May photographer of the month:

David L. Slater, MD
Pathologist, Laboratory Medical Director
Community Regional Medical Center

Pathologist David Slater, MD is married to a master gardener. When they started the “back-40, whatever will grow here” part of their garden (which may again be our theme with the drought) they bought a mix of Oriental poppy seeds. Once you have Oriental poppies, you won’t ever be without them around here. These hardy, maintenance free perennials spread very efficiently by seed (ask our neighbors). The original seed mix grew plants with some very exotic colors and multi-tiered petal arrangements, in addition to a huge variety of more conventional, but still variably petalled and sized, red- and orange-bloom plants. Over the years, either the genetic material has consolidated to the reds and oranges, or seeds from those plants have had some survival advantage. We are not complaining; every spring poppy show is a delight, and the bees are right on it too. Bonus points to those who notice the Poppy that would be especially familiar to a farmer in Afghanistan..... No doubt many readers have had fine bloom displays in the last month.
SGR is dead. Long live... Well, what we will have going forward depends a lot on what actions you take in the not too distant future.

**Short term:** CMS previously instituted a 10-business day processing hold for all impacted claims with dates of service April 1, 2015, and later. While the Medicare Administrative Contractors (MACs) have been instructed to implement the rates in the legislation, a small volume of claims will be processed at the reduced rate based on the negative update amount. The MACs will automatically reprocess claims paid at the reduced rate with the new payment rate. No action is necessary from physicians who have already submitted claims for the impacted dates of service.

**Longer Term:** Now for MACRA
- The threat of a 21% physician payment reduction has been eliminated;
- Physicians will continue to be paid under their current rates through June 30, 2015;
- July-December 2015, and 2016 through 2019: annual +0.5% updates;
- 2020 through 2025: 0.0% ;
- 2025 and thereafter, two conversion factors:
  - "standard" system: annual update +0.25% annual update
  - Alternative Payment Model (APM): +0.75% annual update (see discussion below)

A preliminary analysis of this complex legislation finds numerous potential challenges and opportunities for physicians lurking beneath the surface of this bill. In fact, the ultimate outcome of this legislation could prove costly for all providers impacted, unless you begin to take measures today to prepare.

The MACRA directs the Secretary HHS to, not later than January 1, 2016, develop and post on the CMS website a draft plan for the development of quality measures under the MIPS and APMs. Comments from the public (YOU) on the draft plan are to be accepted through March 31, 2016. Following are overviews of what shape these plans may take that currently contain both bonuses and penalties:

**PQRS, meaningful use, VBM total penalties:** 4.5% in 2015, 6% in 2016, 9% in 2017, 10% or more in 2018. These penalties expire in 2019.

**Merit-Based Incentive Program (MIPS):** Beginning in 2019, MACRA consolidates three existing systems: PQRS, EHR Meaningful Use, and Physician Value-Based, into a single system – MIPS – with greater emphasis on outcomes measurement. MIPS will be focused on four categories of measures, with varying weight attached to them:
- Quality (50% weight/2019; 30% in 2021)
- “Resource Use” (10% weight in 2019; 30% in 2021)
- Clinical practice improvement (15% weight)
- EHR-Meaningful Use (25% weight—subject to later change).

Payment under MIPS will be based on a physician’s (“Eligible Professional”) composite score on a scale of 0 to 100 compared to a performance threshold. Physicians/practices will be eligible for positive adjustments or negative adjustments based on a sliding scale, but budget neutral overall.
- MIPS Bonuses: up to 4% 2019; 5% in 2020; 7% in 2021; and 9% in 2022 and beyond
- MIPS penalties: no more than 4% in 2019; 5% in 2020; 7% in 2021; and 9% in 2022 and beyond

In addition, MACRA includes a separate fund, of $500 million per year for MIPS payments for those scoring in the top quartile.

Exceptional MIPS performers: up to 10% additional MIPS bonus 2019-2024.

