



Verbotics^α

By Rey Sarmiento, Sajana Wijesinghe, Gursimar Singh, Bryon Ferrer & Igli Ajdini

Overview

- Verbotics is a website designed to help medical coders come up with the billing codes for each medical report they receive.
- The website will read the medical report and produce the bill codes
- The medical coder still has to check if the output is still correct

Original UI (Loaded Page)

verbotics^{ai}
Clinical Data Intelligence

🔍

Filename

Load file... ▾

Analyse!

Encode!

< Prev

Next >

Analysis

Evidence

Remaining

Floating


ON

OFF

Original UI (Analyze)

verbotics^{ai}
Clinical Data Intelligence

Compute Time: 65ms

 Filename

Load file... ▾

Analyze!

Encode!

< Prev

Next >

sample_0.txt

Analysis

DISCHARGE DIAGNOSIS: 1. CONGESTIVE HEART FAILURE.
2. HYPERTENSION.
3. ASTHMA.
4. URINARY TRACT INFECTION.
5. LOW BACK PAIN.
HISTORY OF PRESENT ILLNESS: This is a 62-year-old black female with a past history of hypertension and congestive heart failure who presented to the emergency room with increasing shortness of breath. In April 1991 , the patient states that she had a bout of a cold with coughing and chills and some substernal chest pressure. In October 1992 , the patient had one 10-minute episode of substernal chest pain associated with nausea , sweating and shortness of breath. Since then , she relates

Evidence

Remaining

DISCHARGE DIAGNOSIS: 1. CONGESTIVE HEART FAILURE
2. HYPERTENSION.
3. ASTHMA.
4. URINARY TRACT INFECTION.
5. LOW BACK PAIN.

HISTORY OF PRESENT ILLNESS: This is a 62-year-old black female with a past history of hypertension and congestive heart failure who presented to the emergency room with increasing shortness of breath. In April 1991 , the patient states that she had a bout of a cold with coughing and chills and some substernal chest pressure. In October 1992 , the patient had one 10-minute episode of substernal chest pain associated with

Floating **ON** OFF

Original UI (Encode)

verbotics^a

Clinical Data Intelligence

Compute Time: 170ms

@ Filename

Load file...

Analyse!

Encode!

< Prev

Next >

sample_0.txt

Analysis

DISCHARGE DIAGNOSIS: 1. **CONGESTIVE HEART FAILURE.**
2. **HYPERTENSION.**
3. **ASTHMA.**
4. **URINARY TRACT INFECTION.**
5. **LOW BACK PAIN.**

HISTORY OF PRESENT ILLNESS: This is a 62-year-old black female with a past history of **hypertension** and **congestive heart failure** who presented to the emergency room with **increasing shortness of breath**. In April 1991, the patient states that she had a bout of a **cold** with **coughing** and **chills** and some substernal **chest pressure**. In October 1992, the patient had one 10-minute episode of **substernal chest pain** associated with

Evidence

Remaining

DISCHARGE DIAGNOSIS: 1. **CONGESTIVE HEART FAILURE.**
2. **HYPERTENSION.**
3. **ASTHMA.**
4. **URINARY TRACT INFECTION.**
5. **LOW BACK PAIN.**

HISTORY OF PRESENT ILLNESS: This is a 62-year-old black female with a past history of **hypertension** and **congestive heart failure** who presented to the emergency room with increasing **shortness of breath**. In April 1991, the patient states that she had a bout of a cold with **coughing** and chills and some substernal chest pressure. In October 1992, the patient had one 10-minute episode of substernal chest pain associated with

Floating ☒ ON ☐ OFF

- **I50.1:** Left ventricular failure, unspecified 5.00
- **M54.5:** Low back pain 3.00
- **N39.0:** Urinary tract infection, site not specified 3.00
- **H34.829:** Venous engorgement, unspecified eye 2.59
- **R06.00:** *Dyspnea, unspecified* 2.00
- **R06.02:** *Shortness of breath* 2.00
- **I51.7:** Cardiomegaly 1.12
- **E66.09:** Other obesity due to excess calories 1.00
- **I10:** Essential (primary) hypertension 1.00
- **J45.909:** Unspecified asthma, uncomplicated 1.00
- **R05:** Cough 1.00
- **R06.01:** Orthopnea 1.00
- **R11.0:** Nausea 1.00
- **R60.9:** Edema, unspecified 1.00
- **T78.40XD:** Allergy, unspecified 1.00
- **Z73.3:** Stress, not elsewhere classified 1.00
- **G03.0:** Nonpyogenic meningitis 0.80
- **Z90.710:** Acquired absence of both cervix and uterus 0.22

Planned UI

Verbotics[®]
Clinical Data Intelligence

Compute Time: 0 ms

@ Filename

Load File Analyse Encode < Prev Next >

Analysis

Sample text ...

- - - -

- - - -

- - - -

- - - -

Medical Report

Billing Codes

Search bar

Makes the evidence/terming disappear to make space for the space bar

Debug Mode

- ☒ Diseases
- ☐ Procedures
- ☐ Anatomy
- ☐ Misc
- ☐ Drugs
- ☐ Labs
- ☐ Foods

cold

Concept	Concept Identifier
cold	100
cold2	H135.52

Debug Mode

Compute Time: 160ms

@

Load file... ▾ Analyse! Encode! < Prev Next >

Analysis

DISCHARGE DIAGNOSIS: 1. CONGESTIVE HEART FAILURE. 2. HYPERTENSION. 3. ASTHMA. 4. URINARY TRACT INFECTION. 5. LOW BACK PAIN.

