Table of contents:

Smart card

Smart card integrated into patient workflow

User interface changes for smart card/fingerprinting

Lab form now uses the OpenELIS test catalog

Other form and user interface changes

Addition of bilateral pitting edema (nutritional) symptom

Muac added to ob-gyn forms

Death date on registration Form

Lab form now uses the OpenELIS catalog

Imaging form

New reporting submenu and menu items

Reporting changes

HSIS Report

<u>Indicator group - Malaria</u>

Indicator group - nutrition

Indicator group - tuberculosis

Indicator group - Ob-gyn

<u>Indicator group - Data quality</u>

Modifications to HEALTHQUAL indicators

Administration items

Software required for fingerprinting and smart card

LDAP list URL now available to administrators

Smart card

Smart card integrated into patient workflow

With this release, smart card technology is added to iSanté. Patients treated for HIV and other chronic diseases will be issued smart cards to provide improved continuity of care. The cards will hold patient identification information including iSanté ID, fingerprints, and the most recent clinical summary report. These cards will be issued at the completion of a patient's visit, in order to capture as much as possible of the patient's clinical findings within the summary report added to the card.

Workflow for fingerprinting and smart card is as follows:

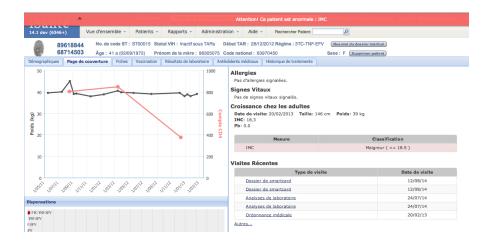
- All patients visiting a site will be locally registered and fingerprinted.
- Patients visiting or transferring from a different site with a smart card will have that card read into the local record upon registration. A fingerprint swipe will be required to verify that the card applies to the patient.
- A fingerprint swipe can be used throughout the site for identification purposes and to

retrieve the patient's record in iSanté

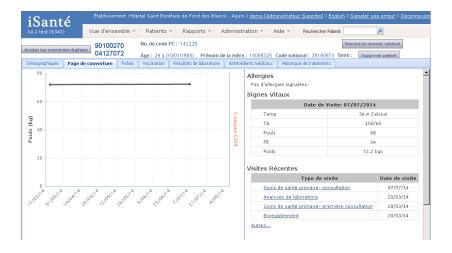
- Prior to departure from the site:
 - All patients with chronic conditions will be issued a freshly written smart card containing their fingerprints from the site, their country-wide iSanté ID, and their up-to-date summary report.
 - HIV patients who are visiting but not transferring to the site should have a discontinuation transaction written to their local site record.

User interface changes for smart card/fingerprinting

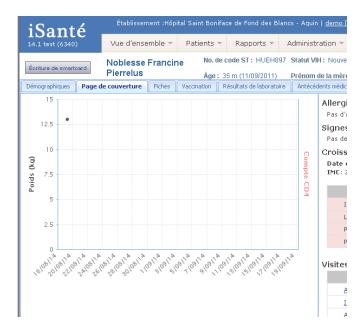
Fingerprinting and smart card technology only works with the Microsoft Internet Explorer browser and requires the appropriate fingerprint scanner, smart card reader, and client software (see Administration section below). On other browsers, the user interface for adding fingerprints, searching via fingerprint, and issuing smart card are not available. Fingerprinted patients show on these browsers with a small fingerprint image in the top left of the patient cover page:



On the patient cover page, unprinted patients have a **Add fingerprints** button in the top left:



Printed patients have an **Issue smart card** button in the top left:



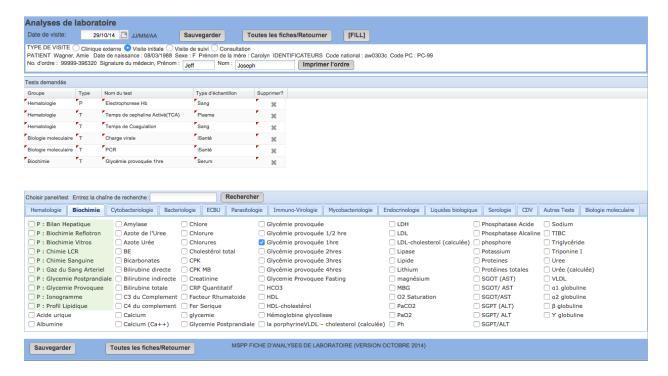
Patients visiting or transferring from a different site have a link at the bottom of the new forms section of the forms list page:



