



We Are

HealthPointe Solutions

Turning data into actionable knowledge for
better health outcomes

Solving Medical Record Intake Process

Use HPS NLU and interoperability to seamlessly connect key insights to evaluating physician

The Challenge



- Lack of automation of medical record processing slows the ability to delivery key health insights to provider and patient.
- Many records once in a structured format require manual review and creation of summary of key findings.
- While some strides have occurred to automate intake medical records, too many records still require manual intake processes.

The Need



- ★ **Turn records into a strategic asset:** drive quick insights and better outcomes.
- ↑ **Automation Percentage:** Continue to leverage recently electronic intake work to assist with automated medical record summary
- ↑ **Completeness:** Pull fuller information from the medical record that is meaningful to the physician
- ↓ **Reduce error rate** of manual review

Value: How does Healthpointe Solutions solve?

Healthpointe Solutions can simplify and reduce the administrative burden of medical record processing by providing tools that take non-structured charts and turning them into summarized, actionable insights for patient care.

A Solution Impact

Automated the transition of paper, PDF and FAX charts to summarized, actionable clinical insights.



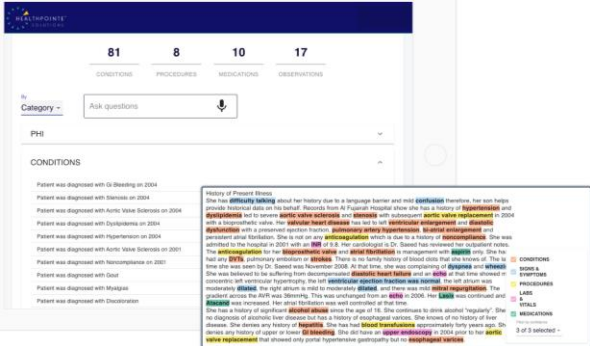
- ↑ Reduce the need for IT staff, coders, nurses to translate non-electronic charts into useable clinical recommendations.
- ↑ Get the most out of patient visits thru organized visits
- ↑ Maximize program compliance by aligning care given to Payer VBC programs
- ↓ Ops: Reduce organizations effort to bring in and deliver clinical findings.

Healthpointe Solutions Chart/NLU Processing




A Cognitive Artificial Intelligence approach to understanding context of unstructured health information for workflow optimization



- Turns previously unusable data into knowledge-driven insights aligned to treatment pathways
 - Interoperable into workflows
 - Improves the quality of care
 - Supports automation
 - Reduces administrative burden
- Provides the clinical insights needed through one integrated, cognitive system



End User and Key Highlights

 <p>Healthcare Practices</p> <ul style="list-style-type: none"> ✓ Convenient <ul style="list-style-type: none"> • Near real time processing • Clinicians and coders can see enriched datasets and marked-up notes • Enriched clinical documentation in real time 	 <p>Providers</p> <ul style="list-style-type: none"> ✓ Efficient <ul style="list-style-type: none"> • Actively monitors clinical documentation • Provides full explainability of clinical note interpretation • Gives an accurate picture of consumer's clinical profile 	 <p>Patients</p> <ul style="list-style-type: none"> ✓ Supportive <ul style="list-style-type: none"> • Provides context and common sense to clinical notes • Reduces administrative burden • Personalized educational resources
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Where does Healthpointe Solutions find the efficiencies?

Chart NLU

Retrieval of
Electronic
Medical
Records

Move Chart
from
Unstructured
To Structured

Actionable
Insights:
Apply Clinical
Knowledge to
Structured
data

Validate and
Document
evidence of
clinical findings

Align delivery
actionable
insights to
audience
preference

Chart NLU Value



Connect across various internal & external partners

Advanced data privacy empowers sharing of patient health records and personalized actions across various experiences.



Data Enrichment

Enables a reviewer to get to a comprehensive more usable medical record helping to identify the right patient care at the right time.



Consistent Clinical Excellence

Support clinical practice transformation and measurement by integrating AI into workflow moving from descriptive analytics to prescriptive analytics.



