

# emtelliPro<sup>®</sup>

## for Payer Organizations

### Population-Level Insights for Targeted Network Optimization

emtelligent's emtelliPro<sup>®</sup> advanced Natural Language Processing (NLP) engine is designed specifically to understand the valuable yet complex unstructured medical text trapped within physician, hospital, ancillary, and payer EMRs. emtelliPro also understands the medical language in other types of records such as discharge summaries, diagnostic reports, treatment plans, clinical notes, care management plans, billing statements, and much more.

Using Deep Learning technology designed by medical experts, emtelliPro automates and streamlines data collection and correlation across previously fragmented clinical systems, specialties, and patient populations.

emtelliSuite™ apps leverage extracted medical record data to demonstrate how medical NLP can be used to optimize network design, cost of care delivery, and overall health and wellness for members - ultimately improving clinical outcomes and strengthening financial ROI and competitive positioning.

#### emtelliSuite Smart Summary App

Smart Summary | Patient ID: 11111111 | Search

Show SQL Query:

Abnormalities / Disorders			Neoplasia / Cancer			Injuries / Trauma		
Concept	Date	Document	Concept	Date	Document	Concept	Date	Document
Serousitis	2142-08-30	Discharge Summary	Cervical intraepithelial neoplasia grade 1	2142-03-31	Discharge Summary	Drug overdose	2142-02-26	Discharge Summary
Respiratory failure	2142-08-30	Discharge Summary	Hemangioma of liver	2141-12-08	CT ABDOMEN W/CONTRAST	Bite	2142-01-12	Discharge Summary
Cardiorespiratory arrest	2142-08-30	Discharge Summary	Solitary nodule of lung	2141-11-16	CTA CHEST W&W/O C&RECONS, NON-CORONARY	Hypothermia caused by exposure	2141-09-24	Discharge Summary
Electromechanical dissociation	2142-08-30	Discharge Summary	Cervical intraepithelial neoplasia grade 2	2141-06-06	Discharge Summary	Hamstring injury	2141-09-08	Discharge Summary
Pulmonic valve regurgitation	2142-08-30	Discharge Summary	Pad	2140-05-02	Discharge Summary	Injury of muscle	2141-09-08	Discharge Summary
Venous occlusion	2142-07-12	CTA CHEST W&W/O C&RECONS, NON-CORONARY	Neoplastic disease	2139-10-09	CT PELVIS W/CONTRAST	Damage	2140-09-02	Discharge Summary
Deformity	2142-07-12	CTA CHEST W&W/O C&RECONS, NON-CORONARY		2139-		Muscle strain	2137-11-21	Discharge Summary

  

Findings / Symptoms			Mental / Behavioral Disorders			Procedures / Care Activities		
Concept	Date	Document	Concept	Date	Document	Concept	Date	Document
Inspired oxygen concentration	2142-08-30	Discharge Summary	Opioid withdrawal	2142-02-17	Discharge Summary	Resuscitation	2142-08-30	Discharge Summary
Orthopnea	2142-08-30	Discharge Summary	Depressive disorder	2142-01-12	Discharge Summary	Emotional support	2142-08-30	Discharge Summary
For resuscitation	2142-08-30	Discharge Summary	Panic attack	2141-11-23	Discharge Summary	Deep palpation	2142-08-16	Discharge Summary
Respiratory crackles	2142-08-30	Discharge Summary	Narcosis	2141-09-24	Discharge Summary	Procedure related to management of drug administration	2142-08-16	Discharge Summary
Dyspnea on exertion	2142-08-30	Discharge Summary	Stress	2141-09-24	Discharge Summary	Discussion	2142-07-23	Discharge Summary
Qualifier value	2142-08-16	Discharge Summary	Altered mental status	2140-04-29	CT ORBIT, SELLA & IAC W/O CONTRAST	Centesis	2142-07-16	PARACENTESIS DIAG. OR THERAPEUTIC
Inguinal pain	2142-08-16	Discharge Summary	Claustrophobia	2139-11-09	MRI CHEST/MEDIASTINUM W/O CONTRAST	Puncture and aspiration of abdomen using ultrasonographic guidance	2142-07-16	PARACENTESIS DIAG. OR THERAPEUTIC

The emtelliSuite Smart Summary showcases how emtelliPro allows customers to easily see patient summaries or search and export emtelliPro's structured data to find the answers they are looking for.