**Alternative Payment Models**

Also beginning in 2019, physicians can choose to participate under an alternative payment model (APM) and be eligible for a 5% bonus. APMs may be based on demonstrations that have been funded by the Center for Medicare and Medicaid Innovation (CMMI), such as ACO’s, medical homes, or other models that stakeholder propose and CMS approves. APMs will be expected to use certified EHR’s and bear financial risk. Thresholds for participation – and bonus payouts – will be based on a physician/practice’s Medicare payment.

Alternative track to encourage shift to APMs
- 5% annual bonus payment if a substantial share of their revenue is received through an APM;
- 25% of their revenue in 2019 and 2020

See SGR on page 4
Continued from page 3

- 50% of Medicare or all-payer revenue in 2021 and 2022, but not less than 25% Medicare
- 75% of Medicare or all-payer revenue in 2023 and beyond, but not less than 25% of Medicare

Except for certain medical home models, APMs must include downside financial risk.

Resource Use Management
This provision (subsection (f) of Sec 101) is a bit of a “sleeper,” but bears close attention for what it portends for the future. The statute describes this as “collaborating...to improve resource use management,” but is likely indicative of the next round of changes in payment after 2020 – if not sooner. The bill establishes an ambitious schedule for development of episode groups, aligned with other factors that are to account for one-half of Medicare Part A and Part B expenditures.

Beginning 6 months from now, CMS will post the first of a series of lists around episode groups, aligned with patient condition groups. After further opportunities for public comment, CMS is then to post a revised set of episode groups, patient condition groups, and physician-patient relationship codes aligned with payment codes by 2018. This development will require careful attention, and stakeholder input over the next few years. Ultimately, we can expect to see Congress and CMS turn to these new episode/patient grouping to drive payment.

Resources: The text of H.R. 2 (pdf) and a Summary can be found here:

Analysis by the AMA can be found here:

Analysis from the respected Advisory Board Company:

Initial Appointment to the Medical Staff effective April 9, 2015
New Medical Staff Members Approved by the Medical Executive Committee and the Board of Trustees

- Tara M. Chaudhari MD
  Department: Surgery
  Specialty: Anesthesiology

- Michael Dunham MD
  Department: Surgery
  Specialty: Otolaryngology

- Erick Green MD
  Department: Family Medicine
  Specialty: Family Medicine

- Jacob Khushigian MD
  Department: Emergency Medicine
  Specialty: Emergency Medicine

- Mary F. Simon MD
  Department: Pediatrics
  Specialty: Pediatrics

Initial Appointment to the Medical Staff effective April 9, 2015
New Allied Health Professionals Approved by the Medical Executive Committee and the Board of Trustees

- Kamala Basaula CRNA
  Department: Surgery
  Specialty: Anesthesiology

- Veronica DeMary PA-C
  Department: Surgery
  Specialty: General Surgery

- Elizabeth May PA-C
  Department: Surgery
  Specialty: Orthopedic Surgery

- Hardip Rahal PA-C
  Department: Surgery
  Specialty: Orthopedic Surgery
# Quality Corner

## Updated Order Sets Released

Submitted by Quality/Performance Improvement

Please see below for a list of Order Sets, or Modules, that were released into production. Between 03/03/2015-03/17/2015. If you identify a problem with one of the released order sets or modules please follow the procedure for corrective action. The appropriate form may be found on the FORUM: Short Cuts & Tools > Clinical Tools > New Order Set Request/Modification.