Streamline Operational Maintenance

Reduce administrative costs and improve experience by reducing data latency, improve quality, and standardizing analytics and insights in workflow.



Streamline Technical Maintenance

Reduce development, integration, and maintenance costs with a common, standards-based clinical canonical model and API layer.

3 Pillars of Efficient Medical Chart Processing

Ongoing Drive to Administrative Excellence



Natural Language Understanding

**Unstructured Data (PDFs, Scanned Documents, etc.)
to
Useable, Structured Data**

- Convert unstructured data (PDFs, Faxes, etc.) to useable data
- Highlight key phrases using clinical knowledge base of health.
- Reduce the administrative pain of data teams
- Reduce and clinical reviews identify key

Streamline Operational Maintenance

- Go beyond hyper-texted identification of NLP to provide clinical context
- Summarized, actionable clinical enrichment
- Allow focus on clinical teams to drive to complex and outlier cases.



Clinical Excellence

Quickly Enrich & Identify Key Clinical Insights

- Leverage clinical knowledge base of health
- Move from descriptive analytics to prescriptive analytics
- Enrich clinical data
- Consistent clinical recommendation

Simplify and document clinical summary of medical record

- Data enrichment to improve decision support
- Speed of return to insight
- Actionable Clinical Highlights



Clinical Interoperability

Many incoming medical record data formats and structures

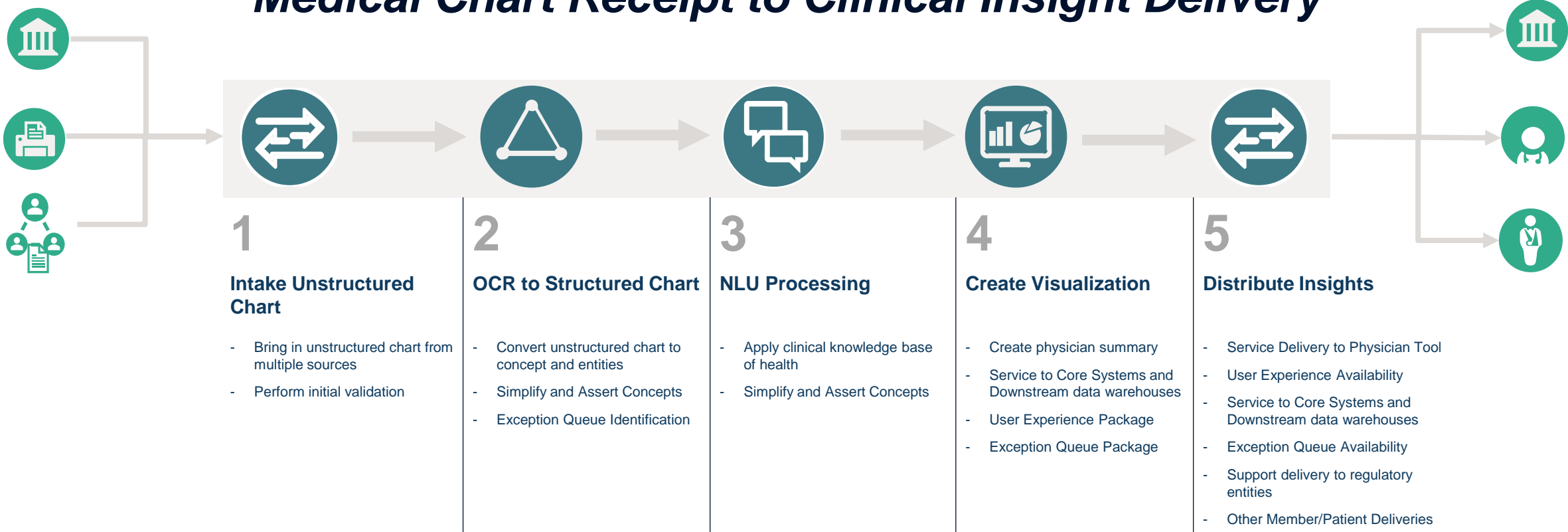
- Reduce the IT burden of managing many incoming unstructured data formats
- Increase percentage of electronic medical records received.
- Deliver summarized and enriched data to multiple downstream entities