# Automate Information Pipelines

emteLLiPro unlocks key insights from within diverse and disparate clinical, administrative, and financial systems to uncover actionable insights for network and care pathway optimization.



## Data Extraction

Structure, transform, and correlate data across clinical, operational, and financial systems.

## Accessing and Uncovering Insights

Easily answer clinical and operational questions using simple search tools or custom queries.

## Benchmark and Measure Performance

Accurately measure and compare cost, quality, and efficiency KPIs.

## Care Pathway Optimization

Design evidence-based care programs and pathways that improve clinical outcomes, optimize authorizations, and reduce costs.

## Optimize Provider Network Performance and Clinical Outcomes

emteLLiPro is able to process, analyze, and correlate millions of patient records in near real-time, enabling the proactive development of optimized provider networks, health plans, care pathways, and wellness programs based on the unique needs of the member population.

- Quickly access relevant clinical diagnoses and history to inform care pathway optimization and authorization
- Benchmark and measure provider performance by clinical service line based on cost-per-encounter, average length of stay, clinical outcomes, and other criteria to improve clinical outcomes for patients and inform network planning and development
- Easily and accurately match patients with programs that best meet their needs based on risk factors, clinical diagnoses, and/or treatments (procedures, medications) across an entire population of EMR records

## Maximize Value and ROI

By seamlessly integrating an entire network of clinical, financial, administrative, and care management EMRs, emteLLiPro uncovers actionable insights and trends to inform the design and execution of impactful cost optimization and continuous improvement initiatives both clinically and economically.

- Monitor ordering appropriateness, referral patterns, authorizations, and out-of-network utilization to proactively identify high-impact opportunities for clinical and cost optimization
- Reduce the cost of care delivery and maximize the value of MSDRGs, APCs, and bundled payments by designing evidence-based programs and policies that leverage clinical, operational, and financial intelligence gleaned from an entire network of provider EMRs
- Significantly reduce the cost, effort, and delays associated with manual data extraction and analysis

# Powered by Next Generation Technology

emteLLiPro's Medical Language Understanding Engine leverages advanced Natural Language Processing (NLP) and Deep Learning algorithms to automatically identify, extract, and correlate data from the EMR to uncover key insights that were previously trapped within discrete and narrative data elements.

## Under the Hood



- NLP and Deep Learning models automatically mine structured and unstructured (narrative) text from within medical orders, EMR data, and diagnostic reports to automatically extract and codify medical entities using standard and custom ontologies (e.g. RadLex, SNOMED, MEDCIN, etc.)



- Advanced feature extraction identifies report sentences, segments, experiencers, negation, uncertainty, measurements, time expressions, and higher-level features such as follow-up recommendations to create a comprehensive, searchable database of clinical findings



- APIs and SDKs are available in C#, PHP, Python, Java, and custom clients can be easily created to support advanced integrations or custom app development

## Showcase Apps

emteLLiSuite apps demonstrate how customers can augment and extend the capabilities of their EMR. Examples include:

- **emteLLiSearch™** see how emteLLiPro can intelligently search for diagnoses, conditions, and procedures in a patient's chart, no matter how large or detailed
- **Comparison Search™** demonstrates how emteLLiPro can intelligently and accurately searches within an entire patient population of EMR records to determine whether a condition, procedure, or medication is present in one type of medical record and either present or absent in another, enabling faster and more effective development of and clinical best practices and appropriateness criteria
- **Category Search™** highlights how emteLLiPro identifies categories of findings, such as 'Cancer', 'Diabetes', or 'Medical Procedures' enabling faster and more accurate identification of member cohorts to inform plan design, preventative care programs, and incentive structures

## Simplify IT Integrations:

- Quickly and easily integrates with any EMR or other text or document-based record systems
- Flexible cloud-based or on-premises models
- Highly scalable and performant, able to process millions of reports daily on a single server instance
- Secure and HIPAA-compliant
- Easy to deploy, configure, and use
- Extract data from multiple sources using standards-based interfaces (HL7, FHIR), file system integration, database connections, and OCR technology

Make the  
emteLLigent  
Choice

emteLLigent's advanced NLP engine transforms difficult-to-use, narrative medical text into valuable and actionable insights.

Enable innovation. Improve competitiveness.  
Drive performance.