Catholic Health Initiatives

Imagine better health.℠

-TheraDoc Intervention Changes (2017-2018 update)
- CRRT order changes, etc.

September/October 2017 Pharmacist Meeting

TheraDoc 2017 Update

Purpose:

- Update the current intervention system so a more detailed reporting system regarding pharmacist interventions can be achieved with minimal changes in current workflow

Current TheraDoc process

1. Make an intervention for a patient = capture via Intervention Assistant
2. Intervention Assistant → Clinical Activity → Select Clinical Activity and document any additional comments in Comments to Team Member as necessary
3. Time and dollar amounts auto populate based on Clinical Activity
4. Follow-up Status is then typically complete, may remain Pending if further follow-up or communication is needed.
5. Set appropriate Intervention Status
   a) Undetermined – if waiting for provider response to intervention
   b) Accepted – if intervention was accepted by provider, change occurred, or action completed
   c) Accepted modified – acceptable outcome was achieved but not original intended outcome
   d) Canceled – intervention entered in error or on wrong patient
   e) Rejected – intervention not accepted by provider but documenting the work/recommendation that you did

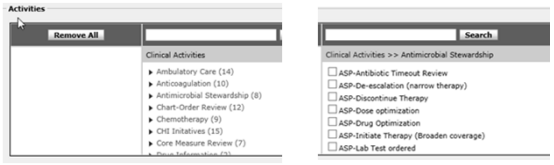
Current TheraDoc Intervention process

Some interventions are grouped and some are individual

New TheraDoc Intervention Process

1. Interventions will be classified into Clinical Activity Groups or Folders

2. Within each group/folder will be a subset of interventions

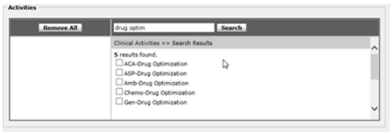


New Intervention Assistant Process

1. As you can see there are many new "Folders" (broader categories) that group specific interventions. These include Ambulatory Care, Anticoagulation, Antimicrobial Stewardship, Chart-Order Review, Chemotherapy, CHI Initiatives, Core Measure Review, Drug Information, Emergency Pharmacy, IV-PO, Pharmacy Consult-Protocol, Transitions of Care, and Facility-Specific Interventions.
2. When you click on a folder it will display the options available in that folder, for instance below shows the intervention types that are under Chart-Order Review, there are 11 subtypes all together.
3. Each subtype has an abbreviation in the name that tells you what folder you are in.

New Intervention Assistant Process

1. Additionally, you can search for an intervention, using the Search Field in Intervention Assistant
2. Some intervention types are located in multiple folders
   a) See screen shot below for Drug Optimization, type all or part of intervention you are looking for
   b) Drug optimization may be Anticoagulation (ACA) related, Antimicrobial Stewardship (ASP) related, Ambulatory care (AMB) related, Chemo drug (Chemo) related, or a General/Chart Review (GEN) related intervention.
3. The Pharmacist should select the intervention category that best classifies what type of Drug Optimization they are making.



New TheraDoc Intervention Process

Tips:

1. The subtype/intervention most similarly resembles the old categories, but these are all found within folders in the new system.
2. The combination of Folder and Subtype allows for pharmacy departments to see a specific intervention that was made in a specific area of practice without manually sifting through the data for possible comments
   a) For example: all ADEs prevented involving Anticoagulation can be reported separately from other ADE prevented interventions.
   b) The documentation section is still used to add additional details in regards to the intervention (still required for Major ADE's subtypes)

Examples
Rx is completing a Med Rec for a patient…

1. The pharmacist begins the intervention process by typing in the type of intervention that was made (in the search field, you can type in "history" (or medication history), then you see options for:
   a) Ambulatory care (AMB) Medication History, Emergency Department (ED) Medication History, or Transitions of care (TOC) Medication History.
   b) Select TOC-Medication History, if you are completing the Med History as a floor pharmacist or Med History Tech
   c) Only select Amb-Medication History if working as an Ambulatory care-clinic pharmacist/tech.
   d) Only select ED-Medication History if working as an ED pharmacist or collecting Med History in the ED.
   e) Note: 3-MMC/MWL is a facility specific Clinical Intervention. Avoid selecting interventions with facility numbers and abbreviations in the title unless you are working at that facility.