Streamline Technical Maintenance

- Increase percentage of automated intake of records
- Diminish the burden of data teams managing integrations.
- Reduce development, integration and maintenance costs of IT team.
- Return focus of IT teams to strategic initiatives

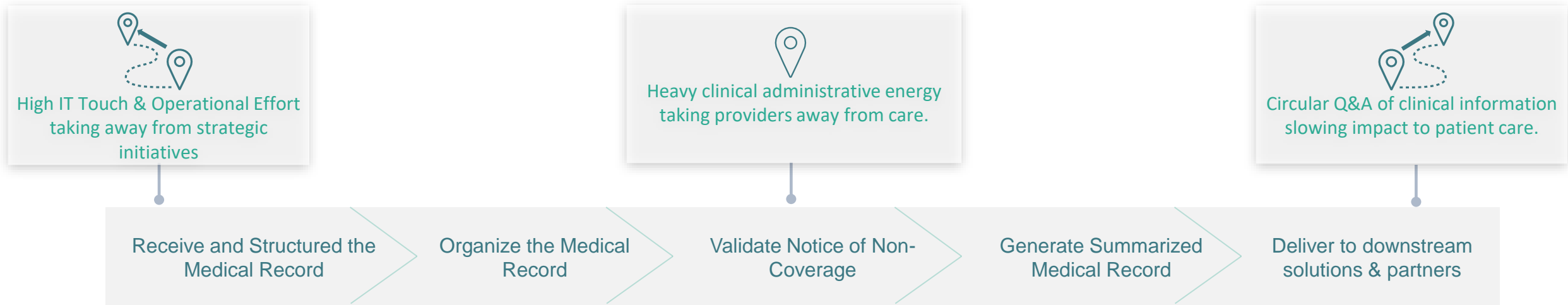
Medical Chart Process Flow

Medical Chart Receipt to Clinical Insight Delivery



Medical Record Processing Program Scope

Simplify and reduce the administrative burden of medical record processing



Quick Launch Plan– Iterative Value at each Phase

Launch Guiding Principles



Continuously advancement of automation & simplification



Value achieved from previous phase funds the next phase.



Transactional ensuring pay for what you consume



Low Impact to Existing Operations



NLU Solution Visuals

Digital Health Treatment Cycle – Condition and Wellness Focused



Step 1: Ingest medical charts (pdf/others)

Raw Chart

Contact Date: 12/21/2019

Note ID: 1352152085

Note Type: Progress Notes

Encounter Type: Admit/Summary Hospital (No LOS)

Principal Provider Name: [REDACTED]

Principal Provider Type: Osteopath

Visit Provider Name: [REDACTED]

Visit Provider Type: Physician.

To PCP: [REDACTED] This patient was discharged from the hospital on 12/21/2019 because of elective EUS/ERCP pancreatic pseudocyst. Re-admission Risk: Moderate risk (Yellow Pathway), follow-up within 2 weeks with [REDACTED] and GI whose flowstaff will arrange items needed prior to follow-up: CBC and CMP High risk (Orange Pathway), follow-up within 1 week with [REDACTED] whose flowstaff will arrange items needed prior to follow-up: None Please see Discharge Summary in EPIC which should be available within 24 hours. Patient on Warfarin: No Patient on Chronic Enoxaparin Injection: {NO:11385: ""Yes- AMS, please see Epic encounter for enoxaparin information on this patient discharging today from VM. To route to AMS, use 'p anti'."} Contact me with any questions.

