# IST 654

# CLAIM PROCESSING SYSTEM

*(Including Swim Lane and Activity Diagram)*


BY:

Name: Saurabh Jape

Team Name: ANALYZERS

Team Number: 05

Mentor: Vishakh Viswanathan

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# How do current Claim Processing Systems Work?

## - *A brief Introduction*

In today's health care scenario, when a customer is hospitalized or visits a doctor to get treatment, he/she submits a claim with the health provider company. The company then checks if the customer is insured with the company. The company then goes on to check the coverage that the employee is under. Ex: Some treatments like dental treatments are not covered. After checking the coverage, companies check for how the coverage may apply i.e. did you go in network or out network? This is then followed by checking and matching the ICDM-9 () diagnosis code currently ICDM-9 to the CPT (current procedural terminology). Each of these assign numbers to diagnoses and medical procedures.

If the claim has broken toe proximal phalanx great toe code as the diagnosis and the procedure is open reduction internal fixation of the humerus as the procedure the claim will be refused. You simply can't treat a broken toe by operating on the arm. So the diagnosis must match the treatment. Each claim can have 4 separate diagnoses some as simple as pain in an area.

Many companies do not cover experimental treatments. Some are much tighter on what they consider experimental especially in medications. If it is not FDA approved most will turn down paying for the medication...of course most experimental drugs are strictly regulated and are free for the study. If it is approved, but very expensive they may require you to try most other (cheaper) medicines prove they do not work, get a letter from the treating physician of the methods and medicines tried to treat the problem and requesting approval.

The steps involved in the claim process can be summarized as follows:

1. The insured individual seeks medical attention from a healthcare provider including affiliated hospitals or nursing home etc.
2. The hospital submits charges to the insurer using a health insurance claim form.
3. Claim forms are sent electronically using a series of codes. The charges are received by the insurance company with each claim having a dedicated date and code to ensure timely payment.
4. The health insurance company reviews the charges to make sure they follow their policy guidelines. An Explanation of benefits (EOB) and a check/online transfer is then initiated.
5. Once the claim is verified, the selected claims are paid and notified to the customer.

# Moving forward- *The switch from ICD-9 to ICD-10*

Currently in the United States, ICD-9 is the code set used to report diagnoses and inpatient procedures. "ICD-9" stands for International Classification of Diseases, Ninth Revision, Clinical Modification (ICD- 9-CM). ICD-9-CM is based on the official version of the World Health Organization's (WHO) ninth revision of the International Classification of Diseases. ICD-9 is designed for the classification of patient morbidity (sickness) and mortality (death) information for statistical purposes. There are three volumes of ICD-9-CM. Volumes 1 and 2 contain codes for reporting diagnoses and symptoms. Volume 3 contains codes for reporting surgical and nonsurgical procedures in the inpatient setting. ICD-9 was named as the standard code set for reporting diagnoses and inpatient procedures under the Health Insurance Portability and Accountability Act (HIPAA) and was implemented in 2003.

**What is ICD-10?**

"ICD-10" is the abbreviated term used to refer to the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) and the International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS).

- ICD-10-CM is the code set of inpatient procedure codes and is the updated version of ICD-9-CM volumes 1 and 2.
- ICD-10-PCS is the code set of inpatient procedure codes and is the updated version of the ICD-9-CM-Volume3.

There are structural differences between ICD-9 and ICD-10 that will make converting to the updated code set complex. ICD-9-CM diagnosis codes are 3-5 digits in length. The letters V and E are the only alpha characters used in ICD-9-CM. In ICD-10-CM, the codes are 3-7 alpha numeric characters in length. The expanded characters of the ICD-10-CM codes provide greater specificity to identify disease etiology, anatomic site, and severity. The additional characters in the ICD-10-PCS codes allow for identifying the body system, root operation, body part, approach, and device involved in the procedure. There are also a greater number of ICD-10 codes compared to ICD-9. The number of ICD-9 diagnosis codes expands from 14,000 to 68,000 in ICD-10-CM. The ICD-9 procedure codes increase from 4,000 to 87,000 in ICD-10-PCS.

<u>Advantages of ICD-10:</u>

- Increased specificity makes accurate documentation critical:
  ICD-10 brings a dramatic increase in the number of codes, from about 17,000 today to 140,000, which allows for a greater level of specificity in coded patient data. This increased code specificity makes accurate clinical documentation critical to achieving accurate coding and billing.
- ICD-10 could turn revenue cycle management upside down.
  The best ways to protect the revenue cycle and ensure proper payments start in patient access. Correct coding, medical necessity and other aspects of capturing information on the front end will be expanded once the industry transitions to ICD-10. Systems should have the capacity to analyze expected procedures so that informed decisions can be made prior to the rendering of care.

