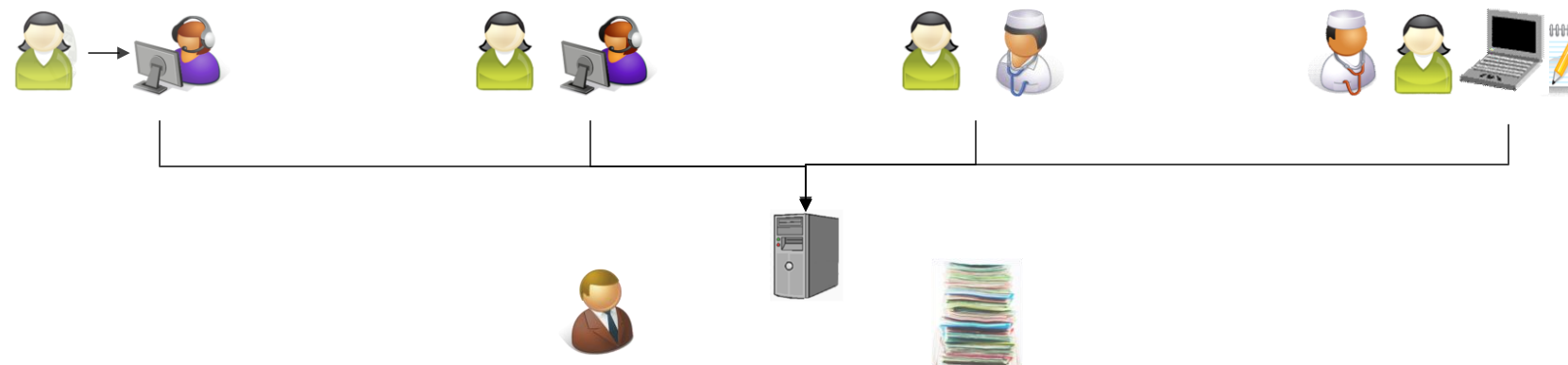


EMR Functional Flows

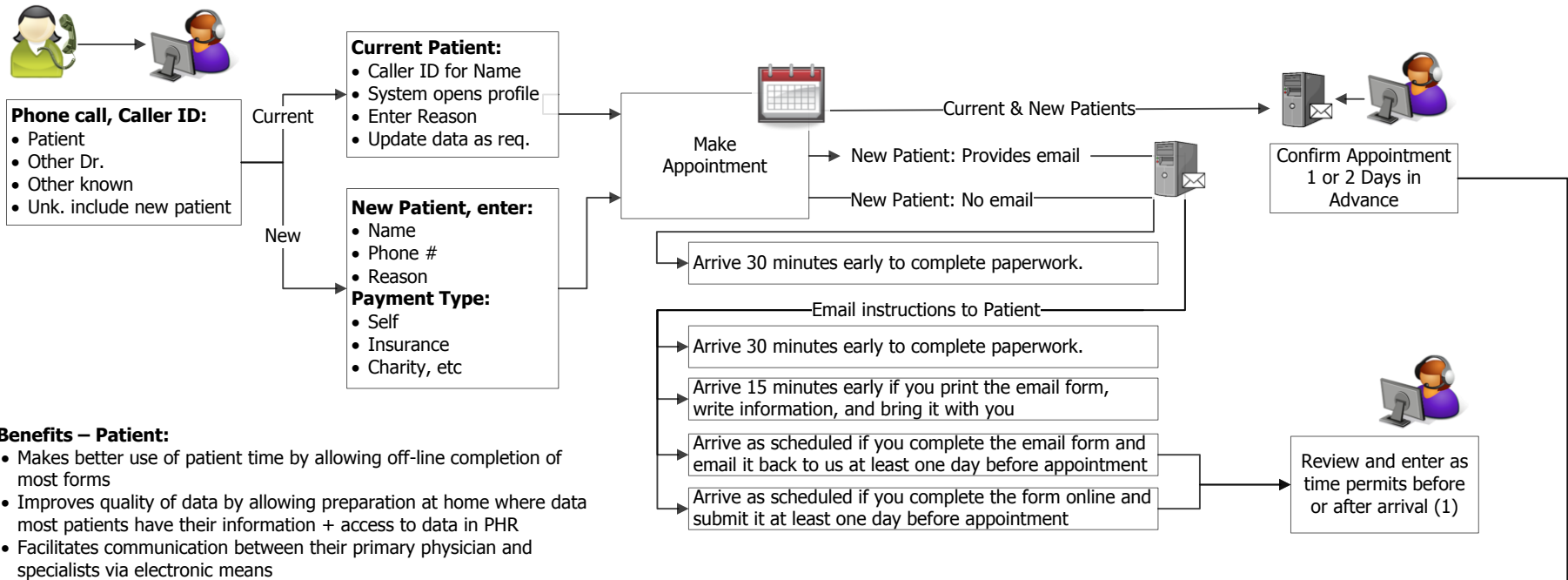
For a Small to Medium Sized
Medical Practice

