ChartWise NotePath™
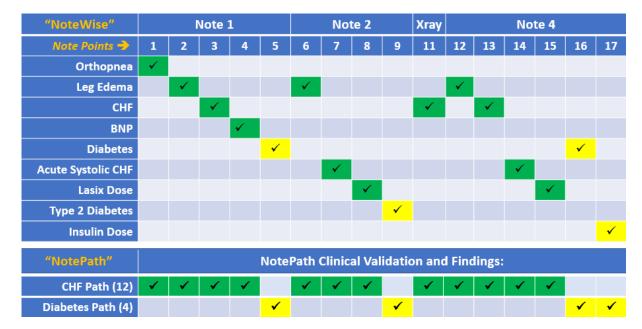
ChartWise's NotePath solution combines its intelligent clinical language processing and rules engine to populate <u>real-time</u> workflows for verifying, reviewing and highlighting the medical information and clinical evidence required to prevent denials <u>before they occur</u>.

"Note Bloat" of the Electronic Medical Record (EMR) has made it especially difficult to identify all of the relevant clinical findings related to potential challenges to a denial.

- Claims denials are on the increase shifting a considerable burden into the hospitals' clinical documentation, coding and denial management process

- 1/5th of US health claims – over $262B in Denied Medical Claims were denied last year

- The reasons for the denials are not always obvious nor clearly stated by the payer, lumped into an ill-defined category of "medical necessity"

- Some denials appear to be totally without a defensible basis (for example, denying the "medical necessity" of admitting a patient with sepsis)

- It can be costly, time-consuming and ineffective to do the necessary chart reviews to gather the evidence needed to ensure a claim is paid or to challenge the denial of a claim

Using comprehensive and sophisticated Natural Language Processing (NLP), Machine Learning and Artificial Intelligence (AI) capabilities, the ChartWise NotePath™ solution analyzes patient documentation and then finds, validates and maps all the pieces of clinical evidence to confirm and validate diagnostic criteria (lab results, physical exam findings, imaging results, etc.) for each patient.

NothPath Clinical Language Processing and Validation Example

"NoteWise"	Note 1					Note 2				Xray	Note 4					
Note Points →	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	17
Orthopnea	✓															
Leg Edema		✓				✓					✓					
CHF			✓							✓		✓				
BNP				✓												
Diabetes					✓										✓	
Acute Systolic CHF							✓						✓			
Lasix Dose								✓						✓		
Type 2 Diabetes									✓							
Insulin Dose																✓
"NotePath"	**NotePath Clinical Validation and Findings:**															
CHF Path (12)	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓		
Diabetes Path (4)					✓				✓						✓	✓

NotePath searches through the available documentation to find each reference in support of particular diagnoses. Unlike approaches that are centered on Computer-Assisted Coding (CAC), NotePath is not limited to lists of ICD-10 or CPT code claims data. Instead, NotePath uses NLP technology to analyze the entire collection of

patient clinical documentation, capturing a wide spectrum of coded information for signs, symptoms, medications, dose ranges, laboratory results, imaging and anatomic pathology reports, problems, diagnoses and procedures.

NotePath and NoteWise extend traditional NLP by working across an entire collection of clinical documents pertaining to a patient. They create and work with high-level abstractions of medical Concepts (lists of Findings that pertain to a single subject) and Topics (the clinical evidence that relates to a specific medical problem). Some examples of NotePath Concepts include Antibiotics (comprising over 3,600 distinct medication codes), Infection (over 1,700 codes) and Edema (over 75 codes). An example of a common Topic is Congestive Heart Failure ("CHF"), whose associated list of Concepts includes medications (diuretics, ACE inhibitors), blood tests (BNP), imaging results (chest x-ray and echocardiogram), physical examination (edema, râles, etc.), and others.

Sample Clinical Evidence Report for CHF Across an Entire Array of Clinical Documents

Clinical Validation: Congestive Heart Failure

Evidence related to: PND, Orthopnea and DOE

Dyspnea (SNOMED 267036007) in note on Dec 21, 2017

...sent. She is on PSV of [**5-21**]% however, she may require increased support due to c/o subjective SOB....
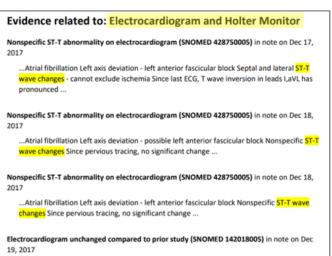
Paroxysmal nocturnal dyspnea (SNOMED 55442000) in note on Dec 21, 2017

...n Gtt was stopped. Was kept on PS-5 and Peep-5, 40% with VT's 380-460, O2 sats 96-98%, RR-14-22 ABG PND. L/S clear to crackles @ bases. No swelling noted in mouth or tonque. ETT has + air leak. Swelling ...

Dyspnea (SNOMED 267036007) in note on Dec 23, 2017

...1530: 7.43/56/230. O2 flow turned down from 8L to 6L. LS remain clear. Pt. denies resp. distress or SOB. Sats 98-100%, rr 17-20. CV: HR 100s-120s, AF during and after extubation. Medicated with Lopressor...

Dyspnea (SNOMED 267036007) in note on Dec 31, 2017

...x: F Service: MEDICINE Allergies: Altace Attending:[**First Name3 (LF) 689**] Chief Complaint: shortness of breath, increased angina Major Surgical or Invasive Procedure: central line placement History of Presen...

Evidence related to: Electrocardiogram and Holter Monitor

Nonspecific ST-T abnormality on electrocardiogram (SNOMED 428750005) in note on Dec 17, 2017

...Atrial fibrillation Left axis deviation - left anterior fascicular block Septal and lateral ST-T wave changes - cannot exclude ischemia Since last ECG, T wave inversion in leads I,aVL has pronounced ...

Nonspecific ST-T abnormality on electrocardiogram (SNOMED 428750005) in note on Dec 18, 2017

...Atrial fibrillation Left axis deviation - possible left anterior fascicular block Nonspecific ST-T wave changes Since pervious tracing, no significant change ...

Nonspecific ST-T abnormality on electrocardiogram (SNOMED 428750005) in note on Dec 18, 2017

...Atrial fibrillation Left axis deviation - left anterior fascicular block Nonspecific ST-T wave changes Since pervious tracing, no significant change ...

Electrocardiogram unchanged compared to prior study (SNOMED 142018005) in note on Dec 19, 2017

Clinical Documentation, Quality and Revenue Cycle Improvement

Together, NotePath and NoteWise provide powerful tools for analyzing and viewing clinical documentation including:

- Analyzing and preventing, or challenging and overturning payer denials and audits
- Verifying the completeness of Clinical Validation and Medical Necessity documentation
- Confirming adherence to coding guidelines
- Identifying potential exclusions from Patient Safety Indicator (PSI) reporting
- Refining documentation and quantification of comorbid conditions (e.g., Elixhauser Comorbidity Index)
- Clinical Documentation Improvement reviews and queries
- Topic-oriented review of the medical record for clinicians and reviewers

* ChartWise is Microsoft Co-Sale Partner and an Azure PaaS Solution with the flexibility to be hosted on the hospital's Azure tenant.

_____

For more information on how to arrange a complimentary NotePath analysis on a representative sample of your denied claims, please contact:
Steven Mason: smason@chartwisemed.com or 615-584-4846 (M)