

Occupational Health Surveillance System (OHSS)

Epidemiology and Surveillance Unit

National Institute For Occupational Health, a division of the NHLS

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Outline

- ▶ Defining the system and its intended use
- ▶ Purpose and Objectives of the OHSS
- ▶ What data is collected, how is reporting done and by who
- ▶ Management and Storage of OHSS data, POPI act and confidentiality
- ▶ Registration and Reporting of Cases by Business

Surveillance

- ▶ A mechanism by which public health agencies such as the Department of Health (DoH) use to monitor the health of populations or communities.
- ▶ **Goal:** To provide a factual basis from which the agency can appropriately set priorities, plan programs, and take action to promote and protect the public's health.



What is Public Health Surveillance

Accepted definition of public health surveillance?

The ongoing systematic collection, analysis, and interpretation of health data, essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination to those who need to know.



NATIONAL INSTITUTE FOR
OCCUPATIONAL HEALTH

Division of the National Health Laboratory Service

OHSS - Occupational Health Surveillance System is a tool used to initiate mandatory reporting of CoVID-19 related cases and monitor the impact of the disease within the workplace in South Africa

► **Goal**

The Goal of this Initiative is to ensure that occupational health data related to COVID-19 collected during the State of Disaster is appropriately governed in terms of the use of scientifically and technically sound instruments, collected ethically, housed at secure servers within mandated agencies, scientifically analysed and appropriately reported and the access managed for research purposes in order to advance broader OHS goals generally, and address interventions to reduce the impact of the epidemic.

Purpose of the Occupational Health Surveillance System (OHSS)

The occupational health surveillance system (OHSS) was developed to initiate mandatory reporting of CoVID -19 cases and to monitor the impact of Coronavirus (CoVID-19) within workplaces in South Africa.

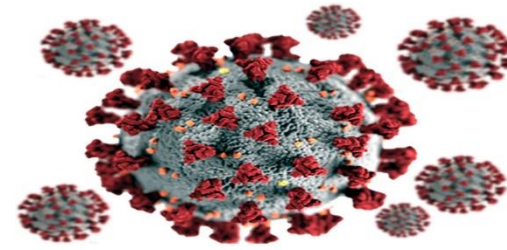
- ▶ To evaluate the impact of the CoVID-19 interventions in the workplace.
- ▶ To provide regular updates on the trajectory of the pandemic in economic sectors nationally.
- ▶ To monitor the distribution and factors associated with COVID-19 disease across workplaces and industries in South Africa.
- ▶ To understand the post-infection and return to work health outcomes of employees.



Objectives of the OHSS

- ▶ Develop a framework for a CoVID-19 surveillance model for monitoring workers in various economic sectors, both in the public and private sectors.
- ▶ Early identification of sectors/companies and occupational groups at high risk of infection so as to inform appropriate interventions (e.g. policy, programs, resources).
- ▶ Understand the impact of the CoVID-19 interventions in the workplace.
- ▶ Determine the human resource and economic impact of CoVID-19 on the various sectors.
- ▶ To provide strategic insights through data analytics and visualization into all phases of the CoVID-19 infection spectrum in the South African workforce.
- ▶ Identification of key scientific questions requiring further investigation.

What Data is collected?



Data Collected

The following data is collected from businesses;

1. Symptom screening data

- ▶ Since the country was declared a state of disaster, all employers in the country are legally required to screen all employees entering their work premises on a daily basis. This screening must be based on the prescribed set of symptoms as has been defined by the National Institute of Communicable Diseases (NICD) to determine those persons likely to be presenting with a CoVID-19 infection, and therefore should be referred for further assessment.
- ▶ This daily collected data must then be submitted by employers employing 50+ employees to the DoH through the OHSS platform.
- ▶ The data must be submitted on a weekly basis should there be symptomatic workers recorded during the calendar week. The submissions should occur before Tuesday for the previous calendar week commencing on Sunday.
- ▶ The data required is indicated in the prescribed Symptom screening template