Lab form now uses the OpenELIS test catalog

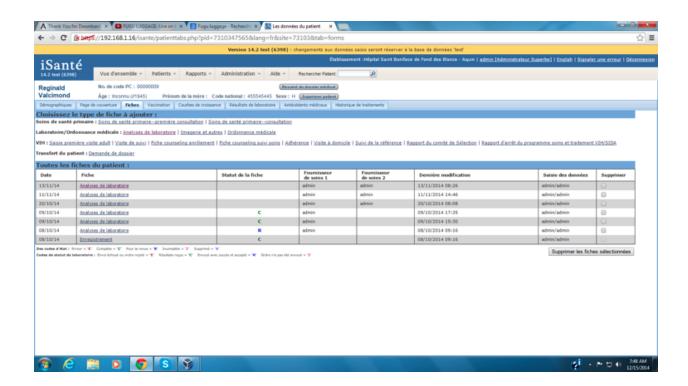
Starting with 14.2, the old iSanté lab form is no longer used except to display forms previously saved. The lab form interface, whether using OpenELIS or not, uses a combination of the OpenELIS test catalog and 13 additional tests missing from that catalog. Tests are chosen from the catalog at the bottom of the form (the **pick** list) and displayed in a list at the top of the form (the **selected** list). In the screen shot below, a combination of a panel and some individual tests

are ready to be saved. Tests missing from the OE catalog are labeled with a sample type of **iSanté**. Selected tests in the list remain checked in the pick list. Sites not using OpenELIS will not see panels in the pick list because iSanté doesn't support panels. Unsaved items in the list have red triangles.

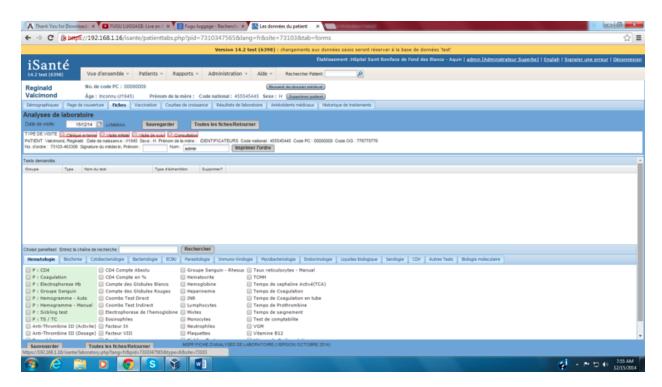


Once the order is saved in iSanté, it can be sent to OE via the Send button (not shown above because items are not saved). At that point the order is frozen; the pick list and the OE tests disappear from the order. Tests missing from the OE catalog remain so that their results can be entered manually through the form when available; OE catalog test results will reappear automatically when they have results. The order above is shown below with two OE results returned, the two missing tests available for direct result entry (currently unsaved), and the remaining OE tests pending (not shown).

To enter a lab sheet for a patient, go to the forms list:



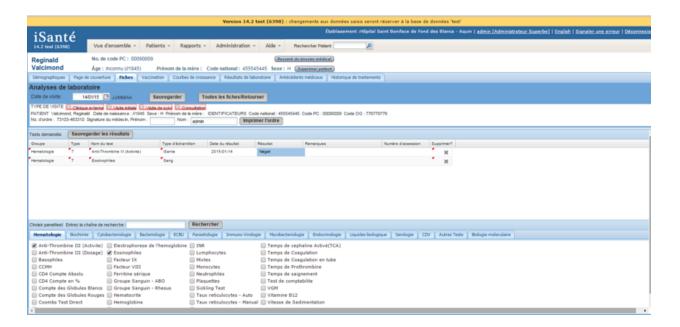
Click on Laboratory Testing: The form below is shown regardless of whether the site is configured for OpenELIS or not.



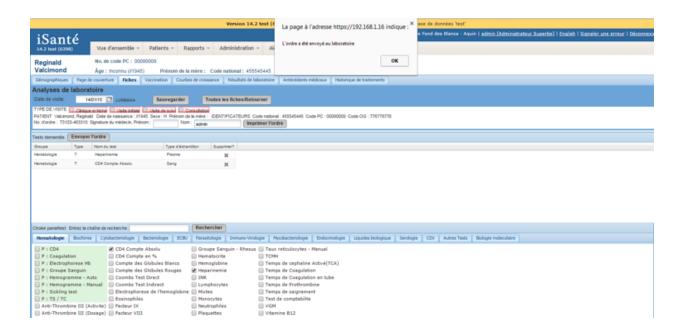
(*) Select the type of visit (Outpatient Clinic, initial visit, follow-up visit, consultation), and enter the doctor's name.