HISTORY OF PRESENT ILLNESS: This is a 62-year-old black female with a past history of hypertension and congestive heart failure who presented to the emergency room with increasing shortness of breath. In April 1991, the patient states that she had a bout of a cold with coughing and chills and some substernal chest pressure. In October 1992, the patient had one 10-minute episode of substernal chest pain associated with nausea, sweating and shortness of breath. Since then,

Debug mode

Evidence Remaining

DISCHARGE DIAGNOSIS: 1. CONGESTIVE HEART FAILURE. 2. HYPERTENSION. 3. ASTHMA. 4. URINARY TRACT INFECTION. 5. LOW BACK PAIN.

HISTORY OF PRESENT ILLNESS: This is a 62-year-old black female with a past history of hypertension and congestive heart failure who presented to the emergency room with increasing shortness of breath. In April 1991, the patient states that she had a bout of a cold with coughing and chills and some substernal chest pressure. In October 1992, the patient had one 10-minute episode of substernal chest pain associated with nausea, sweating and shortness of breath. Since then,

Floating ON OFF

☒ Diseases ☐ Drugs ☐ Procedures ☐ Labs ☐ Anatomy ☐ Food ☐ Misc

search for concepts here

- I50.1: Left ventricular failure, unspecified 5.00
- M54.8: Low back pain 3.00
- N39.0: Urinary tract infection, site not specified 3.00
- H34.829: Venous engorgement, unspecified eye 2.59
- R06.00: Dyspnea, unspecified 2.00
- R06.02: Shortness of breath 2.00
- I51.7: Cardiomegaly 1.12
- E66.09: Other obesity due to excess calories 1.00
- I10: Essential (primary) hypertension 1.00
- J45.909: Unspecified asthma, uncomplicated 1.00
- R05: Cough 1.00
- R06.01: Orthopnea 1.00
- R11.0: Nausea 1.00

Compute Time: 90ms

@

Load file... ▾ Analyse! Encode! < Prev Next >

Analysis

DISCHARGE DIAGNOSIS: RULE OUT MYOCARDIAL INFARCTION. HISTORY OF PRESENT ILLNESS: Mr. XXX is a 51 year old man who presented with intermittent chest pain and shortness of breath of two days duration. Her cardiac risk factors include a positive family history but no diabetes, no cholesterol, no hypertension, and no history of tobacco use. The patient was in good health until two days prior to admission. At that time, she noted 2/10 substernal chest pain radiating to the left arm accompanied by shortness of breath and dizziness. There was no nausea, vomiting, or diaphoresis. The pain lasted approximately 45 minutes and did not change with activity position. The pain and shortness of breath recurred approximately two times that day. She had a fourth episode on the morning of admission while watching television. She went to the Mali Medical Center where there was no improvement. An EKG there showed flipped T waves across her precordium. The patient improved with oxygen. There, the pain recurred during an ambulance ride to the Norton Memorial Hospital where it was again relieved with oxygen. The patient has no prior history of chest pain, palpitations, or shortness of breath. She denies orthopnea, paroxysmal nocturnal dyspnea, edema, or

Floating ON OFF

☒ Diseases ☐ Drugs ☐ Procedures ☐ Labs ☐ Anatomy ☐ Food ☐ Misc

search for concepts here

Edit Add Delete

- Z95.1: Presence of aortic coronary bypass graft 4.00
- G89.28: Other chronic postprocedural pain 2.00
- R06.00: Dyspnea, unspecified 2.00
- R06.02: Shortness of breath 2.00
- O75.89: Other specified complications of labor and delivery 1.32
- Z37.9: Outcome of delivery, unspecified 1.32
- E66.09: Other obesity due to excess calories 1.00
- R01.1: Cardiac murmur, unspecified 1.00
- R42: Dizziness and giddiness 1.00
- R53.83: Other fatigue 1.00

Search Bar

Debug mode

Compute Time: 66ms

@ Filename

Load file... ▾

Analyse!

Encode!

< Prev

Next >

Analysis

Floating **ON** OFF

DISCHARGE DIAGNOSIS: 1. CONGESTIVE HEART FAILURE.
2. HYPERTENSION.
3. ASTHMA.
4. URINARY TRACT INFECTION.
5. LOW BACK PAIN.

HISTORY OF PRESENT ILLNESS: This is a 62-year-old black female with a past history of hypertension and congestive heart failure who presented to the emergency room with increasing shortness of breath. In April 1991, the patient states that she had a bout of a cold with coughing and chills and some substernal chest pressure. In October 1992, the patient had one 10-minute episode of substernal chest pain associated with nausea, sweating and shortness of breath. Since then,

- ☒ Diseases ☐ Drugs
☐ Procedures ☐ Labs
☐ Anatomy ☐ Food
☐ Misc

cold|

Concept	Concept Identifier
cold	J00
cord2	H35.52
cold hemoglobinuria	D59.1
cold hemoglobinuria	D59.6
cold hypersensitivity	M04.2

Edit & Add & Delete

- Item 1
- Item 2
- Item 3

- Item 1
- Edit Item 2
- Item 3
- Item 4

- Item 1
- Item 2
- Item 3
- Item 4

- Item 1
- Item 3
- Item 4

Limitations

Knowledge

- Limited scope of knowledge on JS and jQuery

Syncing

- The Add/Edit and Search bar functions work separately but the challenge we are facing now is to make them work in sync.

Design

- Couple of flaws in the design including the Debug button and the use of white space in the website.

Questions