐

OR
Avoid to close this window by the window's close button. Use the button at left in order to close and see your status.

DELPHI SURVEY WEB
 [English]

ASSISTANCE
PUBLIQUE
HÔPITAUX
DE PARIS



Previous answer (case 22) recorded ()

The survey : survey_1 (phase: 6 iteration: 6)

There are 8 questions to answer in this survey.

CAUTION : you are not obliged to answer all questions during a single session.
Unanswered questions will be presented at the next connection

You have still 7 cases to evaluate after this one (thus this one included)...

Case 12



Donnez vos plats préférés

Your answer	The global answer for case 12 at the previous phase of DSW
1 : <input type="checkbox"/> Meat 2 : <input type="checkbox"/> Pasta 3 : <input type="checkbox"/> Cheese 4 : <input type="checkbox"/> Dessert 4 : <input type="checkbox"/> I have no opinion	Number of answers : 1 -- Number of answer 'Unknown': 0<p>Not yet previous data.

I skip (I will answer when I will connect again) : ☐

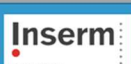
OR
Avoid to close this window by the window's close button. Use the button at left in order to close and see your status.

ATTENTION: It is important to stop and close the window using the “Stop the case evaluation” button, in order to update the number of question answered by the expert. Avoid the window close button (upper right).

DELPHI SURVEY WEB
 [English]

ASSISTANCE
PUBLIQUE
HÔPITAUX
DE PARIS



Previous answer (case 21) recorded ()

The survey : survey_1 (phase: 6 iteration: 6)

There are 8 questions to answer in this survey.

Thank you, you evaluated all cases.

Database management

This option is only available to the Super administrators needs a second login, since it gives access to risky operations on the database and to the definition of access rights of some users.

It is possible to add, modify or suppress data directly in the database tables.

It allows to add a table to the database, and to add fields in pre-existing or newly created tables in the database.

According to the people rights, only the possible actions are displayed. Unauthorized actions are not visible, and thus not possible.

The rights to modify values in the database tables are the following :

- **No or Nothing** : No right on this table
- **Modify** : Allow to modify an item in the table, chosen in th complete list of items
- **Add** : Allow to add an item in a table, or modify as previously
- **Suppress** : Allow to modify, add or suppress an item in the table

► Management of DSW database

Hello VIBERT, below are your rights on the DSW tables :

Table	Rights
table_people :	suppress
table_admin :	suppress
table_location :	suppress
table_practice :	suppress
table_status :	suppress
table_quest_type :	suppress
table_question :	suppress
table_resp_item :	suppress
table_response :	suppress
table_rights :	suppress
table_document :	suppress
table_service :	suppress
table_speciality :	suppress
table_survey :	suppress
table_institution :	suppress
table_title :	suppress
table_stage_transition :	suppress
table_time_spent :	suppress
table_patient_age :	suppress
table_cofact_values :	suppress
table_cofact_category :	suppress
table_illness_stage :	suppress
table_cases :	suppress
table_expert :	suppress
table_referent :	suppress
table_case_answer :	suppress
table_super_admin :	suppress
table_langues :	suppress
table_mail :	suppress

Number of tables : 23

Add a table in the DSW database
When done, reload this page to be able to manage the new table

No or Nothing : No right on this table
Modify : Allow to modify an item in the table, chosen in th complete list of items
Add : Allow to add an item in a table, or modify as previously
Suppress : Allow to modify, add or suppress an item in the table

Management of admin :	Modify admin	Add admin	Add field(s) in admin
Management of case_answer :	Modify case_answer	Add case_answer	Add field(s) in case_answer
Management of cases :	Modify cases	Add cases	Add field(s) in cases
Management of cofact_category :	Modify cofact_category	Add cofact_category	Add field(s) in cofact_category
Management of cofact_values :	Modify cofact_values	Add cofact_values	Add field(s) in cofact_values
Management of document :	Modify document	Add document	Add field(s) in document