



# VINCI SERVICES

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VINCI Education & Outreach Coordinator &  
DaVINCI Project Manager





# VINCI Services

## Introduction



The Department of Veterans Affairs (VA) has amassed the **largest clinical medical database in the world**. Every day across the VA, programs run that harvest data in countless domains for capture in a Corporate Data Warehouse (CDW). The **Veterans Informatics and Computing Infrastructure Resource Center (VINCI)** helps researchers tap into this vast store of data, analyze the data, and report on their findings to **help the VA discover better treatments, procedures and medicines** that lead to **improved patient outcomes**.

VINCI has data on more than **22 million patients** receiving care at **over 1,400 medical centers, outpatient clinics, nursing homes, and domiciliaries**. Most data originates from the extensively used Veterans Health Information Systems and Technology Architecture (VistA), the VA electronic medical record system.

The VINCI Resource center has deployed VINCI Service Teams to **enhance efficiency and capabilities** of the HSR&D Research Community using this data. The VINCI Resource Center and Services teams provide support for IRB/R&D approved Research & Operational projects.



# VINCI Services

What in the World of VINCI are we going to cover



- VINCI Help Desk/Concierge Service
- Data Services
- NLP/Annotation
- Compliance
- Education & Outreach
- Q & A





# VINCI Services

## Poll Question #1

What is your level of experience with the VINCI/CDW Data? (select all that apply)

- I have not used it
- I would like to use it
- I am a beginning user
- I am an intermediate user
- I am an advanced user



## Poll Question #2

**Do you have any experience with the VINCI Services?** (select all that apply)

- I have not used them
- I do not know what is available
- I do not know how to access VINCI Services
- I am a beginner/intermediate user
- I am an advanced user

VINCI Services





## Poll Question #3

**Which VINCI Services are you most likely to use or request information on for your next project?** (select all that apply)

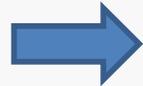
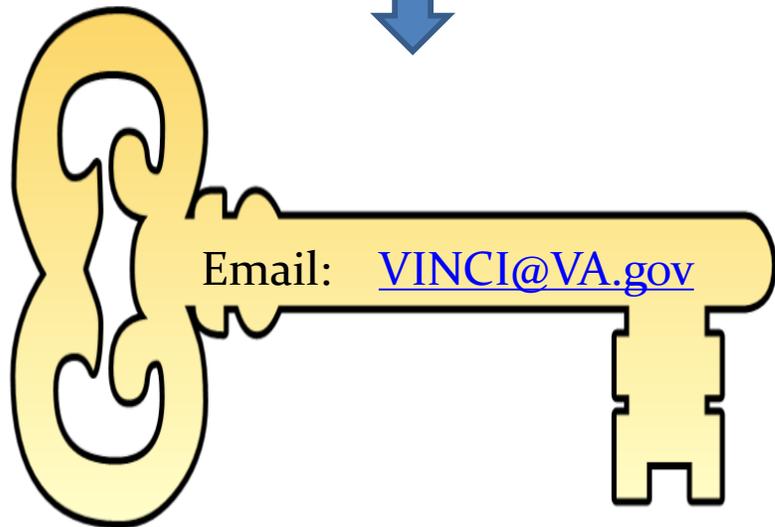
- Concierge/Help Desk
- VINCI Data Services
- VINCI Annotation Services/ NLP Services
- VINCI Compliance Team
- VINCI Outreach and Education



# VINCI Services

## Key for today's presentation

Research Team



- Creates Trackable Ticket
- Gets problem Triaged
- Gets your problem to the right Team
- Creates a trail for tracking to resolution



# VINCI Services

## VINCI Help Desk

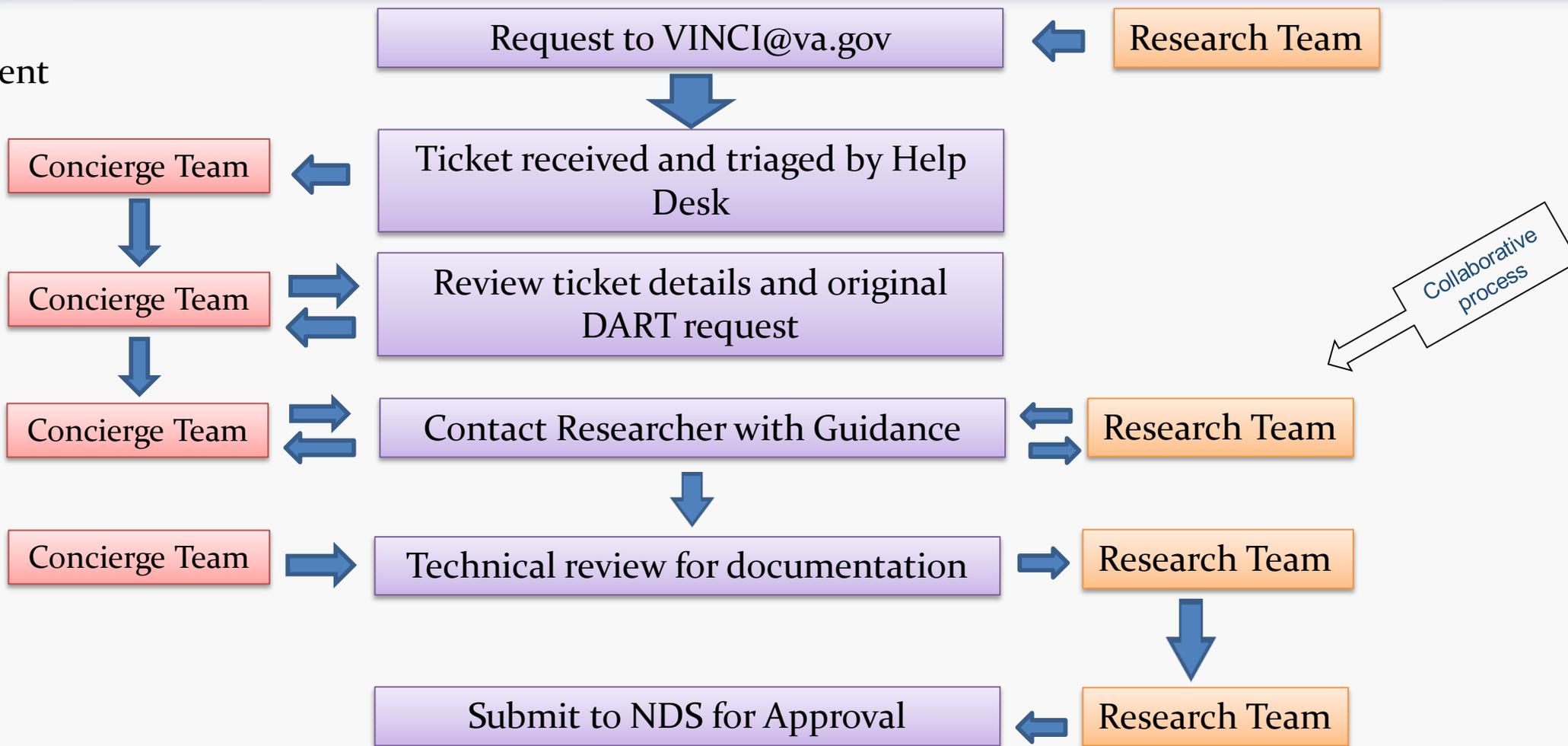


- Triage all requests and issues coming from [VINCI@va.gov](mailto:VINCI@va.gov)
- Sets up help desk tickets for requests and issues
- Route tickets to the experts for resolution
- Provide first line assistance to simple requests
- Create and Distribute Help Desk Outage notifications