A set of flow charts illustrating the
relationship between participants,
processes and a hypothetical EMR
system to facilitate discussion
among Doctors, Administrators,
Developers and other interested
parties



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Receptionist



Benefits – Patient:

- Makes better use of patient time by allowing off-line completion of most forms
- Improves quality of data by allowing preparation at home where data most patients have their information + access to data in PHR
- Facilitates communication between their primary physician and specialists via electronic means

Benefits – Receptionist:

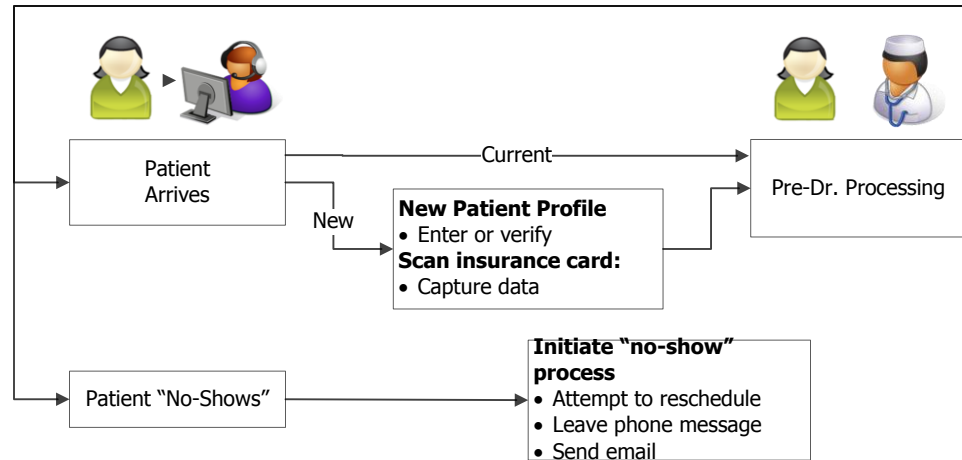
- Automates some tasks to minimize receptionist time/per patient
- System highlights need to update or correct profile information
- Provides tools to facilitate “personalized” interaction with patient by providing background information during the appointment call, e.g., special needs
- Captures patient information online to minimize data capture time and errors – verify information rather than enter it
- Email support for new appointments, reminders and other common messages
- Alerts about special language needs and auto dial for appointment reminder telephone calls
- “No show” process to assure proper follow-up

Benefits – Preparation to see Dr:

- Any preparation required before seeing the Dr is scheduled to assure staff and other resources are available, e.g., eye dilation or other pre-processing
- Notes are available for the Dr when he/she is ready.

Benefits – Front end of visit:

- Better patient experience
- Reduced clerical effort by receptionist: makes job more interesting, reduces clerical time and cost per patient
- Records are up to date and ready when Dr is ready .



