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Medical Billing Process

This document covers the process of a typical medical encounter of a patient.

Process

The process comprises of eight simple steps:

1. Register patient
   When a patient calls to set up an appointment with a healthcare provider, they effectively preregister for their doctor's visit. If the patient has seen the provider before, their information is on file with the provider, and the patient need only explain the reason for their visit. If the patient is new, that person must provide personal and insurance information to the provider to ensure that that they are eligible to receive services from the provider.
2. Confirm financial responsibility
   Financial responsibility describes who owes what for a particular doctor's visit. Once the biller has the pertinent information from the patient, the biller then can determine which services are covered under patient's insurance plan.
   Insurance coverage differs dramatically between companies, individuals, and plans, so the biller must check each patient's coverage in order to assign the bill correctly. Certain insurance plans do not cover certain services or prescription medications. If the patient's insurance does not cover the procedure or service to be rendered, the biller must make the patient aware that they will cover the entirety of the bill.
3. Patient check-in and check-out
   Patient check-in and check-out are relatively straight-forward front-of-house procedures. When the patient arrives, they will be asked to complete some forms (if it is their first time visiting the provider) or confirm the information the doctor has on file (if it's not the first time the patient has seen the provider). The patient will also be required to provide some sort of official identification, like a driver's license or passport, in addition to a valid insurance card.

The provider's office will also collect copayments during patient check-in or check-out. Copayments are always collected at the point of service, but it's up to the provider to determine whether the patient pays the copay before or immediately after their visit. Once the patient checks out, the medical report from that patient's visit is sent to the medical coder, who abstracts and translates the information in the report into accurate, useable medical code. This report, which also includes demographic information on the patient and information about the patient's medical history, is called the "superbill."

SUPERBILL

The superbill contains all the necessary information about medical service provided. This includes the name of the provider, the name of the physician, the name of the patient, the procedures performed, the codes for the diagnosis and procedure, and other pertinent medical information. This information is vital in the creation of the claim. Once complete, the superbill is then transferred, typically through a software program, to the medical biller.

4. Prepare claims

   The medical biller takes the superbill from the medical coder and prepares the claim. Biller's will also include the cost of the procedures in the claim. They won't send the full cost to the payer, but rather the amount they expect the payer to pay, as laid out in the player's contract with the patient and the provider. Once the biller has created the medical claim, he or she is responsible for ensuring that the claim meets the standards of compliance, both for coding and format.

   While claims may vary in format, they typically have the same basic information. Each claim contains the patient information (their demographic info and medical history) and the procedures performed (in CPT or HCPCS codes). Each of these procedures is paired with a diagnosis code (an ICD code) that demonstrates the medical necessity. The price for these procedures is listed as well. Claims also have information about the provider, listed via a National Provider Index (NPI) number. Some claims will also include a Place of Service code, which details what type of facility the medical services were performed in.

5. Transmit claims

   In the case of high-volume third-party payers, like Medicare or Medicaid, billers can submit the claim directly to the payer. If, however, a biller is not submitting a claim directly to these large payers, they will most likely go through a clearinghouse.

   A clearinghouse is a third-party organization or company that receives and reformats claims from billers and then transmits them to payers. Some payers require claims to be submitted in very specific forms. Clearinghouse eases the burden of medical billers by taking the information necessary to create a claim and then placing it in the appropriate form. Think of it this way: A practice may send out ten claims to ten different insurance payers, each with their own set of guidelines for claim submission. Instead of having to format each claim specifically, a biller can simply send the relevant information to a clearinghouse, which will then handle the burden of reformatting those ten different claims.