# Help Desk Workflow

DART Amendment





# VINCI Services

## Concierge Services

Providing One-on-One administrative, technical and education assistance on all things VINCI including:

- Assistance with access to VA data for Prep to Research and IRB Research Studies
- Clarification on requirements to complete DART forms
- How to locate required VINCI resources
- Communication with VINCI Data Managers via Project Correspondence sites
- Guidance for researchers on how to access the VINCI Workspace
- Support for researchers on how to amend DART requests





# VINCI Services

## Concierge Services cont.

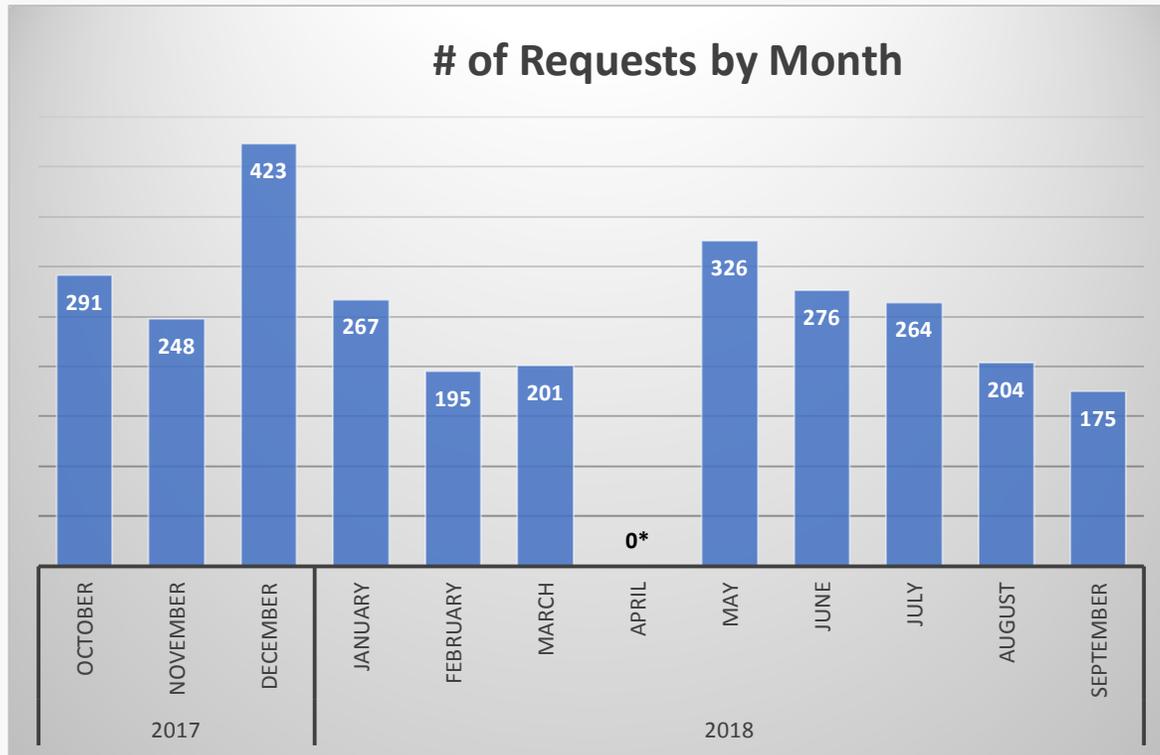
- Requirements for Data Access
- PI changes to a study
- Completing change requests from NDS
- Technical assistance and guidance on data sources
- Provide guidance for Study Setup
- Access to tutorials and help documents for training purposes



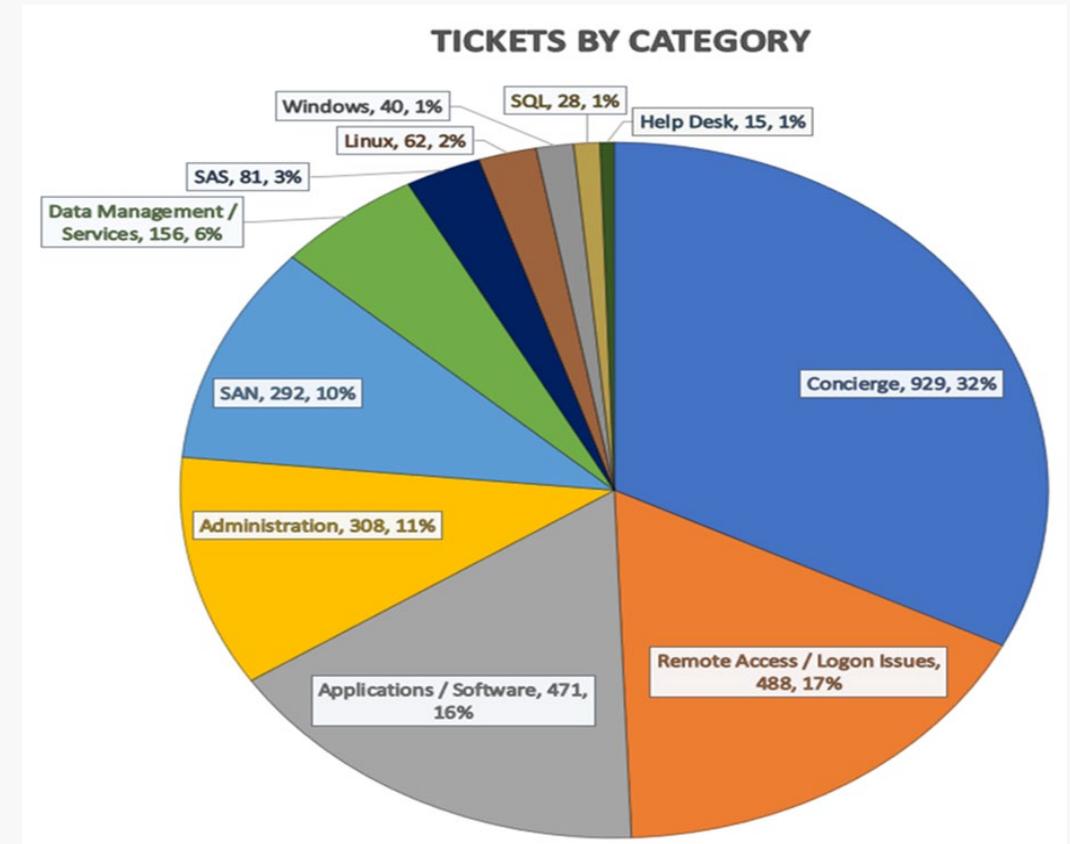


# VINCI Services

## Concierge/Helpdesk Activity



\*Note: No requests were recorded in April 2018 due to 6-week contract gap.