<table>
<thead>
<tr>
<th>Epic PRL #</th>
<th>Order Set Name</th>
<th>Changes Made</th>
</tr>
</thead>
<tbody>
<tr>
<td>1293</td>
<td>NICU Necrotizing Enterocolitis</td>
<td>Updated Laboratory Order</td>
</tr>
<tr>
<td>1192</td>
<td>Clozapine Orders</td>
<td>Synonym Clozaril added</td>
</tr>
<tr>
<td>1313</td>
<td>MED IP Ambisome (Liposomal Amphotericin B or L-Amb)</td>
<td>Synonym Amphotericin added</td>
</tr>
<tr>
<td>1435</td>
<td>Adult Hyperosmolar Hyperglycemic State (HHS)</td>
<td>Change in parameter of blood glucose level for maintenance fluid administration</td>
</tr>
<tr>
<td>580</td>
<td>Vasoactive Adult Infusion</td>
<td>Nicardipine titration instructions updated</td>
</tr>
<tr>
<td>1458</td>
<td>Diabetes and Pregnancy Imminent Delivery</td>
<td>Synonym of “insulin” added</td>
</tr>
<tr>
<td>1280</td>
<td>Oral Penicillin Desensitization</td>
<td>Remove exception code-Penicillin VK is formulary</td>
</tr>
</tbody>
</table>

The following were released between 03/31/2015-04/07/2015. If you identify a problem with one of the released order sets or modules please follow the procedure for corrective action. The appropriate form may be found on the FORUM: Short Cuts & Tools > Clinical Tools > New Order Set Request/Modification.

<table>
<thead>
<tr>
<th>Epic PRL #</th>
<th>Order Set Name</th>
<th>Changes Made</th>
</tr>
</thead>
<tbody>
<tr>
<td>1474</td>
<td>Antepartum Labor Orders</td>
<td>Epic change only: In the lab sections of the order set, replaced old lab codes with new lab codes for “Amniotic fluid for glucose” and “Amniotic fluid for LDH”</td>
</tr>
<tr>
<td>525</td>
<td>Abdominal Peritoneal Paracentesis</td>
<td>Epic change only: In the lab section of the order set, replaced old lab codes with new lab codes for “Peritoneal Fluid Total Protein” and “Peritoneal Fluid Amylase”</td>
</tr>
<tr>
<td>1630</td>
<td>Abdominal Paracentesis Orders</td>
<td>Epic change only: In the lab section of the order set, replaced old lab codes with new lab codes for “Albumin body fluid”</td>
</tr>
<tr>
<td>1472</td>
<td>ICU Medical Admit</td>
<td>Standardization of Respiratory Orders-Mechanical Ventilation content.</td>
</tr>
<tr>
<td>1365</td>
<td>Mechanical Ventilation Adult</td>
<td>Standardization of Respiratory Orders</td>
</tr>
<tr>
<td>1345</td>
<td>Anti Arrhythmic/Vsodilator Infusion</td>
<td>Nicardipine Titrated-Rapid Titration</td>
</tr>
<tr>
<td>1297</td>
<td>Mechanical Ventilation-Pediatric</td>
<td>Pediatric version of the Mechanical Ventilation order</td>
</tr>
</tbody>
</table>
For over a year, a task force of folks from all three Community Medical Centers facilities have been working on a new set of Medical Staff Bylaws to combine staffs across the organization and foster clinical collaboration.

The major objectives of this project were to promote medical staff structures and processes that would be effective to minimize the time burden on doctors, protect physician interests, meet regulatory and accreditation requirements, minimize the liability of physician leaders, and drive high quality health care aligned with CMC's mission.

The vetting process of these Bylaws included draft documents being posted on the Community Forum and open medical staff meetings on this topic at all three facilities.

The final governance documents combines physicians at all three CMC hospitals into a single medical staff organization. In doing so, several principles were followed:
- Medical staff affairs should be kept local (at the facility level) where this produces value and should be handled at a combined level where a 'system' approach yields value.
- Collegial peer review should remain largely focused at the local level where this reflects the preference of the practicing physicians.
- Governance representation from medical staff members at the three CMC hospitals should be equal.
- Each facility should have its own physician leadership committee (called a Facility Executive Committee in proposed new bylaws) whose membership is elected from practitioners who are busy at that facility.
- And the new arrangements should foster collaborative decision-making between clinical departments across CMC hospitals rather than disparate approaches to important clinical matters.