Symptom screening data

Symptom Screening		
Title	Field status	Definitions
Business ID	Compulsory	System Generated- Provided to business by NIOH
Employee ID	Compulsory	SA National ID
Screening date	Compulsory	Date when screened Year-month-day
Employee Age	Compulsory	Years
Employee sex	Compulsory	Male/ Female / Other
Job Category*	Compulsory	Managers
		Professionals
		Technicians and Associate Professionals
		Clerical Support Workers
		Services and Sales Workers
		Skilled Agricultural; Forestry; Fishery; Craft and Related Trades Workers
		Plant and Machine Operators and Assemblers
Province	Compulsory	Elementary Occupations
District	Compulsory	See drop down menu or list
Symptoms Present (yes/ no)	Compulsory	See drop down menu or list
Fever >38 ^o c	Optional	Yes/No
Chills	Optional	Yes/No/ Unknown
Dry cough	Optional	Yes/No/ Unknown
Sore throat	Optional	Yes/No/ Unknown
Shortness of breath	Optional	Yes/No/ Unknown
Tiredness	Optional	Yes/No/ Unknown
Lack of smell or taste	Optional	Yes/No/ Unknown
Conjunctivitis	Optional	Yes/No/ Unknown
Diarrhoea	Optional	Yes/No/ Unknown
Muscle pains	Optional	Yes/No/ Unknown
Nausea or vomiting	Optional	Yes/No/ Unknown
Dizziness	Optional	Yes/No/ Unknown
Headache	Optional	Yes/No/ Unknown
Screening Outcome	Optional	Yes/No
No action required		
Referred for self-isolation		
Referred for testing		
Referred to the doctor		

Data Collected

2. CoVID-19 Positive Test Data

Based on their daily symptom screening, or on their employees' presentation to their health provider, employees are referred to health providers / health laboratories for testing for the presence of the CoVID-19 virus.

- ▶ In terms of managing the pandemic in the workplace, the employer is expected to be notified of the results of the tests.
- ▶ The results of the laboratory tests of all employees who test positive must be submitted by employers, upon receiving the results of such tests. In addition, employers need to submit details in the Positive Case template for such individuals.
- ▶ This submission occurs only when an employee tests positive for COVID-19 and should be submitted on a weekly basis should there be positive workers identified during the calendar week.
- ▶ The data required is listed in the prescribed Positive Case template.

Positive Test Data

Positive test		
Title	Field status	Definitions
Business ID	Compulsory	System Generated- Provided to business by NIOH
Employee Business Generated ID	Compulsory	Employer Generated unique employee number if used in the other templates
Employee SA National ID	Compulsory	SA National ID
Date	Compulsory	Date when completing this template
Province	Compulsory	See drop down menu or lists
District	Compulsory	Date when completing this template
Industry	Compulsory	
Sex	Compulsory	See drop down menu or lists
Age	Compulsory	Years
Job category	Compulsory	Managers Professionals Technicians and Associate Professionals Clerical Support Workers Services and Sales Workers Skilled Agricultural; Forestry; Fishery; Craft and Related Trades Workers Plant and Machine Operators and Assemblers Elementary Occupations
Test Date	Compulsory	Date
Test type	Compulsory	Unknown/PCR/Antigen/Antibody
Symptoms Present	Compulsory	Yes/ No
Number of high-risk workplace contacts	Compulsory	Number
Vulnerability Present	Compulsory	Yes/ No
Post-test result action	Compulsory	Sick Leave Self-Isolation at home Self-Isolation at quarantine site Hospitalization
Exposure Contact type	Compulsory	Work contacts Community contacts Family contacts Large events contacts Travel history from a designated hotspot Public transport Unknown
Reporting Action	Optional	Reported to COIDA

Data Collected

3. Return To Work Data

All employers who indicate employees have tested positive must submit information about the outcome of the infection, and the return-to-work decision.

- ▶ No confidential clinical information is required.
- ▶ This data must be submitted once, only when the employee returns to work.
- ▶ Recovery of employees from the infection will vary based on vulnerability and other risk factors.
- ▶ The data required is listed in the prescribed Return-to-work Template.