# Swim lane Diagram

Figure 1.1 shows the swim lane diagram for the Claim Processing System that is ICD-10 compliant. It consists of the following elements:

1. **Hospitals/Clinics/Physicians:**
   When the patient visits a hospital or clinic, they need to fill out a claim application form which can be electronic or manual. The patient data along with the treatment data and symptoms data is saved and stored in a database by the hospital. The patient data entered is verified with the enrollment system where the employer details are verified, The patient being an employee, has his details registered by his/her employee at the time of applying for the self-insured plan.

2. **Claim Type Identification System:**
   After the verification of the patient is completed, the patient claim details are sent to the claim identification system. The claim identification checks if the incoming claim type is ICD 9 or ICD-10 compliant. The patient details entered by the doctor or physician are also checked.

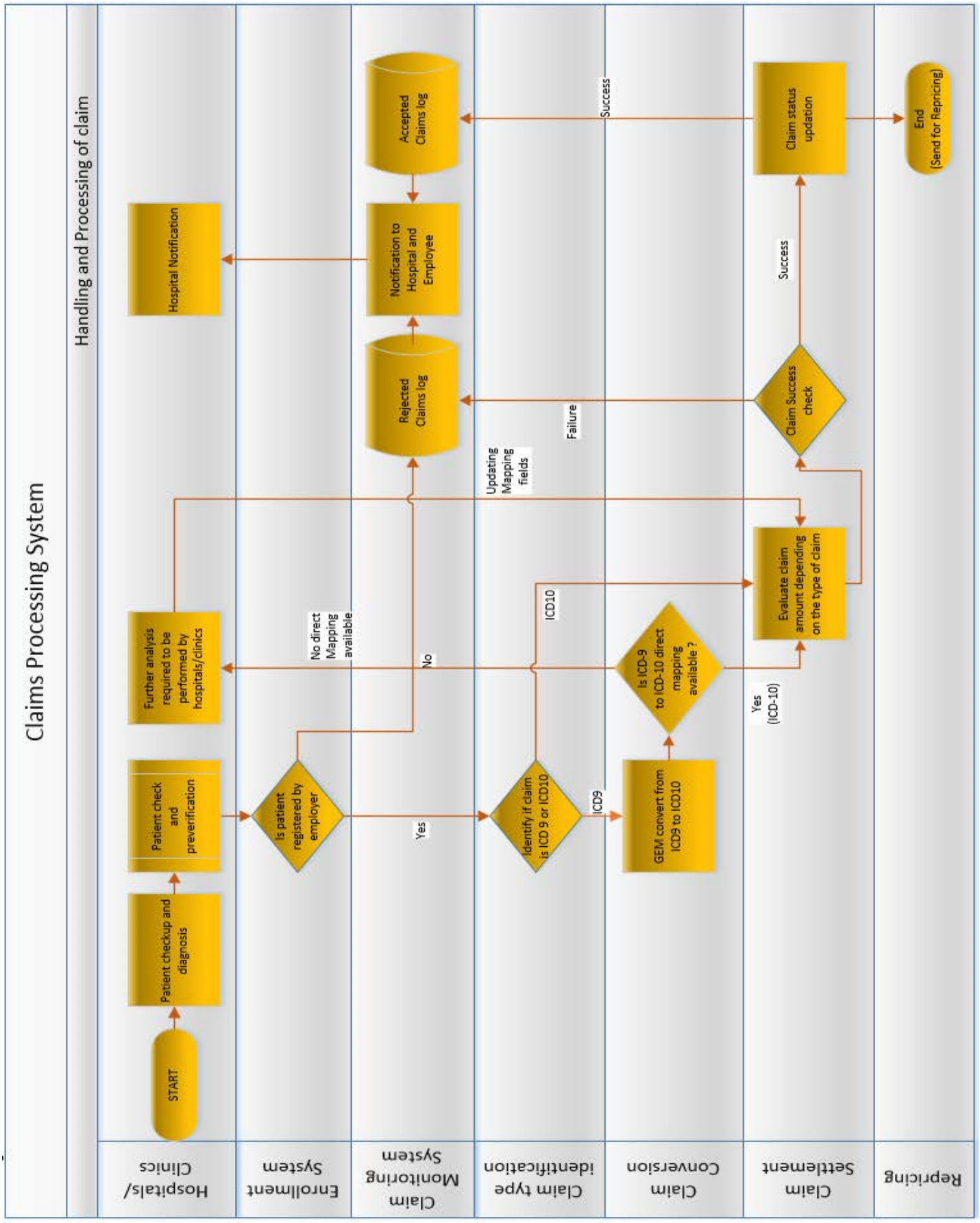
3. **Claim Conversion System:**
   As our system is ICD-10 compliant, we need to make sure that it supports both ICD-9 as well as ICD-10 type of claims. It is possible that all physicians may not have migrated to the ICD10. Thus, after the claim is identified the next step is to convert the ICD-9 compliant claim to ICD-10. This is done by using techniques like General Equivalence Mapping. Many codes in ICD-9-CM map directly to codes in ICD-10, in some cases, a clinical analysis will be required to determine which code or codes should be selected. Thus, all claims present in the system are now ICD-10 compliant.