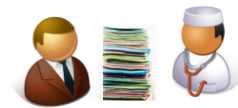
Doctor



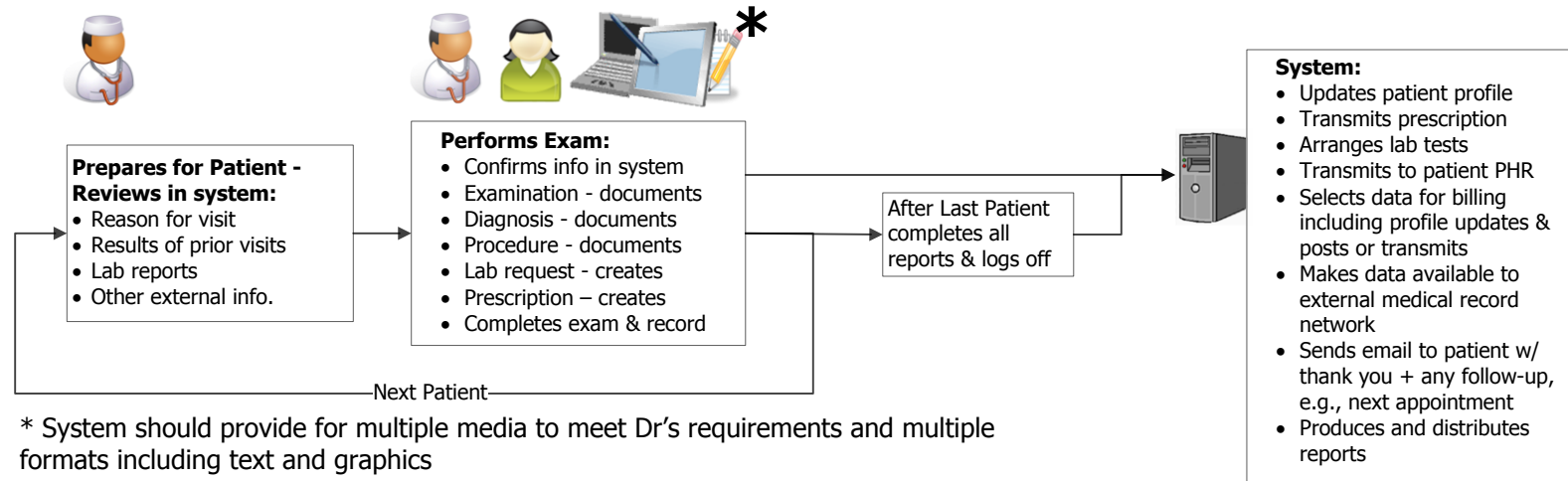
Dr: uses PDA to check Personal or System Calendar to make best use of time



DR has Internet access from essentially anywhere for patient info or to update records



DR and Administrator select, design and manage reports for the practice and regulators



* System should provide for multiple media to meet Dr's requirements and multiple formats including text and graphics

Benefits – Integration of Dr's personal and professional calendars:

- Data in each calendar other than time commitment is "private"
- Allows Dr to keep both calendars synchronized and manage his/her time in essentially real time
- More effective use of changing schedules
- Facilitates work/life balance

Benefits – Internet access:

- Allows Dr to access patient records and deal with related inquiries by patients or other medical providers where ever and when ever it is convenient
- Facilitates use of alternative locations, e.g., a special operating room in a near-by hospital
- Facilitates interaction and communication with patient's other healthcare providers

Benefits – Reports:

- Allows Dr and Administrator to create and modify reports using system information for improved practice management, improved case management, research, and regulatory compliance

Benefits – Prepares for Patient:

- Essentially what the Dr does with a paper based system
- Summarizes key information and provides links to additional data, e.g., results of lab test and detailed report

Benefits – Performs Exam:

- Essentially what the Dr does with a paper based system
- Can capture data using "check lists" as appropriate, can add narrative information as appropriate, can make notes on diagrams if that is part of current documentation
- Can review any history as required
- Diagnosis, procedures and other billable items are captured and can be tested for spelling and relevance, e.g., procedure is relevant for diagnosis, to minimize billing errors
- Lab requests and prescriptions can be generated using check boxes similar to current forms
- System provides alternative media to allow Dr to chose as appropriate for this type of exam or Dr's personal preference