Return to Work Data

Return to work: Clinical Management and Outcomes		
Title	Field status	Definitions
EmployeeID	Compulsory	SA National ID / Passport Number
EmployeeWorkID	Optional	Employer Generated unique employee number
BusinessID	Compulsory	System Generated- Provided to business by NIOH
Date	Compulsory	Date when filling in the template Year-month-day
Province	Compulsory	See drop down menu and list
District	Compulsory	See drop down menu and list
Industry	Compulsory	See drop down menu and list
Job category	Compulsory	Managers Professionals Technicians and Associate Professionals Clerical Support Workers Services and Sales Workers Skilled Agricultural; Forestry; Fishery; Craft and Related Trades Workers Plant and Machine Operators and Assemblers Elementary Occupations
Hospitalized	Compulsory	Yes/ No/ Unknown
Hospital Type (Private/Public)	Compulsory	Private/ Public/ Unknown
If Hospitalised:	Compulsory	Date
Date of admission	Compulsory	Discharged or death
Outcome (Discharge or Death)	Compulsory	Date
Outcome date	Compulsory	Date
Return to work date	Compulsory	Fit for Job Description Fit with Accommodation Fit with restrictions Temporarily unfit for Job Description Unfit for review Permanently Unfit
Return to work fitness level	Compulsory	Yes/ No 0000000(IF UNKNOWN)
Compensation claim	Compulsory	Date
Percentage disablement	Optional	Mild Moderate Severe
StartDateOfIllness	Compulsory	Date when filling in the template
IllnessType	Compulsory	000000 (IF UNKNOWN)
EndDateOfIllness	Compulsory	
COVID Claim reference number	Optional	

Data Collected

4. Vulnerability Data

All employers are **legally required** to identify those employees who are considered to be vulnerable for the more severe outcomes of the CoVID-19 infection.

- ▶ Since this is a key component of the screening of workers, this **data must be submitted by employers to the DoH.**
- ▶ The vulnerability status of each worker that is submitted is not dependent on the availability of detailed medical information being available to the employer.
- ▶ This once off submission is submitted when collected by the workplace, and any subsequent occasion when new appointments are made or an employee's status requires updating.
- ▶ The data required are listed in the next slide.

Vulnerability data

Vulnerability		
Title	Field status	Definitions
Employee ID	Compulsory	SA National ID
Business ID	Compulsory	System Generated- Provided to business by NIOH
Date	Compulsory	Date when completing the form Year-month-Day
Province	Compulsory	see drop down menu and list sheet
District	Compulsory	see drop down menu and list sheet
Industry	Compulsory	see drop down menu and list sheet
Age	Compulsory	Years
Sex	Compulsory	Female/ Male/ Other
		Managers
		Professionals
		Technicians and Associate Professionals
		Clerical Support Workers
Job category	Compulsory	Services and Sales Workers
		Skilled Agricultural; Forestry; Fishery; Craft and Related Trades Workers
		Plant and Machine Operators and Assemblers
		Elementary Occupations
Vulnerability present	Compulsory	Yes/No
Age ≥60 years	Optional	Yes/ No
Pregnancy ≥28 weeks	Optional	Yes/No
Smoking current	Optional	Yes/No/ Unknown
Asthma	Optional	Yes/No/ Unknown
Chronic Lung Disease	Optional	Yes/No/ Unknown
Diabetes	Optional	Yes/No/ Unknown
Hypertension	Optional	Yes/No/ Unknown
Serious heart conditions	Optional	Yes/No/ Unknown
Chronic Kidney Disease	Optional	Yes/No/ Unknown
Chronic Liver Disease	Optional	Yes/No/ Unknown
Immunocompromised	Optional	Yes/No/ Unknown
Tuberculosis previous	Optional	Yes/No/ Unknown
Tuberculosis current	Optional	Yes/No/ Unknown
HIV	Optional	Yes/No/ Unknown
Obesity (measured by obtaining Height and Weight of employee) or BMI >30	Optional	Yes/No/ Unknown
Received flu vaccine	Optional	Yes/No/ Unknown