[REDACTED] Consultative Internal Medicine 12/21/2019 3:48 PM -----

[REDACTED] MD Physician

Internal Medicine Discharge Summary Signed Date of Service: 12/21/19 1239 Creation Time:

12/21/19 1239 []Hide copied text []Hover for details [REDACTED] MEDICINE DISCHARGE

SUMMARY [REDACTED] DOB: 7/14/1971 [REDACTED]

(Commercial) [REDACTED] Discharge Date: 12/21/2019 Admission Date: 12/19/2019 [REDACTED]

Hospital Facility: [REDACTED] Attending Physician: [REDACTED] MD PRIMARY DIAGNOSIS:

WOPN/Pancreatic Pseudocyst Necrotizing pancreatitis with WOPN 11/2018 SECONDARY DIAGNOSIS:

SMA and PV thrombosis on anticoagulation SPECIALISTS: [REDACTED] FOLLOW-UP ISSUES AND OTHER

INSTRUCTIONS: CT abdomen and pelvis in 2 weeks and follow up with [REDACTED] CHECK

HbA1c: PENDING LABS OR STUDIES: Unresulted Labs and Imaging (From admission,

onward) None PRINCIPLE STUDIES AND PROCEDURES: S/p EUS with cystgastrostomy and Axio

stent with 2 pigtailed placed, but with still solid necrosis Radiology No results found for this or any

previous visit (from the past 72 hour(s)). REASON FOR ADMISSION: Please refer to the Admission

H&P for details dictated by [REDACTED] 2/19/2019 48-year-old female who has history

of type 2 diabetes admitted at [REDACTED] in 11/2018 with severe necrotizing

pancreatitis requiring hospitalization complicated from thrombosis of superior mesenteric vein, portal

vein and also had HIT and prolonged recovery. She imaging study--MRI, which showed persistent

pancreatic pseudocyst. Initially, the impression was it may resolve, but after almost a year, even though

asymptomatic, she continued to have the cyst and it was decided to bring her for ERCP and cyst

drainage to [REDACTED], stopped her warfarin on 11/23/2019 per recommendation by [REDACTED]

[REDACTED] BRIEF HOSPITAL COURSE: 48 year old female with h/o necrotizing pancreatitis of unclear

etiology requiring 2-weeks of admission at [REDACTED] complicated by SMA & portal

vein thrombosis on coumadin stopped on 11/23/2019 (per GI) developed pseudocyst which persisted

Step 5: Organize and Highlight

Visualize the Chart

Attending, Physician: [REDACTED]
PRIMARY, DIAGNOSIS: WOPN/Pancreatic, Pseudocyst, Necrotizing pancreatitis, with WOPN 11/2018,
SECONDARY, DIAGNOSIS: SMA and PV thrombosis on anticoagulation
SPECIALISTS: [REDACTED]
FOLLOW, UP, ISSUES, AND, OTHER, INSTRUCTIONS: CT, abdomen and pelvis in 2 weeks and follow up with [REDACTED] CHECK, HbA1c,
PENDING, LABS, OR, STUDIES: Unresulted, Labs and Imaging From admission onward, None
PRINCIPLE, STUDIES, AND, PROCEDURES: S/p EUS, with cystgastrostomy and Axio stent with 2 pigtails placed, but with still solid necrosis. Radiology No results found for this or any previous visit.

From the past 72 hour. S. Reason FOR ADMISSION: Please refer to the Admission H P for details dictated by [REDACTED] on 12/19/2019 48 year old female, who has history of type 2 diabetes, admitted at [REDACTED], in 11/2018, with severe necrotizing pancreatitis, requiring hospitalization complicated from thrombosis of superior mesenteric vein portal vein and also had HIT and prolonged recovery. She imaging stud MRI, which showed persistent pancreatic pseudocyst. Initially, the impression was it may resolve, but after almost a year, even though asymptomatic she continued to have the cyst and it was decided to bring her for ERCP and cyst drainage to Swedish.