Multiple tabs (14 in total) are displayed in the lower part of the window (Haematology, Biochemistry, Cytobacteriologie, bacteriology, urinalysis (Review cytobacteriological of urine), Parasitology, Immuno-Virology, Mycobacteriology, Endocrinology, biological fluids, Serology, CDV, Other tests, molecular biology).

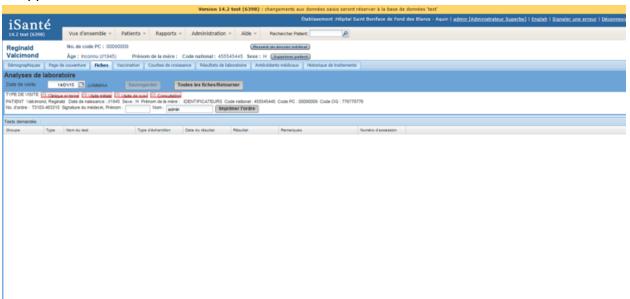
When the site is not configured with OpenELIS, the results are directly entered. To do this, the sample type must be iSanté. If the default sample type is not iSanté, change it. Required fields are: Date of result, Result, Notes, Accession Number as you can see from the screenshot below:



When the site is configured with OpenELIS, the test results are entered on OpenELIS. After choosing the test performs, save and send the order to OpenELIS. Several tests can be sent simultaneously to OpenELIS. See screenshot below:



A message appears indicating that the order was sent to the laboratory. Clicking ok, orders disappear in the window. See below:



Other form and user interface changes

Addition of bilateral pitting edema (nutritional) symptom

A new symptom checkbox (see below) was added to the pediatric HIV+ intake and follow-up forms:

SYMPTÔMES						
Anorexie / Perte d'appétit	Eruption cutanée, <i>préciser</i> :					
Asthénie						
Céphalées	☐ Fièvre inexpliquée < 1 mois					
Convulsions	Hémoptysie					
Diarrhée < 14 jours	☐ Irritabilité					
Douleurs abdominales	☐ Malaise					
Douleurs musculaires	Nausée / Vomissements					
Dyspnée	□Œdèmes bilateraux (nutritionnel)					
SYMPTÔMES QUALIFIANT PO	UR LES STADES I-IV DE L'OMS					
OMS Stade I	OMS Stade II					
Asymptomatique	Diarrhée > 14 jours					
	Fièvre inexpliquée > 1 mois					

The new symptom checkbox (see below) was also added to the 'Motifs de Consultation' section of the pediatric primary care forms:

OTIFS DE CONSULTATION
Suivi Diagnostic Actuel 🔲 Nouveau
Général
Asthénie/léthargie
☐ Courbatures
Douleurs, précisez :
☐ Œdèmes bilateraux (nutritionnel)
☑ Œdème, précisez :
☐ Fièvre < 2 semaines
☐ Fièvre ≥ 2 semaines

Muac added to ob-gyn forms



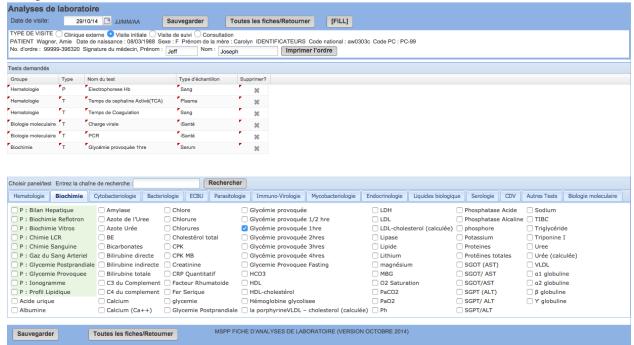
Death date on registration Form

It is now possible to record patient date of death on the registration form:



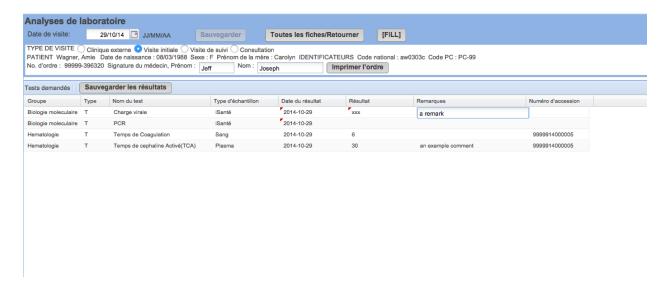
Lab form now uses the OpenELIS catalog

Starting with 14.2, the old iSanté lab form is no longer used, except for forms previously saved. The lab form interface, whether using OpenELIS or not, uses a combination of the OpenELIS test catalog and 10 other tests missing from that catalog. Tests are chosen from the catalog at the bottom of the form (the pick list) and displayed in a list at the top of the form (the select list). In the screen shot below, a combination of a panel and some individual tests are about to be saved. Tests missing from the OE catalog are listed with a sample type of iSanté. Selected tests in the list remain checked in the pick list area. Sites not using OpenELIS will not see panels in the pick list because iSanté does not support panels directly. Unsaved items in the list show with red triangles.