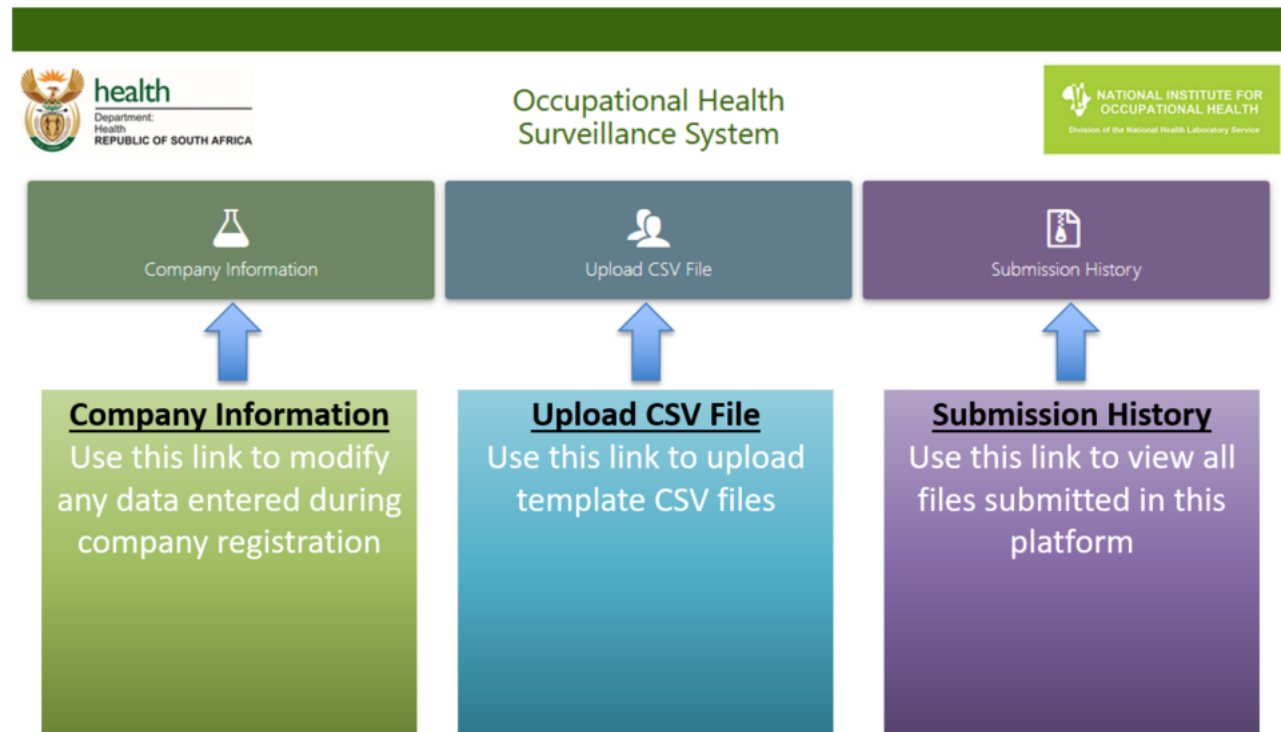


How is Data Collected

- ▶ The OHSS electronic system was developed to house the data collected. It is a fully electronic system with three different platforms for Users to use when submitting data.
- ▶ Businesses have to first register their company on the OHSS webpage, during registration companies get to select their preferred online submission platform.
- ▶ Once registered, businesses will receive auto-generated login details for the chosen Online platform.
- ▶ Below are the three different platforms available to all Users to choose from as per their company needs;
 1. CSV Upload Platform
 2. Cmore Platform
 3. Application Programming Interface (API)

1. CSV Upload Platform

User interface



CSV Upload templates

- ▶ The following Excel templates are used to collect the data through the OHSS CSV Upload online platform;