6. Monitor adjudication

Once a claim reaches a payer, it undergoes a process called adjudication. In adjudication, a payer evaluates a medical claim and decides whether the claim is valid/compliant and, if so, how much of the claim the payer will reimburse the provider for. It's at this stage that a claim may be accepted, denied, or rejected.
A quick word about these terms. An accepted claim is, obviously, one that has been found valid by the payer. Accepted does not necessarily mean that the payer will pay the entirety of the bill. Rather, they will process the claim within the rules of the arrangement they have with their subscriber (the patient). (If the patient has secondary insurance, the biller takes the amount left over after the primary insurance returns the approved claim and sends it to the patient's secondary insurance).
REJECTED CLAIM
A rejected claim is one that the payer has found some error with. If a claim is missing important patient information, or if there is a miscoded procedure or diagnosis, the claim will be rejected, and will be returned to the provider/biller. In the case of rejected claims, the biller may correct the claim and resubmit it.
DENIED CLAIM
A denied claim is one that the payer refuses to process payment for the medical services rendered. This may occur when a provider bills for a procedure that is not included in a patient's insurance coverage. This might include a procedure for a pre-existing condition (if the insurance plan does not cover such a procedure).

7. Generate patient statement
   Once the biller has received the report from the payer, it's time to make the statement for the patient. The statement is the bill for the procedure or procedures the patient received from the provider. Once the payer has agreed to pay the provider for a portion of the services on the claim, the remaining amount is passed to the patient.
8. Follow up on patient payments
   The final phase of the billing process is ensuring those bills get, well, paid.
   Billers oversee mailing out timely, accurate medical bills, and then following up with patients whose bills are delinquent. Once a bill is paid, that information is stored with the patient's file.