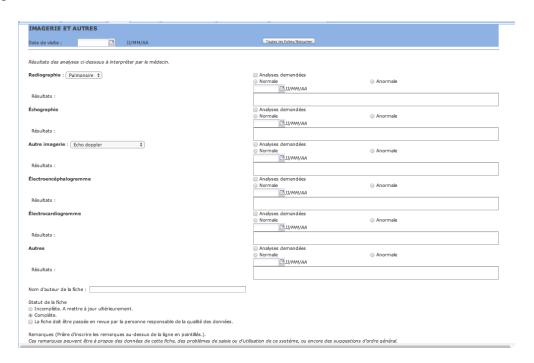
Once the order is saved in iSanté, it can be sent to OE via the Send button (not shown above

because items are not saved). At that point the order is frozen; the pick list and the OE tests disappear from the order. Tests missing from the OE catalog remain so that their results can be entered manually through the form when available; OE catalog test results will come back to iSanté automatically. The order above is shown below with two OE results returned, the two missing tests available for result entry (currently unsaved), and the remain OE tests pending (not shown).



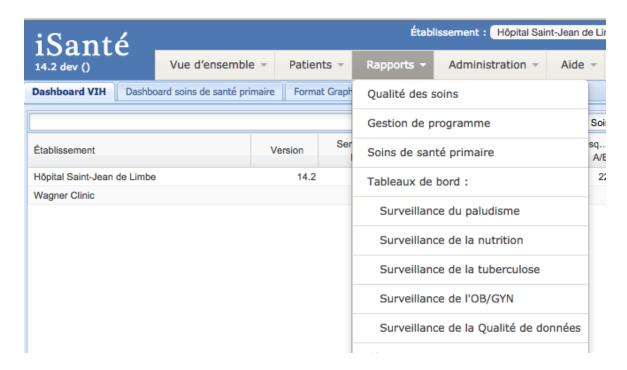
Imaging form

Imaging orders and results are now available in a new form:



New reporting submenu and menu items

A **Dashboards** (**Tableaux de bord**) submenu that includes the indicators for malaria, nutrition, tuberculosis, ob-gyn and data quality is added to the Report menu:



Reporting changes

HSIS Report

To access the iSanté HSIS report, go to the main menu of the Reports tab as shown below, then click on Program Management:



We arrive on the reports page, click HSIS (report ...), see screenshot below:



To select how long you want to run the report, enter a start date (MM / YY) and a date End (MM / YY), ignore the other settings, and then click the submit button:



When starting the report, some fields are already filled, while others must be entered in the following interface. Unfilled fields are in red (see below). Once the missing data entered, to register. The report is then available on the system with the added data and can be visualized again, modified, printed.

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Indicator group - Malaria

16 indicators for malaria filterable by pregnancy, gender, and age group:

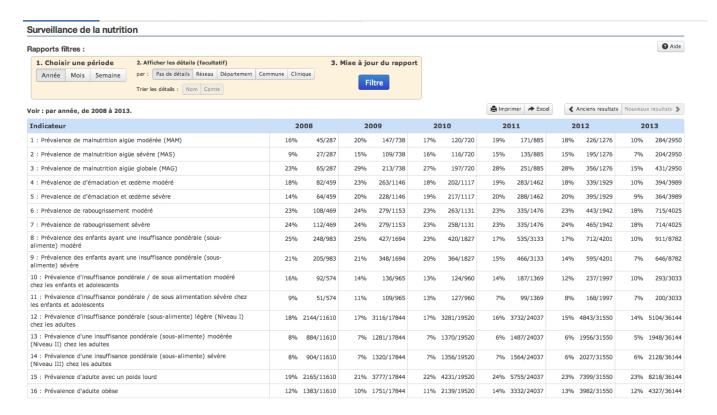
Indicateur
1 : T: Pourcentage de patients ayant eu la fièvre au cours des 2 dernières semaines (OMS)
2 : T: Pourcentage de patients avec fièvre (cas suspect) ayant reçu un antipaludique (OMS)
3 : T: Pourcentage de patients avec malaria confirmée ayant reçu un traitement conforme aux normes nati
4 : T: Pourcentage de patients avec fièvre ayant été testés pour la malaria (OMS)
5 : T: Nombre de cas de la malaria confirmés
6 : T: Nombre de patients ayant bénéficié un test microscopique pour la malaria
7 : T: Nombre de patients ayant un test microscopique positif pour la malaria
8 : T: Nombre de patients ayant un test microscopique positif à Plasmodium falciparum.
9 : T: Nombre de patients ayant un test microscopique positif mixte à Plasmodium (OMS)
10 : T: Nombre de patients ayant un test microscopique positif à Plasmodium autres que falciparum
11 : T: Nombre de patients ayant bénéficié d'un TDR pour la malaria
12 : T: Nombre de patients ayant un TDR positif pour la malaria
13 : T: Nombre de cas suspects de la malaria (fièvre) dépistée (test demande)
14 : T: Nombre de cas de la malaria confirmée
15 : T: Nombre de cas confirmés pour la malaria sévère et mis sous traitement selon les normes nationales
16 : T: Nombre de patients avec Malaria hospitalisés

Malaria indicators can be filtered as shown in the filter selector:



Indicator group - nutrition

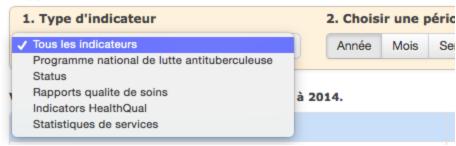
There are now 16 indicators for the surveillance of nutrition.



Indicator group - tuberculosis

There are 63 indicators for the surveillance of tuberculosis, filterable as shown:

Rapports filtres:



Indicator group - Ob-gyn

There are 20 indicators for ob-gyn.

Indicator group - Data quality

There are 40 indicators for data quality.

Modifications to HEALTHQUAL indicators

The following changes were made to the HEALTHQUAL indicators:

1. Isoniazid Prophylaxis

Old Denominator:

Number of HIV+ patients having made at least one medical visit during the analysis period, excluding discontinued patients and pediatric patients with a negative PCR result.

Old Numerator:

Number of HIV+ patients who received INH prophylaxis during the analysis period.

New Denominator:

Number of HIV+ patients enrolled during the analysis period, excluding those with active TB, discontinued patients and pediatric patients with a negative PCR result.

New Numerator:

Number of HIV+ patients enrolled during the analysis period who also received INH prophylaxis during the period.

2. CD4 Monitoring

Old Numerator:

Number of HIV+ patients ever enrolled at the site more than six months prior to the period of analysis who have had 2 CD4 counts in last 8 months.

New Numerator:

Number of HIV+ patients ever enrolled at the site more than six months prior to the period of analysis who have had 2 CD4 counts in last 12 months.

Primary care patient summary report

A patient summary report formatted for adult, pediatric, and ob-gyn primary care is now available from the patient cover page, similar to the HIV summary that was previously available.

Patients never tested for CD4

Patients under 5 years old are now excluded from this report.

Eligible but not enrolled for ARVs report

A column was added to this report indicating the reason patient was not enrolled.

Administration items

Software required for fingerprinting and smart card

The most recent M2Sys software for fingerprinting and smart card should come from here:

https://www.filesanywhere.com/fs/v.aspx?v=8b6c6289596471759c9e Password: m2hybr1d



Note that different client installer must be used for 32-bit vs. 64-bit computers. Both are dated July 10, 2014. Also, note that the Server 7.0.5 (dated December 6, 2013) is required for writing the smart card (prints are written directly from the local fingerprint server to the smart card).

LDAP list URL now available to administrators

The URL ~isante/ldap/list.php can be used to see the full list of authorized users from the LDAP directory, along with their emails and telephone numbers:

Liste des comptes							
Nouveau compte	-						
Nom d'utilisateur	Nom complet	Adresse électronique	Compagnie Numéro de téléphone	Commentaires			
<u>admin</u>	ad admin	admin@uw.edu	I-TECH				
<u>cirgadmin</u>	admin						
crogosin	Carli Rogosin	crogosin@uw.edu	I-TECH				
<u>demo</u>	demo demo	demo.com	itech				
dereil	Emily DeReil	dereil@uw.edu	I-TECH				
<u>jdiallo</u>	Joanna Diallo	jdiallo@uw.edu	I-TECH				
miked4	Mike Davisson	miked4@uw.edu	I-TECH				