# VINCI Services

## Data Services



- Feasibility
- Data Needs Assessment
- Patient List

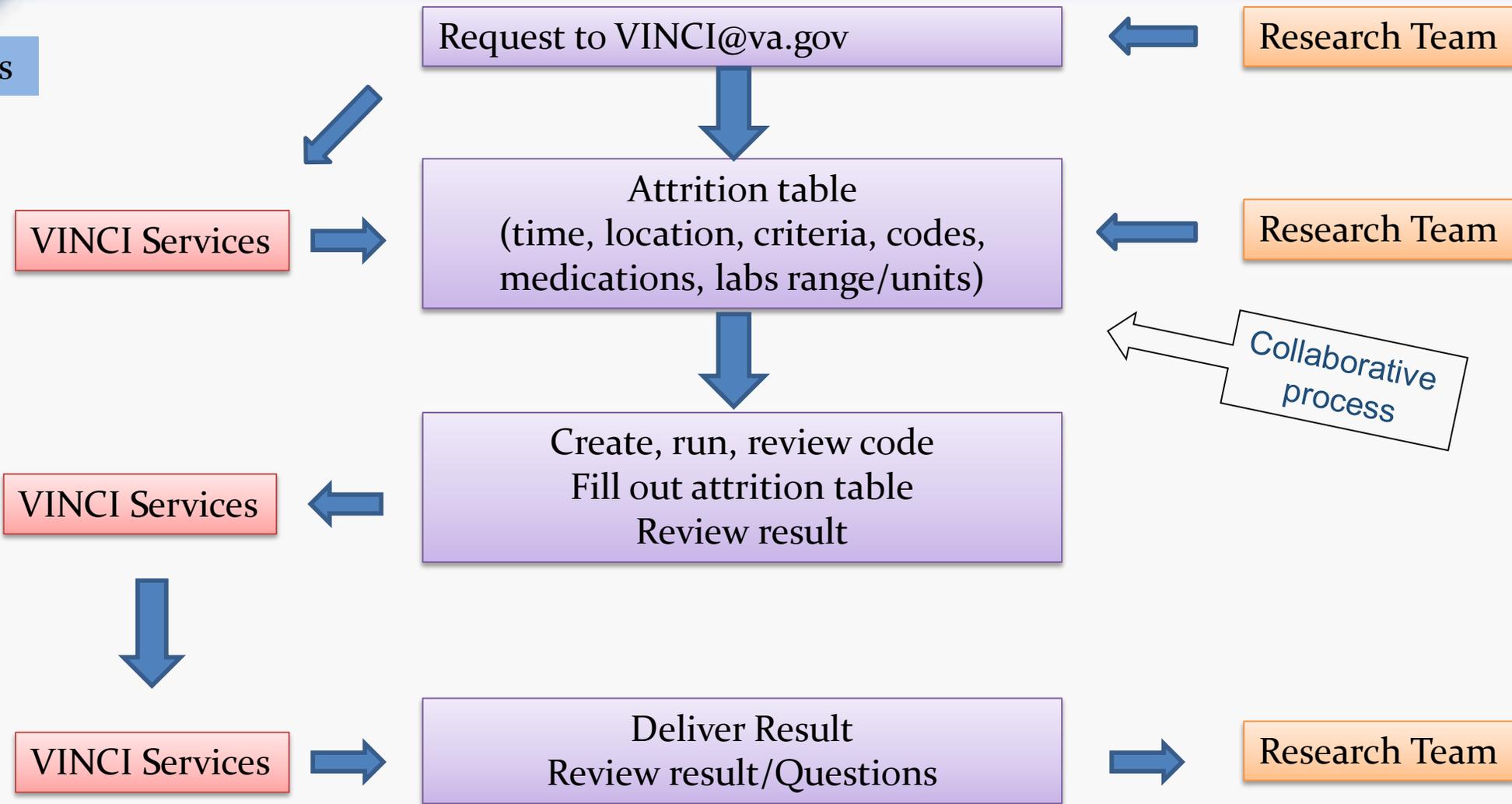






# Feasibility Flowchart

Data Services





# Data Needs Assessment (DNA)

## Data Services



VINCI Services supports VA research by assisting customers with Data Needs Assessment questions (DNA) in relation to the VA Corporate Data Warehouse (CDW) and other VA data sources.

These questions range from:

- ✓ data availability
- ✓ data location
- ✓ data definitions
- ✓ assistance with completing the DART application
- ✓ assistance with completing CDW-domain checklist,
- ✓ assistance with IRB protocol preparation,

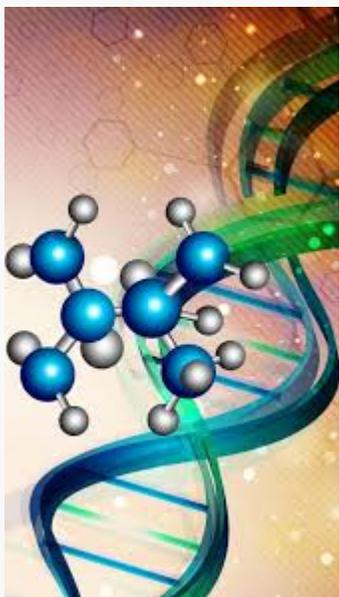


# Patient List

## Data Services

## Data Services

Electronic Medical Record (EMR)-driven recruitment support is a service that supplements traditional patient recruiting methods by leveraging patient data stored in electronic medical records



IRB- approved prospective projects:

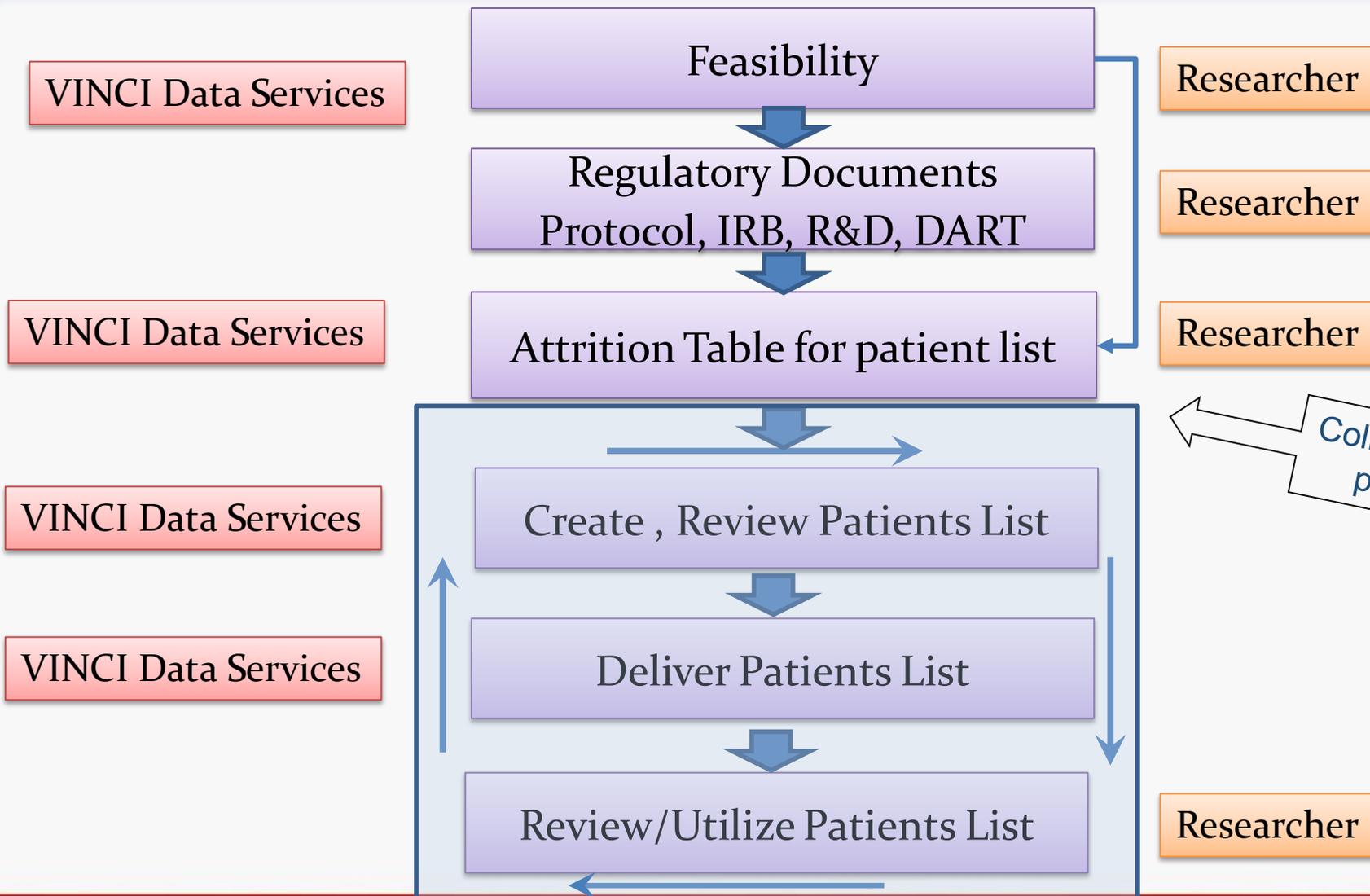
- Clinical trial (intervention: drugs, devices, tests, contact, etc.)
- Cohort study
  - observational study
  - survey study





# Patient List Workflow

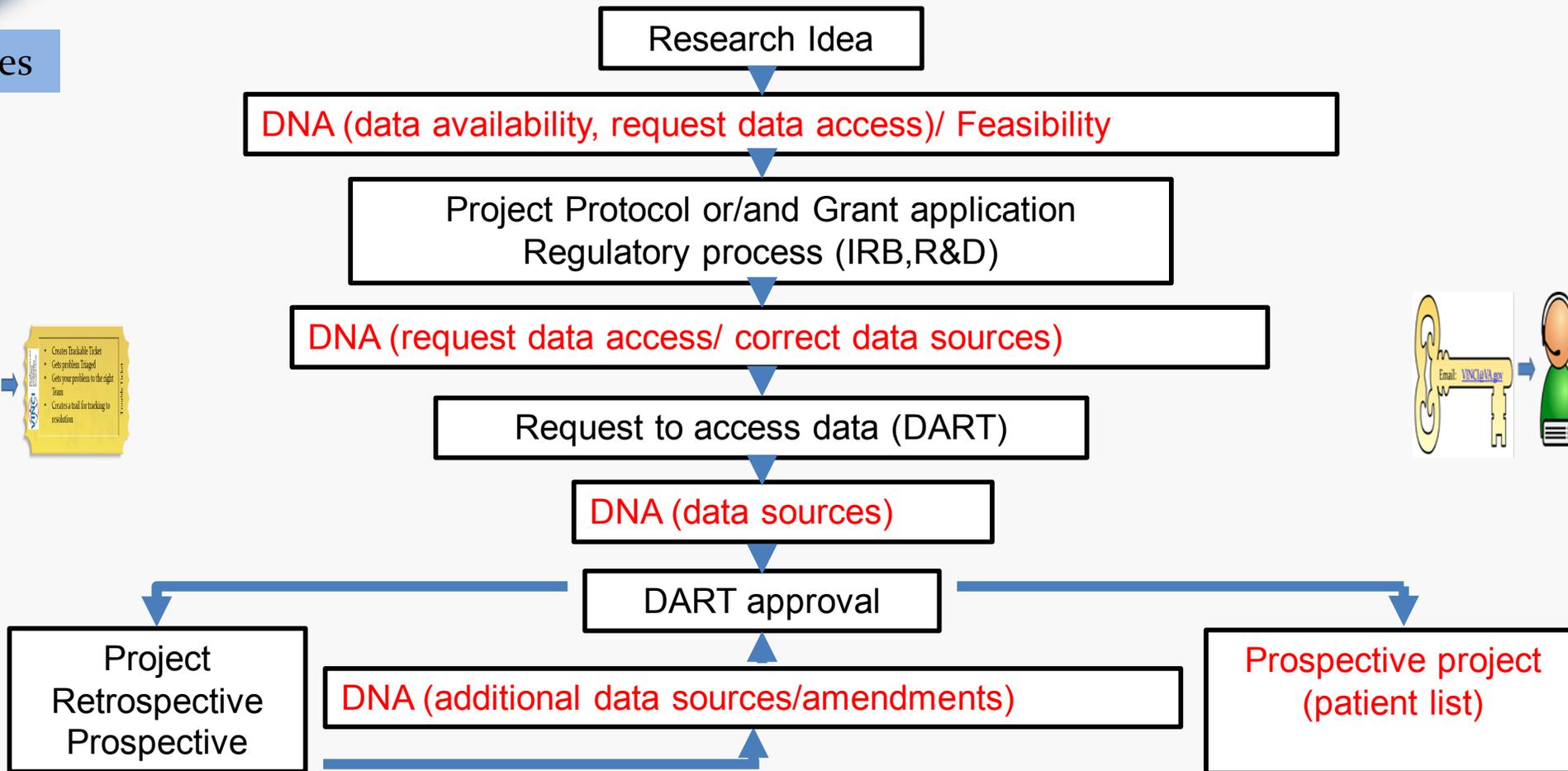
Data Services





# Research Project Life Cycle (VINCI Services)

## Data Services



For more information please see the Cyberseminar on VINCI Central by Olga Efimova, MD, PhD ; Steven Oostema, MS, VINCI Data Services Seminar date: 2/14/2019

[https://www.hsrd.research.va.gov/for\\_researchers/cyber\\_seminars/archives/video\\_archive.cfm?SessionID=3596&Seriesid=59](https://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=3596&Seriesid=59)



# VINCI Services

## VINCI Services Annotation team

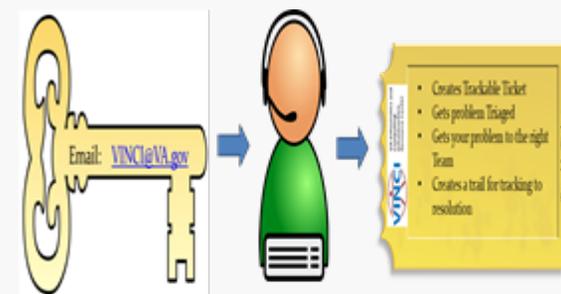
Lead: Jeffrey Ferarro, PhD

Annotation manager: Lacey Lewis, MPH

- Range of services

- Education and training
- Process definition and guideline development
- Contracting annotators
- Full chart abstraction process