1. Positive Case template

Date	Province	District	Industry	Sex	Age	JobCategory	TestDate	TestTypePCR	TestTypeAntigen	TestTypeAntibody	SymptomsPositive	NumberHighRiskContacts	VulnerabilityStatus	PositiveTestResult	ExposureInformation	ReportingActionDELETED	ReportingActionCOIDA	ReportingActionDMRE
2021-08-05	Gauteng	City of Johannesburg	Activities of membership organisation s.n.e.c.	Female	26	Skilled Agricultural; Forestry; Fishery; Craft and Related Trades Workers	2021-08-02	Yes	No	No	Yes	2	Yes	Self-Isolation at home	Family contacts	Yes	Not Applicable	Not Applicable

2. Return-To-Work template

SAIDorPassportNumber	EmployeeWorkID	BusinessID	Date	Province	District	Industry	JobCategory	Hospitalised	DateAdmission	Outcome	DateOutcome	ReturnToWorkDate	ReturnToWorkFitness	CompensationClaim	Disability	StartDateOfIllness	EndDateOfIllness	ClaimReferenceNo
9502210218083	532896	68BAAD8B-E8FE-43FC-88B2-5415615A9A98	2021-08-05	Gauteng	City of Johannesburg	Coal mining	Clerical Support Workers	No	2021-08-06	Discharge	2021-08-10	2021-08-01	Fit for Job Description			2021-07-25	2021-08-04	Mild

3. Symptom screening template

Business ID	SA ID or Passport Number	Screening Date	Employee Age	Employee Gender	Job Category	Province	District	Symptoms Present	Fever	Chills	Dry Cough	Sore Throat	Shortness Of Breath	Tiredness	Lack Of Smell Or Taste	Conjunctivitis	Diarrhoea	Muscle Pains	Nausea Or Vomiting	Dizziness	Headache	Screening Outcome No Action Required	Screening Outcome Referred For Isolation	Screening Outcome Referred For Testing	Screening Outcome Referred To The Doctor
0A219FFA-6C1E-44CE-876E-94D23C74-F81D	930923534	40882021-08-09	27	Male	Manager	Mpumala	Ehhlazeni	YES	NO	NO	NO	YES	NO	UNKNOWN	NO	NO	NO	YES	NO	NO	YES	YES	YES	YES	YES

4. Vulnerability case template

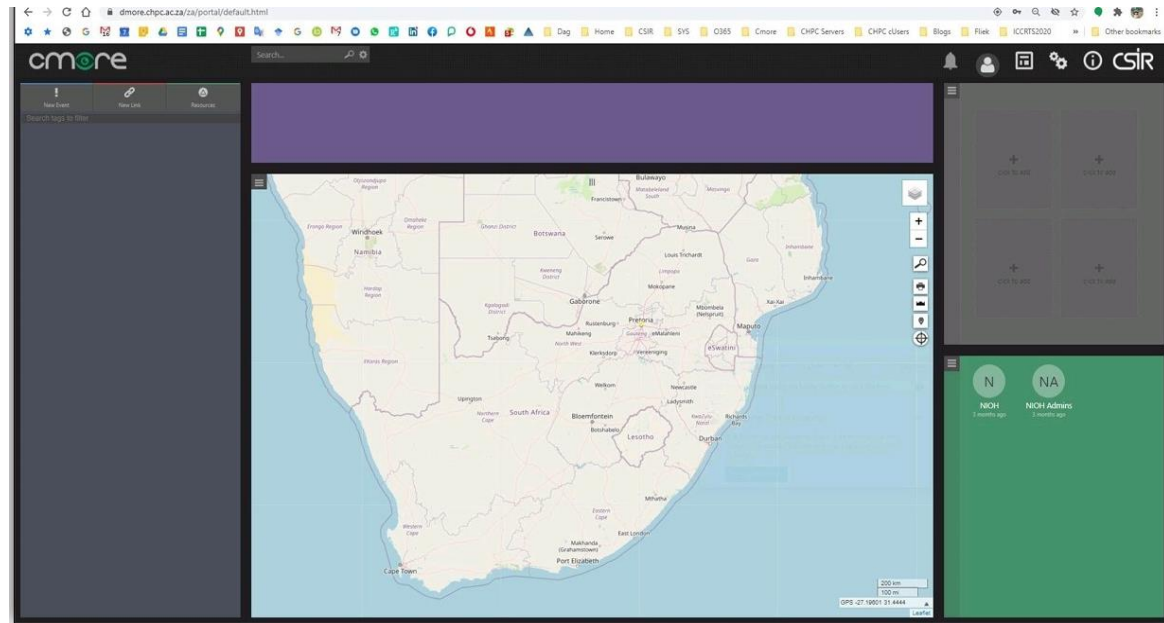
SAID Or Passport Number	Business ID	Date	Province	District	Industry	Age	Sex	Job Category	Vulnerability Status	Asthma	Chronic Lung Disease	Diabetes	Hypertension	Serious Heart Conditions	Chronic Kidney Disease	Chronic Liver Disease	Immunocompromised	Previous Tuberculosis	Current Tuberculosis	HIV	Age Above 60 years	Smoking Current	Pregnancy Above 28 weeks	Obesity	Received Flu Vaccine
7602025149085	DADDC89721	2021-07-19	Gauteng	Capricorn	Other Service activities	45	Male	Technicians and Associate Profession	Yes	No	No	No	Yes	Yes	Unknown	Unknown	Yes	No	No	No	No	No	No	Yes	Unknown