Hospital stopped her warfarin on 11/23/2019 per recommendation by [REDACTED] Brief HOSPITAL COURSE: 48 year old female, with h/o necrotizing pancreatitis of unclear etiology requiring 2 weeks of admission, at [REDACTED], complicated by SMA portal vein thrombosis on coumadin stopped on 11/23/2019 per GI developed pseudocyst, which persisted for over a year required elective drainage by [REDACTED] 12/19/2019 and then admitted for observatio Active Medical Problems Necrotizing pancreatitis, with WOPN: 12/19/2019 EUS/ERCP and admitted post procedure to observe for infection complication. Patient noticed to have large walled off pancreatic necrosis had endoscopic ultrasound, guided cystgastrostomy drainage with Axios stent and double pigtail stent through Axios. The patient is high risk for a stent occlusion given predominantly solid necrosis within the stent, and thus placement of additional stents and irrigation. She was watched, 48 hours for fever or infection or any recurrence of symptoms on Unasyn and will discharging on Levofloxacin 500 mg QD for 7 days and repeat CT scan in 2 weeks.

Smv PV thrombosis: During, her hospitalization in 2018 patient, did have SM PV thrombosis and was put on warfarin stopped before this current procedure on 11/23/2019 and per discussion with GI not to resume. Chronic or Stable Medical, Problems, T2DM off of medicine per her choices, Insulin sliding scale added discharged only on Insulin, as she was not taking any other medicine any way.

Medications:

Discharge Medications New Medications, Details, levoFLOXacin, 500 mg tablet, Take 1 tablet by mouth Daily. Aka: LEVAQUINStrt: December 22, 2019, Unchanged, Medications, Details, insulin, glargine, 100, units/mL injection vial, Inject, 8 Units under the skin nightly. Varies, depending on BGM aka; LANTUS insulin, lispro, 100, units/mL injection cartridge Inject under the skin 3 times daily before meals. Varies, depending on BGM aka; humaLOG, Discontinued, Medications, glipiZIDE, 5 mg

Step 7: Summarized Enhanced Charts


Enrich and report the chart history

Enhanced Medical Chart

Dr. [REDACTED]
 Welcome to Enhanced Charts in this report you would find all the enhanced charts corresponding to the patient [REDACTED] but they have been enhanced visibility and understanding homogenized chart sections, punctuation and indexed for medical entities. We also provide statistics alongside entities that are identified and indexed. At any time, please click on the link for original chart to go back to the raw version of the patients chart.

Summary [Download PDF](#)
 The last encounter of the patient was on 02/13/2020 at the location shown below. The chart has a total of 12 pages and we have enhanced all 12 pages of this chart. The main conditions we identified for this patient are Pancreatitis, Diabetes and Thrombosis.

Organization



Location









Chart Content Summary



 Number of Encounters (9)



 Utilization Categories (2)



 Number of Years (2)



 Conditions (52)

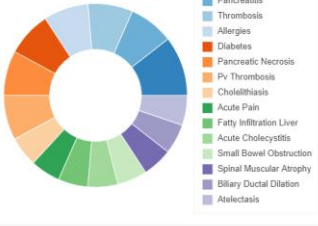

 Medications (18)


 Symptoms or Signs (14)


 Labs (36)


 Procedures (13)


 Hospitalizations/ER (1)

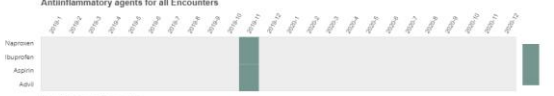


- Pancreatic Pseudocyst
- Pancreatitis
- Thrombosis
- Allergies
- Diabetes
- Pancreatic Necrosis
- Pw Thrombosis
- Cholelithiasis
- Acute Pain
- Fatty Infiltration Liver
- Acute Cholecystitis
- Small Bowel Obstruction
- Spinal Muscular Atrophy
- Biliary Ductal Dilatation
- Atelectasis

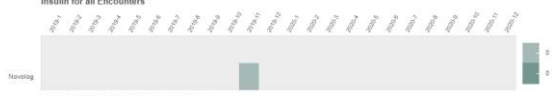
Medications and Drug Classes Over Time

We identify all the drugs and their respective classes to see how the patient is being treated.