VINCI sponsored



Collaborative project



# VINCI Services

## Annotation Project Workflow

1. Define concepts and variables
2. Select annotation tool
3. Document selection
4. Develop annotation guideline
5. Identify annotator qualifications
6. Train and manage annotators
7. Adjudication or Annotation quality measurement

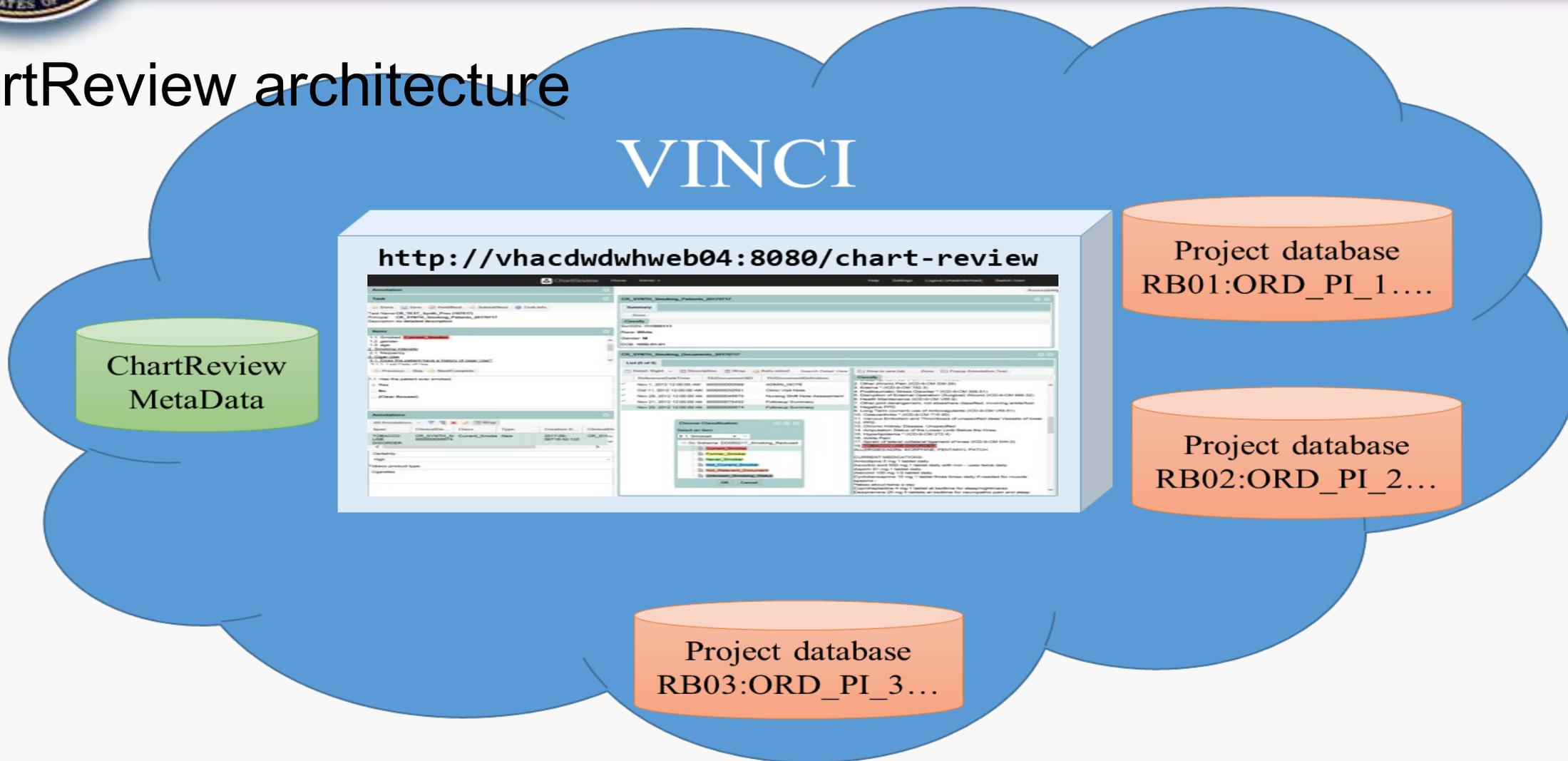
**pilot annotation**





# VINCI Services

## ChartReview architecture





# VINCI Services

## ChartReview

The screenshot displays the VINCI ChartReview application interface. The top navigation bar includes 'ChartReview', 'Home', 'Admin', 'Help', 'Settings', 'Logout (vhaslodenhad)', and 'Switch User'. The main interface is divided into several panels:

- Task Panel:** Shows the task name 'CR\_TEST\_Synth\_Pres (197617)', principal 'CR\_SYNTH\_Smoking\_Patients\_20170717', and description 'no detailed description'. It includes buttons for 'Done', 'Save', 'Hold/Next', 'Submit/Next', and 'Task Info'.
- Items Panel:** Lists items for review, including '1.1. Smoked' (highlighted as 'Current\_Smoker'), '1.2. gender', '1.3. age', '2. Smoking intensity', '2.1. frequency', and '3. Cigar Use'. It also includes a question '3.1. Does the patient have a history of cigar Use?' and navigation buttons 'Previous', 'Skip', and 'Next/Complete'.
- Annotations Panel:** Contains a table of annotations with columns for 'Span', 'ClinicalEle...', 'Class', 'Type', 'Creation D...', and 'ClinicalEl...'. A table entry shows 'TOBACCO USE DISORDER' with 'Current\_Smoke' as the class and 'New' as the type.
- Summary Panel:** Displays patient information: 'CR\_SYNTH\_Smoking\_Patients\_20170717', 'ScrSSN: 111000111', 'Race: White', 'Gender: M', and 'DOB: 1950-01-01'.
- Documents Panel:** Shows a list of documents with columns for 'ReferenceDateTime', 'TIUDocumentSID', and 'TIUDocumentDefinition'. It lists several documents, including 'ADMIN\_NOTE', 'Clinic Visit Note', 'Nursing Shift Note Assessment', and 'Followup Summary'.
- Classification Panel:** A 'Choose Classification' dialog box is open, showing a tree view of classification options. The 'Current\_Smoker' option is selected.
- Classify Panel:** Lists various medical conditions for classification, such as 'Other chronic Pain (ICD-9-CM 338.29)', 'Edema \* (ICD-9-CM 782.3)', 'Posttraumatic Stress Disorder \* (ICD-9-CM 309.81)', and 'TOBACCO USE DISORDER' (highlighted in red).