2. Cmore platform

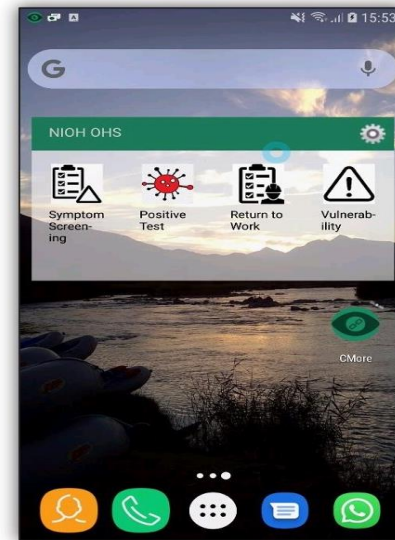
This platform can be accessed on the webpage <https://dmore.chpc.ac.za/za/portal/default.html> or through the mobile application which is available for free download on Google play store: <https://play.google.com/store/apps/details?id=csir.cmore.adapter&hl=en>

User interface

Cmore Web app



Cmore Mobile



Cmore Application templates

- ▶ The Cmore online forms maintained the template of the standardised templates across all platforms.

The image displays two side-by-side screenshots of the Cmore application's 'Create a new event' form. Both forms are presented in a dark-themed window with a blue header and a green 'Add Tag' button in the top right corner.

The left screenshot shows the 'Positive Test' form. It includes the following fields: Business ID, Employee ID, Employee National ID, Province (dropdown), District (dropdown), Sex (dropdown), Age, Job Category (dropdown), Test Date, Test Type (dropdown), Symptoms Positive (False, dropdown), Number High Risk Contact, and Vulnerability Status (False, dropdown). A green 'Create Event' button is located at the bottom right.

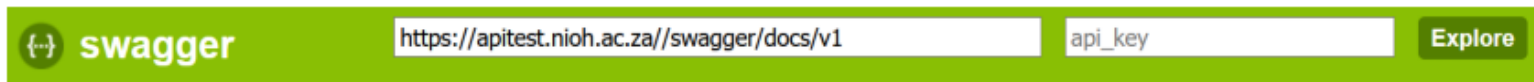
The right screenshot shows the 'Return to Work' form. It includes the following fields: Business ID, Employee ID, Province (dropdown), District (dropdown), Job Category (dropdown), Hospitalised (False, dropdown), Hospital Type (dropdown), Date Admission, Outcome (dropdown), Outcome Date, Return to Work Date, Return to Work Fitness (dropdown), and Compensation (False, dropdown). A green 'Create Event' button is located at the bottom right.

