EHR based cognitive support to Enhance the clinician experience.

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Introduction:
Thanks to Gary and team for collection of the extensive body of knowledge the spreadsheet.

Topic Area for cognitive support:
- Clinical decision support (CDS), medical logic, artificial intelligence
- Alerts, reminders, notifications, inbox management
- Information overload

1) A major motivation and goal for HITECH incentives to implement EHR to gain advantage of communication, CDS and knowledge delivery tools
2) Transitioning EHR from filing cabinet to physician cognitive support requires EHR to improve:
    a. Information organization and display
    b. Alerts, reminders based on context
    c. Background monitoring of data for changes and concerns
    d. Digital guidance for workflow
3) Barriers and burdens to achieving EHR based cognitive support
    a. Limitations to functionality of existing EHR - workaround, compromises
        i. Workflow support
        ii. Trigger logic limitations
        iii. Limitations of if-then logic for decision engine
        iv. Questionable accuracy of source data for logic
    b. All change management and configuration bandwidth taken up meeting regulatory requirements
    c. Reactive mindset of staff- only changes are those required or pushed by leadership not clinically focused.
    d. Requirement that changes must be built locally - idiosyncratic, builder dependent, lack of resources,
        i. Lowest common denominator approach -
        ii. Lack of expertise by build team - high turn-over, unexperienced
        iii. Centralization of build resources in large networks - nationalized systems don't localize changes
    e. Variations across EHR systems - clinicians move across health care systems in their work
        i. Lack of standard user interface and workflow
        ii. Lack of knowledge resource sharing (order sets, alert logic, documentation templates)
        iii. Different mental models
4) Education and training of IT workforce and clinicians
    a. Workforce limitations
    b. Reporting structures/organizational structure
        i. Committee chairs often not clinicians
        ii. No focus on clinician burden - you have to do what our policies say
        iii. Need Educated clinicians involved (Clinical Informatics Boards)
5) Opportunities

1) Take a positive view - enhance clinician experience - look for what works
2) Externalize tools - retooling of monolithic EHR to incorporate knowledge vendors
    i. Import order sets
    ii. Access to and sharing of alert logic
    iii. Knowledge resources (i.e. infobutton)
3) Develop metrics to test cognitive intervention success - consider clinical trials for changes
    i. Build a framework for assessment of interventions
    ii. Help teams prioritize their work
4) Enhance Education and training opportunities
5) Thoughtfulness about regulatory burden on clinical burden.
6) Encourage collaborative Competition and sharing of innovative solutions
    i. e.g. alert with highest response rate
    ii. Order set template with highest uptake

6) Next Steps
    1) Update draft document
    2) Expand out-reach informatics clinicians
    3) Start filling in Column F : "Current RCB Proposals and Successful Solutions"

Ideas:

Root cause analysis - maybe it isn't the EHR but due to weird requirements
Identify people and methods who are successful
Tell compelling stories - need better charts