For more information please see the Cyberseminar on VINCI Central by Olga Patterson, PhD, VINCI ChartReview Application Seminar date: 12/13/2018

[https://www.hsrd.research.va.gov/for\\_researchers/cyber\\_seminars/archives/video\\_archive.cfm?SessionID=3569&Seriesid=59](https://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=3569&Seriesid=59)



# VINCI Services

## Chart Abstraction (Chart review, Medical record review, Chart annotation)

- A research methodology of data collection for retrospective investigation

## ChartReview Tool

- ChartReview is a multi-level annotation tool permitting annotation of both structured and unstructured information from the patient medical record.
- Other tools are available to use for chart abstraction, including eHOST, Chex, Joint Legacy Viewer and CAPRI.
- Cyberseminars/VINCI Tube:
  - <https://vaww.vinci.med.va.gov/VinciCentral//VU/Video>
  - [https://www.hsrd.research.va.gov/for\\_researchers/cyber\\_seminars/archives/video\\_archive.cfm?SessionID=2300](https://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=2300)
  - [https://www.hsrd.research.va.gov/for\\_researchers/cyber\\_seminars/archives/video\\_archive.cfm?SessionID=2484](https://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=2484)



# VINCI Services

VINCI NLP Svcs

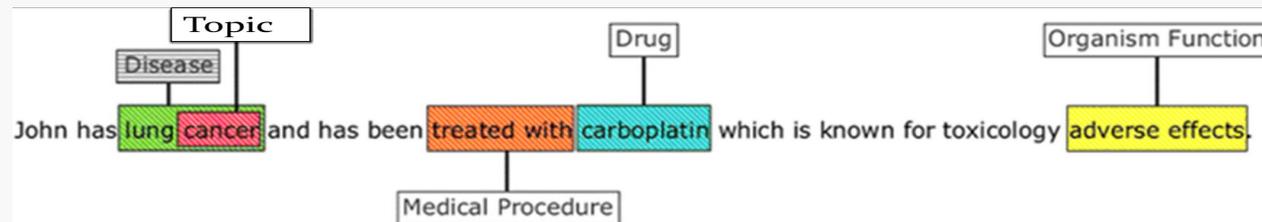
## What is natural language processing ?

In the world of medical data – any machine readable text entry in a patient record

Discharge Summaries  
Radiology Reports  
progress notes  
comment field in microbiology report  
..... all other text in electronic format.

Excludes:

images, such as scanned reports in PDF format  
voice, such as voice recording of dictated report





# VINCI Services

VINCI NLP Svcs

## Text is where the majority of clinical information is stored

The patient experience is in text.

“Patient reports his knee hurts so bad he cannot sleep. He is also at risk of losing his job because he cannot work without sitting down”

The type of illness, symptoms, and severity are in text.

“Diagnosed with relapsing remitting MS, currently mild tingling and weak grip.”

The timing of the episode is in text.

“The patient saw ENT last week and surg was scheduled. She was cleared by cardiology last Monday, labs yesterday were normal. Pt taken to OR at 3:00 PM for tonsillectomy, she was taken to PACU in good condition, returned to same day, and discharged at 8 pm.”

The disease course is detailed in text.

“The chest pain started at while at the gym running, but resolved with rest. The following day the patient again had CP while walking. Today the pain was constant and he presented to the ER. The pain resolved with aspirin, oxygen, nitro, MS.”

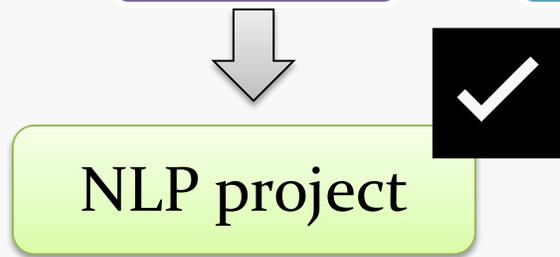
Structured elements that are missing from the database are in text.

“Patient is transferring care from university hospital. He is genotype 1, VI 391,000, hep B immune, HIV negative.”

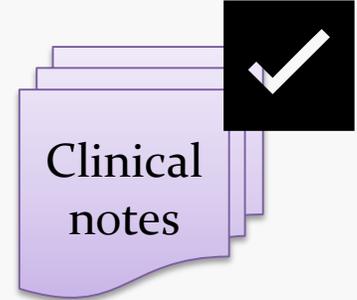
**The only thing not in text is what the provider failed to write.**



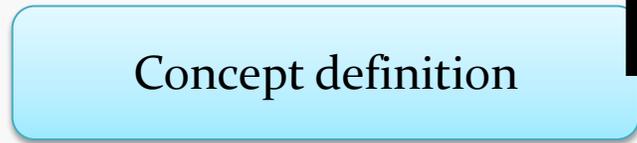
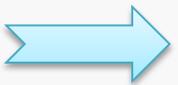
# Clinical research project workflow



What is the source of data?



What data to collect?



Building NLP system requires:  
NLP Analysts  
Software developers  
Machine learning experts



# VINCI Services

## Types of Service Requests for NLP

### VINCI NLP Svcs

#### Cohort selection

- Patient classification based on clinical data extracted from notes
- Document level classification
  - Rule based
  - Hybrid – rule based and machine learning

#### Event extraction

- Rule based systems
  - Term detection
  - Concept mapping
  - Context classification

#### Information extraction

- Rule based
- Hybrid





# NLP Projects

Patterson OV, et al. **Unlocking echocardiogram measurements for heart disease research through natural language processing.** *BMC Cardiovascular Disorders* 2017; 17(1):151. PMID: 28606104

Study goal: extract echocardiogram measures

Challenge: measures are only available in narrative Echocardiogram reports

Approach: Concept-value extraction

The **ejection fraction** was visually estimated in a range of **50%** to **55%**



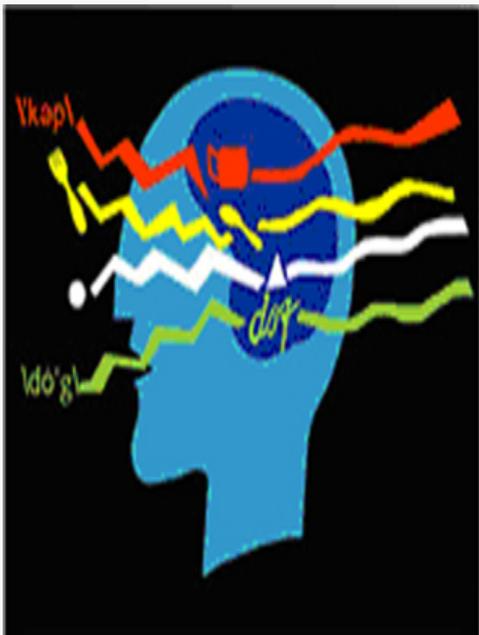
Term	<b>ejection fraction</b>
Mapped concept	<b>left ventricular ejection fraction</b>
Numeric value 1	<b>50</b>
Numeric value 2	<b>55</b>
Unit	<b>%</b>



# VINCI Services

## How to use text in research?

### VINCI NLP Svcs



- Chart Review (chart abstraction, manual annotation)  
Humans can read charts and create a database of data or classifications.
  - + Can be employed when tasks are complicated and involve inference
  - + Great value on small tasks
  - Can be time consuming on large tasks
  - Human performance maybe inconsistent (annotator fatigue, mistakes)
- NLP – Natural Language Processing  
An NLP system can be created
  - + Can process a large number of documents faster than humans
  - + Can be applied on new datasets without change repeatedly
  - Better suited for tasks with limited scope
  - Requires a few weeks or months of system development
  - Possible systematic errors

For more information please see the Cyberseminar on VINCI Central by Olga Patterson, PhD **Natural Language Processing: Introduction to Text Processing** Seminar date: 7/11/2019

[https://www.hsrp.research.va.gov/for\\_researchers/cyber\\_seminars/archives/video\\_archive.cfm?SessionID=3654&Seriesid=59](https://www.hsrp.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=3654&Seriesid=59)



# VINCI Services

## Compliance Team roles

- Help VINCI customers stay in compliance with Federal and VA regulations regarding the use and storage of patient data.