3. API Submission Platform

Once a business has registered and selected the API submission platform, the business would then receive access and guidelines on how to submit data

NIOH COVID19 API Endpoints

URL : <https://apitest.nioh.ac.za>



WOHSSAPI

DataSubmission

Show/Hide | List Operations | Expand Operations

POST	/api/DataSubmission/Login	Login
PUT	/api/DataSubmission/Logout	Logout
PUT	/api/DataSubmission/SubmitScreening	Submit Screening Report
PUT	/api/DataSubmission/SubmitTestData	Submit Test Report
PUT	/api/DataSubmission/SubmitReturnToWork	Submit Return To Work
PUT	/api/DataSubmission/SubmitVulnerability	Submit Vulnerability

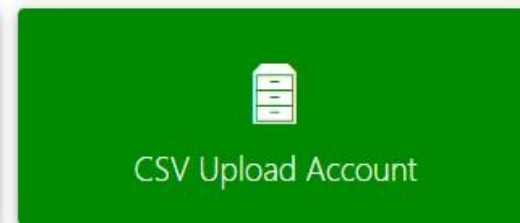
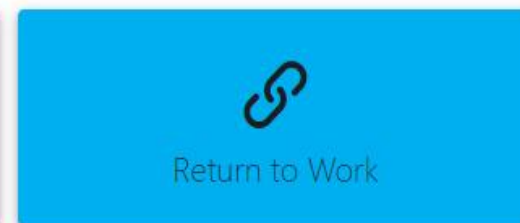
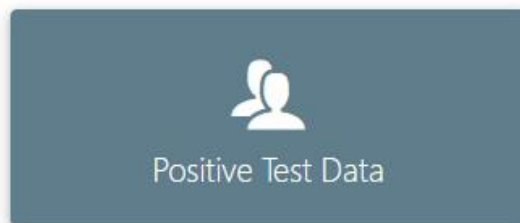
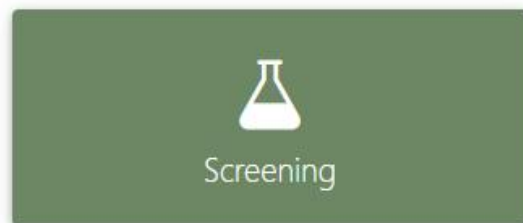
[BASE URL: , API VERSION: v1]

VALID { }

OHSS management site



Occupational Health Surveillance System



Registered Businesses

Get Business List 



Who should report?

- ▶ All workplaces in South Africa are required to submit below various categories of data;
- ▶ All departments at local, provincial and national levels of government are also required to submit data.
- ▶ The various categories of data being reported detailed below;
 1. Symptom screening data - (Compulsory for Companies with 50+ employees only)
 2. Positive Test data - All
 3. Vulnerability data - All
 4. Return-To-Work data -All

A national policy framework influenced the mandatory reporting of COVID-19 workplace data to the OHSS.

- ▶ The DoH published a directive stating that these reporting is now a legal requirement for all businesses in the country and non-compliance would lead to a fine of monetary value

PROTECTION OF PERSONAL INFORMATION

- ▶ All data submitted under this Guideline strictly adheres to the Protection of Personal Information Act (4/2013)
- ▶ Guidance note on the processing of personal information in the management and containment of COVID-19 pandemic in terms of POPIA by the Information Regulator (South Africa, Department of Justice).
- ▶ To maintain confidentiality data
- ▶ We do not collect employee names, and Businesses are assigned a unique identifier number.
- ▶ I.D numbers / passport numbers are shared with the Department of Labour for TERS Compensation purposes only. As per legal legislation by the Department of Labour

Acknowledgements

- The OHSS Scientific Committee
- Data management and Technical Committee (CSIR, NIOH and NICD)
- Legal and Operational team at the NIOH Epidemiology Department
- FORD Funding for sponsoring the project
- NIOH
- NHLS
- Business / OHSS Users

Thank you