Examples
RPh made a recommendation for LMWH bridge for a patient…

1. The pharmacist begins the intervention process by typing in the type of intervention that was made. (in this case you don't know what to search for, so you can select the anticoagulation folder since this is an anticoagulation intervention.)
2. Then Select the intervention that best matches the search, in this case ACA-Added Drug Therapy
3. The time spent and dollar value will auto populate
4. Document any additional information if necessary

Examples
RPh recognized the need to discontinue a TPN…

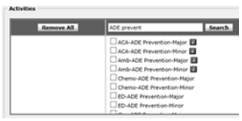
1. The pharmacist begins the intervention process by selecting Clinical Activity and Searching **"TPN"**
2. Next, two options result from the search, since you are discontinuing TPN select the CHI-Avoid/Discontinue TPN intervention.
   a) This is the same intervention that was previously Avoid/Discontinue Inappropriate Therapy – TPN.
3. The time spent and dollar value will auto populate
4. Document any additional information if necessary
5. The Intervention is typically set to completed status and accepted if the TPN was stopped.

Examples
Antimicrobial Stewardship RPh recommended a dose adjustment… (not a consult or renal protocol adjustment)

1. The pharmacist opens Clinical Activity and searches for "Dose"
   1. As you see many options appear for "Dose", avoid any facility specific interventions, the ones with the number and facility abbreviation. (unless you are from the specific facility)
2. Select the most appropriate category, in this case we will choose ASP-Dose Optimization (ASP=Antimicrobial Stewardship).
3. Alternatively, you could select the Antimicrobial Stewardship folder, and then select the ASP-Dose Optimization Intervention from within the folder

Examples

RPh needs to document an ADE avoided…



1. The pharmacist begins the Clinical Activity process by searching for ADE Prevent.
2. Select the most appropriate category the ADE prevented falls under (Anticoag (ACA), Ambulatory (AMB), Chemo, ED, General (GEN), or Transition of Care(TOC))

RPh needs to document a teaching or education…

1. The pharmacist begins the Clinical Activity process by searching for "education"
2. Select the most appropriate category the teaching falls under, if it is typical medication education, please select TOC-Patient Education

A master list of definitions is available that has every Clinical Activity Folder (Group) and Intervention

Group	Intervention	Time	Dollar	Definition	Examples
Anticoagulation	Added Drug Therapy	20	175	-When unmet healthcare need is addressed by pharmacist	Pharmacist adds Vitamin K therapy for patient who meets criteria. Pharmacist recommends starting an anticoagulant for patient who is at high risk for stroke, etc.
Anticoagulation	ADE Prevention-Major	30	2200	-Prevention of an ADE that would likely have been serious and resulted in an increased LOS. -Changes in therapy occurred as a result of clinical skills and not just a computer notice (i.e. duplicate therapy, allergy, or drug interaction notice).	Drug interaction prevented or dosing adjustment made that if not changed could have resulted in severe adverse reactions bleed, coagulopathy, stroke, etc.
Anticoagulation	ADE Prevention-Minor	15	220	-A pharmacist prevents a MINOR medication error as part of clinical review or patient care.	Change in dose, drug, frequency etc. that prevented a less severe complication such as minor bleeding, or other minor side effect.

FY18Intervention finitions and Exam

Link to CHI SharePoint Clinical Interventions Documents:
https://collaborate.catholichealth.net/teams/CSP/root/Clinical%20Interventions/Forms/AllItems.aspx

CRRT Order Changes

CONTINUOUS RENAL REPLACEMENT THERAPY (CRRT) ORDERS
(For patients intolerant of citrate anticoagulation)

- **New CRRT Order Set**
  - For use on patients unable to tolerate citrate (liver failure, etc.)
- **New elements to this order set**
  - Calcium gluconate added as a standard to both dialysate fluid and replacement fluid orders

12. Dialysate Fluid and Flow Rate (Green Scale)
☐ Prismasate BGK 4/0/1.2 (Sodium 140mEq/L, Magnesium 1.2 mEq/L, Potassium 4 mEq/L, Chloride 110.2 mEq/L, Lactate 3 mEq/L, Bicarbonate 32 mEq/L, Glucose 110 mg/dl) with 2.5 mEq/L of Calcium Gluconate added.

☐ Prismasate B22GK 4/0 (Sodium 140mEq/L, Magnesium 1.5 mEq/L, Potassium 4 mEq/L, Chloride 120.5 mEq/L, Lactate 3 mEq/L, Bicarbonate 22 mEq/L, Glucose 110 mg/dl) with 2.5 mEq/L of Calcium Gluconate added.