4. **Claim Settlement:**
   After identification of the claim and converting it to an ICD-10 compliant claim, the next step involves, applying claim rules. The claim rules involve checking patient details, time filing, duplicate claim check, ICD-10-CM and ICD-10-VCS mapping code check etc. It is here that the validity of the claim is checked and the status of the claim is updated in the database.

5. **Claim Monitoring:**
   After the claim has been settled using the claim rules, the claim details are saved using a claim logging mechanism by the claim monitoring system to differentiate between accepted claims and rejected claims.

6. **Claim Re-pricing:**
   Once the claim has been verified by applying claim rules the claims processing system cycle is complete. The next step involves checking for the financial aspects of the claim which is handled by the claim re-pricing system. This involves applying benefits, identifying claims that meet the specified stop loss criteria etc.

Figure 1.1 SWIM LANE DIAGRAM



# Data Dependency Chart

Figure 1.2 shows the Data Dependency chart for the Claim Processing System that is ICD-10 compliant.

It consists of the following components:

a) Internal Components-
Internal components of a system refer to all the elements that are present inside a claim processing system. All these elements combined together form the claim processing system. The components present are:

1. Initial Claim Request Handling: This element handles the claim that is requested from hospitals after user verification.

2. Claim Identification: This element handles the type of claim, i.e. It differentiates between and ICD-9 and ICD-10 compliant claim.

3. Claim Conversion: This element handles the conversion of ICD-9 claims to ICD-10 claim.

4. Claim Settlement: This element handles the settling of claim. This involves applying claim test cases to verify if the claim is applied correct.

5. Claim Monitoring: This element involves monitoring the various types of claims and differentiating them on the basis of approved claims vs rejected claims.

b) External Components-
External components of a system refers to the all the systems that the Claim Processing System will interact with and which does not belong to the claim processing system,