In the natural course of using VINCI, a point comes when you need to upload data or documents and move your results and supporting documents out of the VINCI Workspace for general use, publishing, and distribution.

Uploading of files is accomplished from your desktop or laptop using the VINCI File Upload Utility while downloading is accomplished using the VINCI File Download Utility.

Downloaded information containing PHI/PII must be approved for download prior to download. See the VINCI File Transfer Guide for detailed instructions on transferring files.

VA Informatics and Computing Infrastructure (VINCI) **VINCI Workspace User Guide**





# VINCI Services

## Compliance Team roles

- Protect patient data by ensuring they are only removed from VINCI with permission of the data steward.



### 3. File Download Using the VINCI File Download Site

The VINCI File Download Site is for facilitating and logging the transfer of information from the VINCI Workspace. It provides mechanisms for the transfer of files from VINCI, the recording of the pertinent transfer information, archiving of files for a manual review process, and a warning statement about the unauthorized downloading of PII and PHI. The main objective is to provide a mechanism to support auditing functions to ensure no sensitive data leaves the VINCI Workspace without data steward approval.

**Note** – File upload and download tools are secured through the use of HTTPS Internet secure protocol thus files remain secure through the entire process.

**Warning** – Do not download password protected files. All files downloaded must be available for review by the VINCI download Audit staff to remain in regulatory compliance.

1. Open Internet Explorer.
2. Go to <https://vaww.vinci.med.va.gov/WebApps/VCFileTransfer/Download>. This displays the file download tool and warning.





# VINCI Services

## Compliance Team roles

- Provide education and support to the VINCI community.



### Resources For New Users

HIPAA RULE  
(<https://www.hhs.gov/hipaa>)

VHA Handbook 1605.1 Privacy  
and Release of Information  
(<https://www.va.gov/vhapublications>)

VINCI Workspace User Guide  
VINCI File Transfer Guide  
(<https://vaww.vinci.med.va.gov/vincicentral/>)



**KNOW THE RULES!**



Your Principal Investigator,  
Information Security Officer,  
and Privacy Officer

and...please feel free to reach  
out to [vinci@va.gov](mailto:vinci@va.gov)





# VINCI Services

## Education and Outreach

The VINCI Services Education Team conducts a variety of training and outreach events within the research community:

- **MEET VINCI:** An initiative to reach out to our largest customer pool—COINs and similar groups. We provide presentations, demonstrations, gather feedback, and allow for Q&A sessions
- **VINCI Cyberseminars:** VINCI staff members conduct online video seminars once a month on special VINCI topics such as SAS Grid, CDW data, and using VINCI.
- **VINCI Training Videos:** The team has developed specialized training videos to improve the user experience with more to come
- **VINCI Training Hours:** Monthly program covering a broad spectrum of VINCI topics from how-to's, techniques, VINCI tools, and specific content as requested.
- **BISL Days (CDW Insights):** Annual series of day-long teleconferences that showcase VINCI tools, support and services available to the larger research community.





# VINCI Services

## Education and Outreach

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Welcome to the VA Informatics and Computing Infrastructure

Keyword Search

Search

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VINCI Email: [VINCI@VA.gov](mailto:VINCI@VA.gov)  
Concierge Desk: 1-801-872-3324  
Computer or General Help: Your IT  
[VINCI Online Help](#)

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- [New To VINCI](#)
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- [Let's Collaborate VA!](#)
- [Quick Links](#)
- [Voogle Notes](#)

**TIU Data Unavailable**  
TIU Data will be unavailable until further notice due to maintenance and updates.

[More Details](#)

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Learn more about VINCI, VINCI Studies and the virtual environment.

**My VINCI Dashboard**  
All your VINCI resources in one place!

**VINCI University**  
Here you learn more

**VINCI Tube**  
Videos on all things VINCI

**VINCIpedia**  
VINCI's forum for research & info

**User Guides**  
Let us guide you through VINCI

**VINCI Services**  
Support and concierge services

**Computing Cloud**  
Computers, software, and storage

**Data Sources**  
Learn about our available data

**Applications**  
Applications available in VINCI



# VINCI Services

## Education and Outreach

### VINCI University



VINCI University is your one-stop shop for all your VINCI training and educational needs. From videos on VINCI data, the VINCI Workspace, administrative processes, and technical procedures on our VINCI Tube site to our extensive collection of user guides. Additionally, VA-wide training and information is provided through Cyberseminars and VINCI "Happy Hour" Q&A sessions.

We can provide training to large and small groups as well as one-on-one discussions using in-person and remote meetings. Topics include VINCI Workspace access and usage, data upload and download, data information, database access, data access approval processes, and DART. Email a VINCI Concierge to discuss you or your group's needs at [VINCI@VA.gov](mailto:VINCI@VA.gov).

**Next VINCI Training Hour**  
Wednesday, October 16, 2019 at 3pm ET  
[Join Lync Now](#)  
Call: 1-855-767-1051  
Code: 22265684

- ▼ VINCI Tube
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- ▼ VINCI Presentations
- ▼ VINCI BISL Day Presentations
- ▼ VINCI on VA Pulse
- ▼ Other Learning Resources



# VINCI Services

## Education and Outreach

### User Guides

Showing 1 to 8 of 8 entries Filter:

Type	Guide Name	Description	Last Updated
	<a href="#">Dim Data Viewer User Guide</a>	This guide provides instructions on using VINCI's Dim Data Viewer tool.	2015-11-23
	<a href="#">Lets Collaborate VA User Guide</a>	"Let's Collaborate VAI" is a platform for researchers looking to join with other researchers to conduct research. The platform allows researchers to build a profile of themselves and their research interests for other researchers to view and contact if their interests align.	2018-03-07
	<a href="#">Meta Data Viewer User Guide</a>	This guide provides instructions on using VINCI's Meta Data Viewer.	2015-11-20
	<a href="#">VINCI Database User Guide</a>	This guide provides users with step-by-step instructions on how to access and query their study's SQL database in the VINCI Workspace, getting started with using SAS, and using CDW Project Specific databases.	2017-08-09
	<a href="#">VINCI Development Workspace Software Install Guide</a>	This guide provides step-by-step instructions on how users of the VINCI Development Workspace can request elevated permissions and install their own software.	2019-04-22
	<a href="#">VINCI File Transfer Guide</a>	This guide explains how to upload and download files to the secure VINCI Workspace.	2018-08-01
	<a href="#">VINCI Workspace User Guide</a>	This guide is intended to provide users with pre-requisites and instructions on accessing the VINCI Workspace for the first time as well as instructions on using the VINCI Workspace.	2018-08-07
	<a href="#">Voogle Notes Quick Start Guide</a>	Voogle Notes is a web-based application that supports provider decision-making for patient care by providing a user-friendly "Google-like" search capability for all clinical notes and structured data for a particular patient for a specified date range. Using Voogle Notes, you can quickly and efficiently search TIU notes and structured data domains (appointments, vitals, labs, medications, etc.) for all care a patient has received in any VA facility. Voogle Notes displays only those terms found in that patient's record. Selecting a term displays all the notes and structured data domains (within a defined date range) that contain that term. Selecting any note then reveals the context of the highlighted term within the note, as well as negation (highlighted in red).	2018-01-23