Administrator



Office Administrator Sets Up System:

- Selects system options
- Sets access rules & assigns rights
- Verifies passwords meet standards
- Assure supporting documentation exists including HIPAA requirements

Office Administrator Routinely:

- Updates access rules and rights
- Verifies password updates

Office Administrator Manages External Interfaces:

- Transmission of records, requests, prescriptions
- Receipt of records, requests
- Patient personal electronic healthcare records

Office Administrator Manages Reports for:

- Practice management
- Case management
- Research
- Regulatory requirements

Benefits – Management of system features and functions:

- Administrator can tailor most features and functions as user become more familiar with the system and as user requirements change over time
- Installations in multiple practices allow cost sharing of changes in response to user needs, advances in technology, and changes in regulations

Benefits – Administrator manages external interfaces:

- Minimizes time required by Dr to order prescriptions and tests and resolve any issues
- Assures interfaces are managed for quality including follow-ups
- Allows automation of proven interfaces and delegation of tasks to the receptionist or others as appropriate
- Facilitates addition of new interfaces, e.g., new labs, primary care physicians.

High Level Requirements:

Security must be built in:

- Comply with regulatory requirements.
- Meet or exceed health care "best practices."
- Satisfy rising patient expectations

Design must be flexible:

- Regulatory requirements are still being defined and will continue to evolve into the foreseeable future.
- The supporting technologies are evolving and will continue to evolve.
- Specific implementations must be flexible to be tailored to the requirements of the medical practice and individual doctors.
- A significant part of the value of the system will be derived from the exchange of information with other systems including other doctors, health information exchanges, medical groups, billing services, insurance companies, patient personal health information system, etc.; the required interfaces are also in the formative stages.

Vendor must provide technical support:

- Internet based software (software as a service or SaaS) is a preferred option.
- Reliability must be built in which may include some redundancy of hardware and network
- System should provide for multiple implementations to allow sharing of the cost of enhancements among users.

Functional Data Groups:

Master Calendar:

- Office hours
- Staff schedule
- Doctor schedule

Email:

- Suite of standard messages
- Some sent by system, e.g., confirm appointment for new patient
- Some sent in response to questions, e.g., I now have Google Vault, what should I do?

System Options:

- Managed by Admin
- Tailor system to practice

Patient Profile:

- Names inc. preferred name
- Contact numbers and addresses
- Age, gender, preferred language, etc
- Payment, e.g., insurance info
- Personal conversation text box
- Relationships, e.g., parent for child
- Personal Health Record link & auth.
- Primary care physician
- Other healthcare links
- Link to pending appointments

Patient Medical:

- Past appointments
- Past exams, procedures, orders, and results
- Health history inc medications
- Notes for next appointment

Diagnosis & Procedure Codes:

- Links to codes appropriate to practice area for reports and billing

Special Processes:

Doctors Calendar:

- System will post appointments to Dr's personal calendar so Dr can manage practice, professional, and personal life from one calendar, e.g., appointment is cancelled, Dr blocks time to make phone call to insurance agent regarding improved coverage for practice. Meeting is cancelled, Dr makes blocked time available for patient scheduling.

Resolve Profile Data Errors:

- Mail is returned, phone is "not a working number, etc.
- Mark field profile
- System will notify anyone who views the profile that field has an error, e.g., "phone needs update," so error can be resolved at next patient contact.

Track Resolution of "No Show":

- If patient does not show up for an appointment the system will require action and logging of result to establish a new appointment.
- Demonstration of good faith effort to assure proper patient care and minimize associated liability.

Additional "options"

System Enhancements:

- Allow registered patients to schedule appointments online

System Interfaces

- Use terminals for employee time and attendance
- Capture information recorded in patient's PHR, e.g., daily blood pressure readings