Rate: _____ ml/hr

13. Replacement Fluid and Flow Rate (purple scale minimum 200 ml/hr Post Filter)
☐ Prismasate BGK 4 / 0 / 1.2 (Sodium 140 mEq/L, Magnesium 1.2 mEq/L, Potassium 4 mEq/L, Chloride 110.2 mEq/L, lactate 3 mEq/L, Bicarbonate 32 mEq/L, Glucose 110 mg/dl) with 2.5 mEq/L of Calcium Gluconate added.

☐ Prismasate B22GK 4 / 0 (Sodium 140 mEq/L, Magnesium 1.5 mEq /L, Potassium 4 mEq/L, Chloride 120.5 mEq/L, Lactate 3 mEq/L, Bicarbonate 22 mEq/L, Glucose 110 mg/dl) with 2.5 mEq/L of Calcium Gluconate added.

CRRT Order Changes (continued)

- **Anticoagulation Option added (*"No Anticoagulation" or "Angiomax"*)**
  - Angiomax (bivalirudin) – Weight Based CRRT Infusion
    - **Please note: This is different than our standard Angiomax Weight Based Protocol!!!!!!**
    - The purpose is to minimize filter clotting when citrate cannot be used

16. Anticoagulation
☐ NO anticoagulation

☐ Angiomax (bivalirudin) - Weight Based CRRT Infusion
Angiomax should ONLY be used for CRRT purposes to prevent hemofilter coagulation. If therapeutic anticoagulation is desired (treatment of VTE, etc.) the ANGIOMAX THERAPEUTIC anticoagulation WEIGHT BASED DOSING PROTOCOL or HEPARIN IV DRIP PROTOCOL should be used.

Concentration: 1mg/ml (250 mg/250 ml NS)

Administration: to be given pre-filter via the syringe line on CRRT filter

Initial Dose: 0.025 mg/kg/hr

Laboratory Monitoring:
- Check PTT 4 hours after start of infusion and adjust dose (see chart below)
- Check PTT 4 hours after each dose adjustment
- After two consecutive PTT readings in therapeutic range (40-60), may check PTT Q 12 hours.
- CBC daily (if not already ordered)

Infusion Rate Adjustments (Goal PTT 40-60 seconds):

PTT (sec)	Dose Adjustment
< 40	Increase by 0.005 mg/kg/hr
40 - 60	No change
61 - 75	Decrease by 0.005 mg/kg/hr
76 - 90	Hold for 2 hr, then decrease by 0.01 mg/kg/hr
> 91	Hold and recheck PTT every 2 hr until PTT in goal range, then decrease by 0.01 mg/kg/hr

Must be infused pre-filter to minimize risk of bleeding – see next slide

CRRT Order Changes (continued)

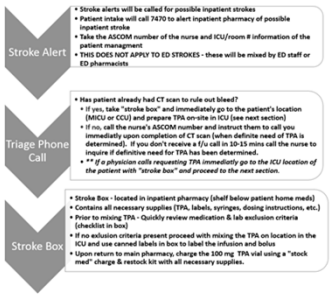
Angiomax Protocol – other important caveats

- **PTT Goal range**
  - CRRT protocol targets **1-1.4x** baseline PTT (Post filter PTT of 40-60)
  - Traditional protocol targets PTT of 55-75 (**1.5-2.5x** baseline PTT)
- **Administration must occur PRE-FILTER**
  - This minimizes the risk of bleeding and infusing pre-filter should only expose the **filter** to higher Angiomax concentrations (must be infused pre-filter!)
  - Recent study demonstrated that 1-1.4x PTT post-filter levels correlated with 1.5-2.5x PTT values when measured pre-filter
  - NOTE: we will only be checking post-filter (systemic) PTT values
- **Patients needing systemic anticoagulation should use the standard Angiomax weight based protocol (need higher PTT target of 55-75)**

Miscellaneous items…

- **Inpatient Stokes – process reminder**
  - Everyone should be prepared to participate in this process if/when it occurs
  - TPA added to CCU code box (not added to any other code boxes) – to expedite TPA admixture during hours in which CCU pharmacist is staffing this area
- **Vancomycin dosing**
  - Q 18 hour & Q 36 hour intervals should be avoided for ANY patient transitioning to outpatient care with continued vancomycin therapy

Pharmacy Process & Responsibilities



Home Med Clarifications

- **Reminders**
  - Don't forget to utilize Dr. First
  - Ensure that lists needing clarification are followed up in a timely manner (either by yourself or ED pharmacist depending on time of day, etc.)
- **Continue to leave me any med lists that are "Profile Not Reviewed"**
  - Please include any information related to the outcome, investigation, clarifications, etc.
  - I will follow up with the appropriate managers as needed