Previous 1 Next

### Additional Resources

[A Grid Primer – Where to Begin?](#)

[VINCI SAS Grid Guides SharePoint site](#)

[Veterans Administration SAS® Users Group \(VASUG\) SharePoint site](#)

[Acceptable Use Policy for SAS/Grid](#)



# VINCI Services

## Education and Outreach

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Search

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[More Details](#)

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Learn more about VINCI, VINCI Studies and the virtual environment.

**VINCI University**  
Here you learn more

**VINCI Services**  
Support and concierge services

**VINCI Tube**  
Videos on all th

**Computing Cl**  
Computers, sof

NLP information - Message (HTML)

File Message Insert Options Format Text Review Help Tell me what you want to do

Paste Basic Text Names Include Tags My Templates

To...

Cc...

Send Subject NLP information

Hello, I would like some assistance with a new NLP project. I would like some assistance with project set-up and feasibility of using NLP on this project

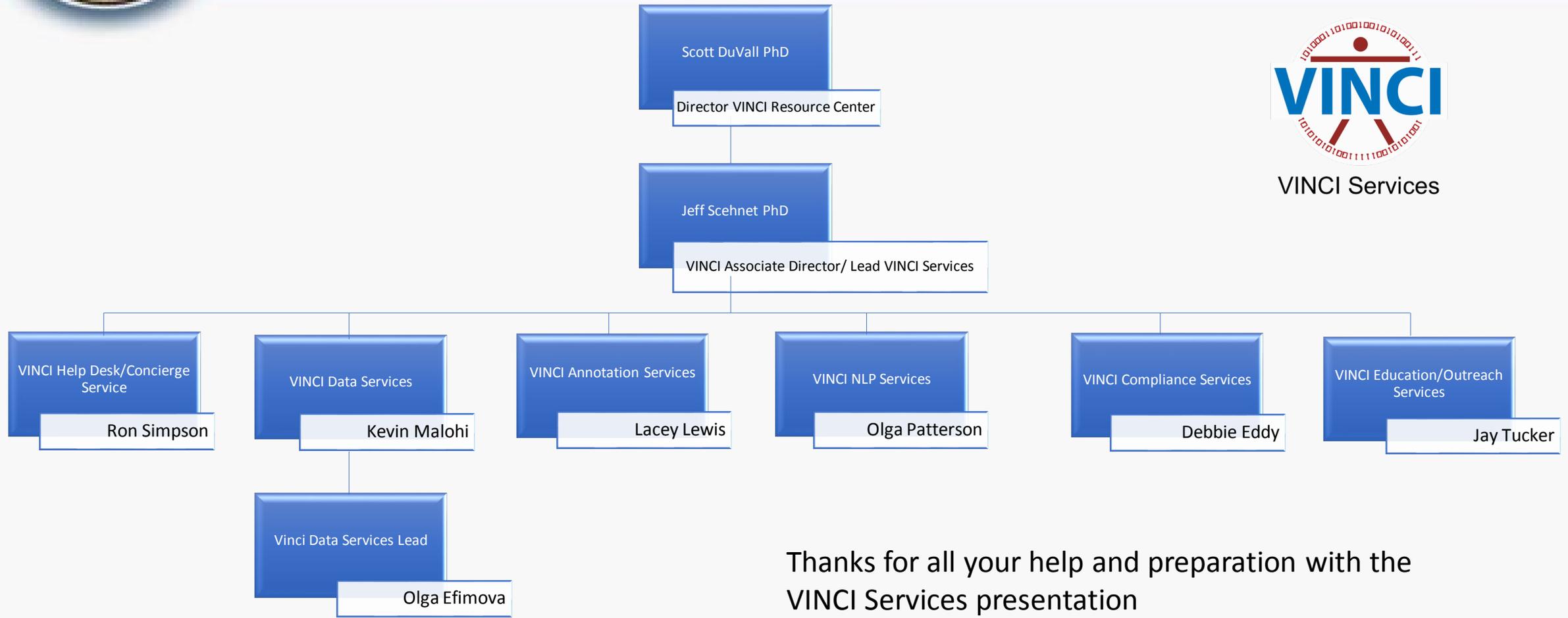
Jay Tucker M. Ed.  
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550 Foothill Drive  
Salt Lake City, Utah 84148  
[Jay.Tucker2@va.gov](mailto:Jay.Tucker2@va.gov)  
Ph. (801) 588-5017

Tour of Duty  
M-F 8:00 – 5:30  
RDO Payday Friday

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# VINCI Services



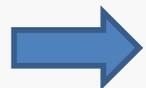
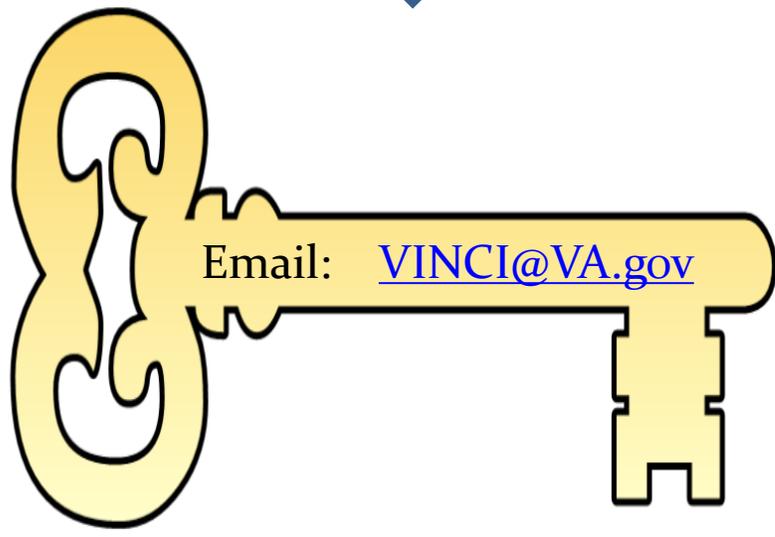
Thanks for all your help and preparation with the VINCI Services presentation



# VINCI Services

## Key for today's presentation

Research Team



- Creates Trackable Ticket
- Gets problem Triaged
- Gets your problem to the right Team
- Creates a trail for tracking to resolution

Trouble Ticket



# VINCI Services

**ANY QUESTIONS DO YOU HAVE ?**



**ASK THEM NOW YOU MAY**