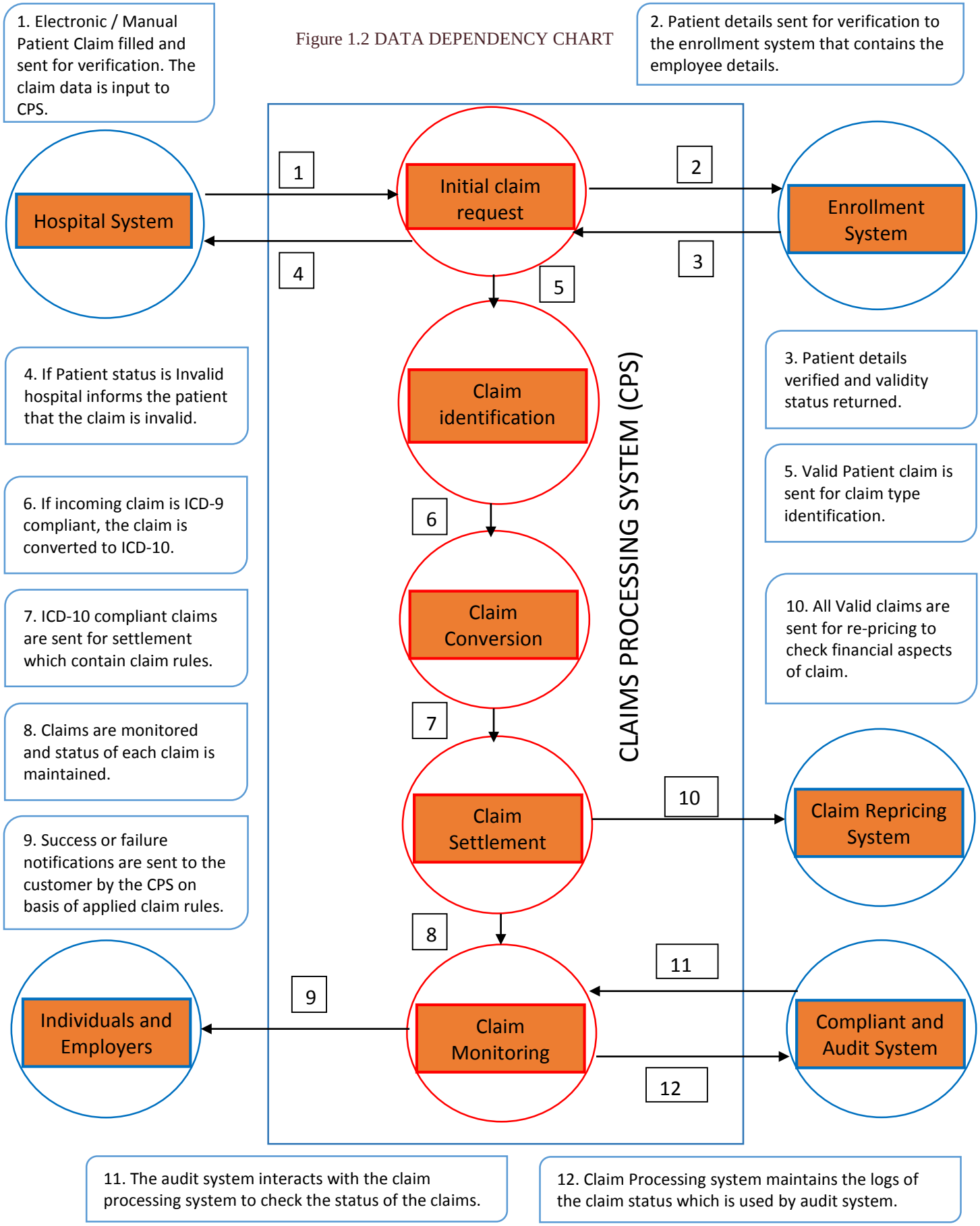
1. Hospital System: This system deals with the creation, data filling of the initial claim applied by the user.

2. Enrollment System: This system deals with handling the data of the patient at data base level.

3. Claim Re-Pricing System (Finance / Accounts): This system is involved in re-pricing the system on the basis of financial rules.

4. Compliant and Audit Tracking System: This system verifies and audits the compliance of the claims. This involves interacting with the CPS to verify the status of each accepted claim and status of each rejected claims.

Figure 1.2 DATA DEPENDENCY CHART



# Conclusion

The system will deal with more specific data will provide better data for identifying diagnosis trends, public health needs, epidemic outbreaks, and bioterrorism events. The more precise codes are supported by some as providing potential benefits through fewer rejected claims, improved benchmarking data, improved quality and care management, and improved public health reporting. ICD-10 will advance healthcare in many ways, with benefits accruing across five major categories.

1. **Quality Measurement:** ICD-10-CM and -PCS offer greater detail and increased ability to accommodate new technologies and procedures. The codes have the potential to provide better data for evaluating and improving the quality of patient care. For example, data captured by the code sets could be used in more meaningful ways to better understand complications, design clinically robust algorithms, and track care outcomes.

2. **Public Health:** ICD-10-CM is more effective at capturing public health diseases than ICD-9-CM. It is more specific and fully captures more of the nationally reportable public health diseases, diseases related to the top ten causes of mortality, and diseases related to terrorism

3. **Research:** External cause of injury codes are also much more detailed in ICD-10-CM than in ICD-9-CM. This coding provides a framework for systematically collecting population-based information needed to fully describe and document how and where injuries occur. The codes are important for injury surveillance and for designing, implementing, and monitoring injury prevention and control programs.

4. **Organizational Monitoring and Performance:** ICD-10's increased specificity offers payers and providers the potential for considerable cost savings through more accurate trend and cost analysis. Greater detail can improve payers' abilities to forecast healthcare needs and trend and analyze costs. It will improve payers' and providers' ability to monitor service and resource utilization, analyze healthcare costs, monitor outcomes, and measure performance.

5. **Reimbursement:** The increased specificity of the codes will make it easier to compare reported codes with clinical documentation, check for consistency between diagnosis and procedure codes, and check for illogical combinations of diagnoses. The use of ICD-10-CM and -PCS thus may also help reduce opportunities for fraud and improve fraud detection capabilities. Fewer gray areas in coding will make it more difficult for dishonest providers to hide behind ambiguities in code descriptions or rules.

Thus, the ICD-10 compliant Claim Processing System that is designed is highly beneficial.