Antiinflammatory agents for all Encounters




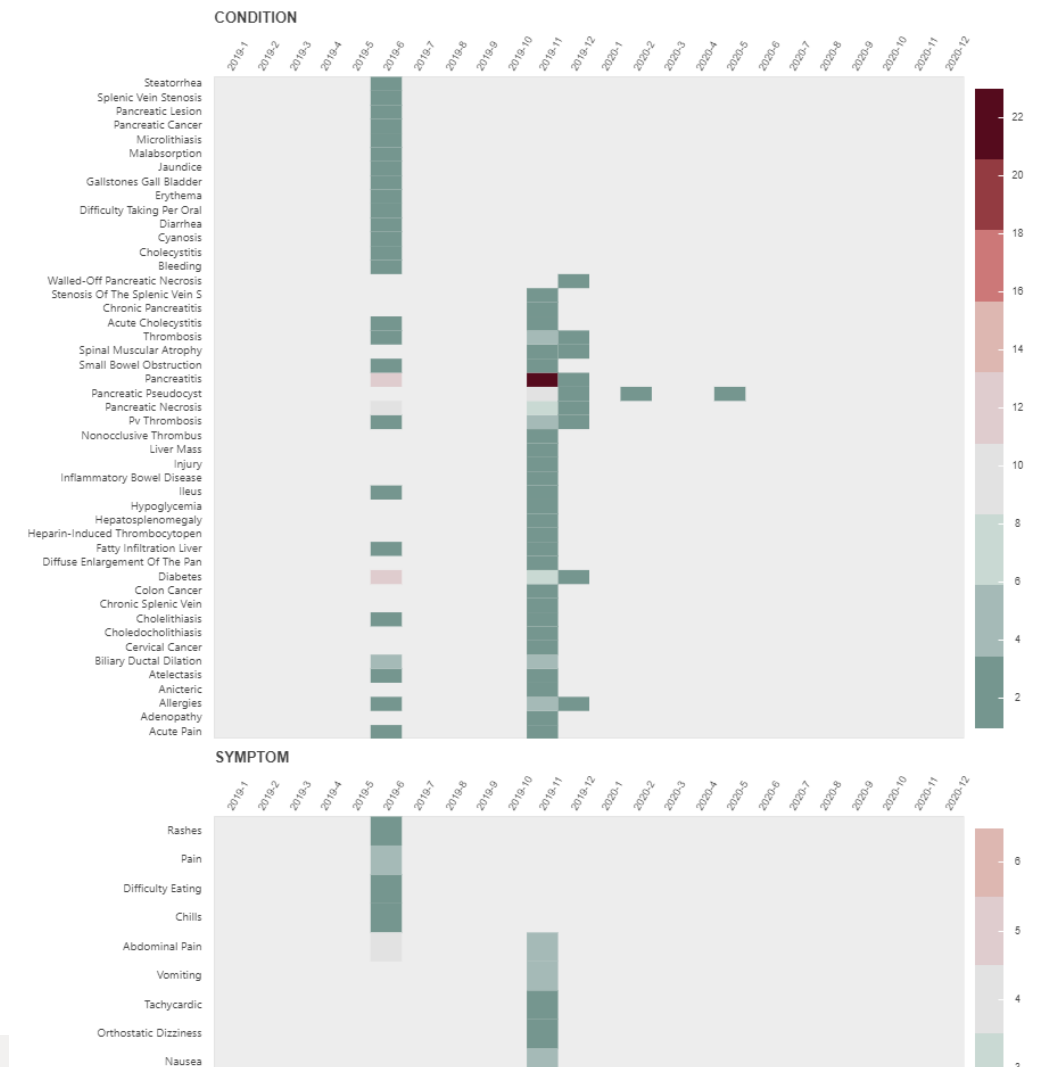
Insulin for all Encounters



Hypoglycemic Agents for all Encounters









Thank you.