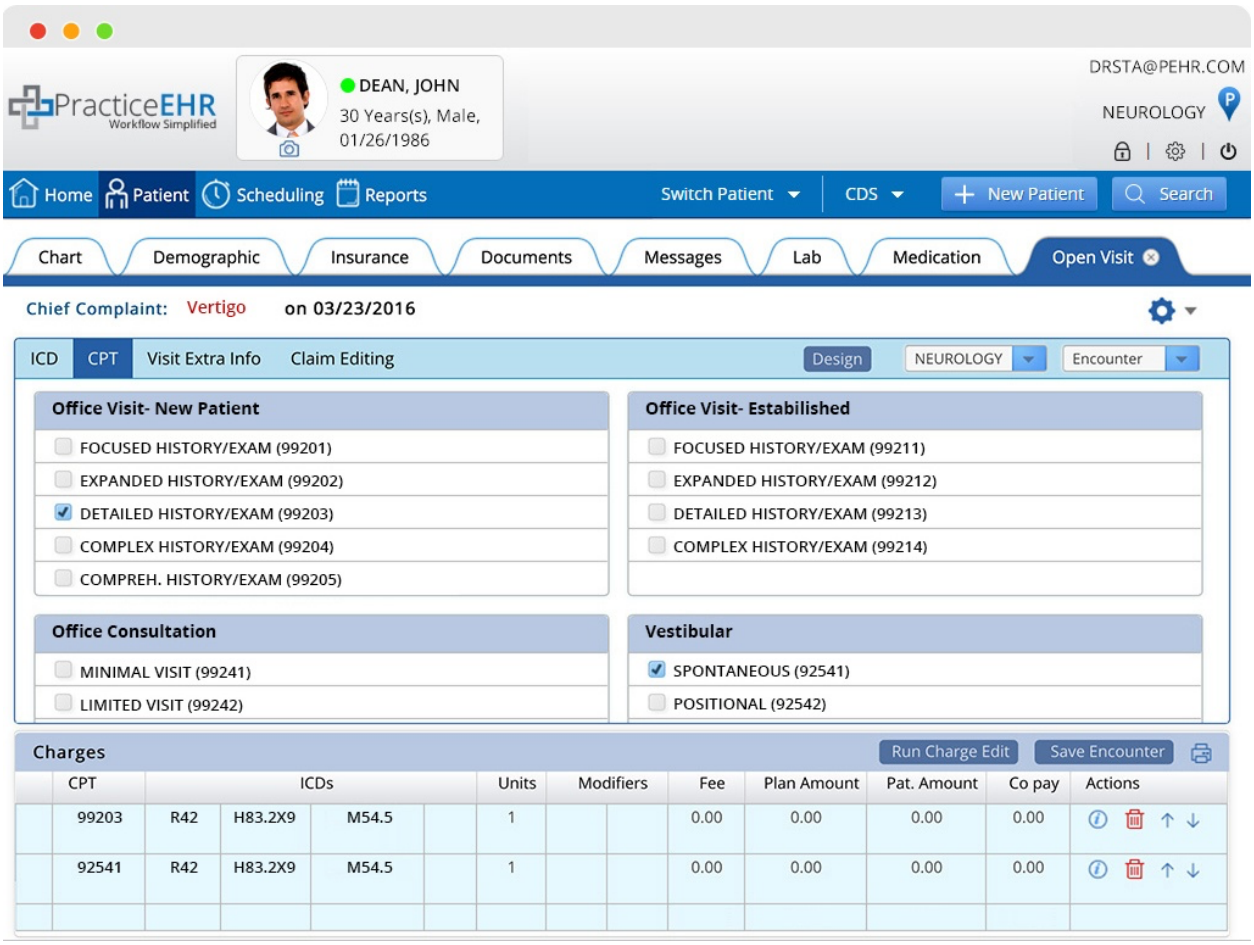
What billing covers

Following are the features the billing team would cover. This is based on the typical medical process. This list does not contain all the features. This only has the feature we have identified so far.

1. Creation of claims: A UI for a medical biller to create claim. The medical biller chose the different procedure taken by the patient and generate the claim. The UI will have the following information:
   a. The list of procedures performed (in CPT or HCPCS codes).
   b. The list of diagnosis code (an ICD code) that demonstrates the medical necessity (each of the procedures is paired with a diagnosis code).
   c. Once any procedure is chosen the price will come up with it.

   A claim has:
   a. The patient information (their demographic info and medical history).

    b. The procedures performed (in CPT or HCPCS codes).
    c. The diagnosis code (an ICD code) that demonstrates the medical necessity (each of the procedures is paired with a diagnosis code).
    d. The price for these procedures.
    e. Information about the provider listed via a National Provider Index (NPI) number.
2. Check insurance eligibility
   Once the biller has the pertinent information from the patient, the biller then can determine which services are covered under patient's insurance plan.
   Certain insurance plans do not cover certain services or prescription medications. If the patient's insurance does not cover the procedure or service to be rendered, the biller must make the patient aware that they will cover the entirety of the bill.
3. Transmit claim
   Transmit the claim to the payer. If multiple insurances are eligible transfer to all of them.
4. Monitor adjudication
   Provide a UI for rejected, denied claims from the payer. A notification can be sent.
5. On accepted claim, generate statement.
6. Send reminder to the patient
7. Administrative operations (CRUD) on claims, statements



Resources required for billing

1. Patient information
2. Appointment information
3. Insurance information
4. Procedure information (or manual)
5. Rates

Operations by billing

1. Create claim
2. Update claim
3. Delete claim
4. Generate statement
5. Send notification

APIS by billing

Method	URI	Body	Comment
GET	/procedures		List all the procedures codes and information (CPT, HCPCS codes) paired with diagnosis (ICD codes)
GET	/procedures/{id}/rates		Get the rate for a procedure
POST	/claims	Patient info Insurer info Procedure info	Creates a claim
PATCH	/claims/{id}		Patch a claim
PUT	/ claims/{id}		Updates a claim
DELETE	/ claims/{id}		Delete a claim
POST	/statements	Claim id	Generate a statement
GET	/statements?search		List all the statements or based on the search
POST	/notifications/{patientsID}/statements/{statementID}		Sends a notification

Entities

Claim	
PK	ClaimId
FK	PatientInfo
FK	InsuranceInfo
FK	Procedures
	CreationDate
	UpdateDate
	Status
FK	MedicalProvider

Procedure	
PK	ProcedureId
	CodingType
	DiagnosisCode
	Code
	Description

Rates	
PK	RateId
	ProcedureCodingType
	ProcedureCode
	Rate
FK	MedicalProvider

Diagnosis	
PK	DiagnosisID
	CodingType
	code
	description

Statement	
PK	StatementID
	location
	creationDate

Initial proposed architecture

The proposed architecture is for AWS. This may change.