Key points are noted below:
- There will be one combined medical staff across the CMC system that will carry out the duties delegated to it by the board and under the bylaws.
- Each CMC facility will have a medical staff committee called the Facility Executive Committee (FEC) to address local issues and elected by practitioners who are busy at that facility (see below). There will be a Medical Executive Committee (MEC) of the general medical staff that will be largely comprised of equal voting representation from the three FECs (including the chair and vice chair of each FEC). The president of MEC will be elected by the general medical staff members.

- Medical staff categories have been rewritten to reflect the voting rights of members based on clinical activity and participation in medical staff meetings.

More detailed information about the new Bylaws is being shared at medical staff advisory meetings from April to May. Individual physicians will also be mailed this information.

The Draft Bylaws, with an accompanying transition plan, will go out to vote in June.

Readers are invited to review, this document. Please find a link to the Draft Bylaws on the Forum homepage in the upper right corner with the rotating images or click here. Readers wishing to compare the Draft Bylaws to the current ones can find current bylaws on Community Forum in the Medical Staff section of Policies and Procedures (Lucidoc).

List of Task Force members:
- Ajit Arora MD
- Kim Benton
- Keith Boone MD
- Janet Chisholm
- Sylvia H. Coyle
- James Davis MD
- Katherine Gong
- William Hanks MD
- Greg Hendey MD
- Alan Kelton MD
- Siew-Ming Lee MD
- Laura McComb
- Erin McCurley
- Randall Stern MD
- Michael Synn MD
- Jeff Thomas MD
- Tanya Trofimenko
- Tom Utecht MD
- Chandrasekar Venugopal MD
- Robert Ward
More senior readers of Physicians Edition may remember there was a huge community effort in the 1970s to have Fresno named as the site of a proposed new UC medical school. When that effort fell short, state lawmakers approved the establishment of a teaching facility for third- and fourth-year medical students for UC San Francisco in 1975.

Over the past 40 years, UCSF Fresno has been a life-saver for the residents of the Central Valley, particularly those living in rural communities. The Central Valley has half the state average and a third of the national average in terms of the number of physicians and specialists per capita. Can you, as a medical provider here, imagine how much worse we and all the patients we struggle even now to serve would be if not for UCSF Fresno?

- UCSF Fresno now trains 600 physicians and future doctors annually
- Approximately 250 of that 600 are residents
- Approximately 50 of that 600 are fellows
- Approximately 300 of that 600 are medical students
- UCSF Fresno’s core (full time) facility was 1 in 1975; today it is 230 core facility and a total of 640
- All faculty at UCSF Fresno have UCSF faculty appointments (UCSF Fresno does not have faculty appointments).

UCSF Fresno has trained 3,000 physicians to date

One third of physicians trained at UCSF Fresno have remained in the Central Valley to practice medicine

There are approximately 260 clinical research studies taking place at any given time

Since 1998, UCSF Fresno has attracted more than $85 million in research, public service and training grants and contracts

- Junior Doctors Academy – UCSF Fresno provides academic preparation to middle school students considering a medical career
- Doctors Academy – UCSF Fresno provides academic preparation to high school students considering a medical career
- Health Careers Opportunity Program – UCSF Fresno prepares Fresno State undergraduates for a career in medicine
- Longitudinal Integrated Fresno Experience Program (LIFE) – a 6 month curriculum for UCSF students in their third year of clinical study. This program covers internal medicine, family and community medicine, psychiatry and neurology.

- San Joaquin Valley Program in medical Education (PRIME) – This is a collaboration between UCSF Fresno, UC Merced and UC Davis. The program trains aspiring physicians to serve the Central Valley’s rural and poor communities.
- UCSF Fresno established the first emergency medicine residency program in 1979.

**UCSF Fresno Medical Education Program Timeline**

**1975:** UCSF School of Medicine inaugurates the Central San Joaquin Valley Medical Education program in Fresno. Dr. David Werdegar is associate dean (1975-1981).

**1979:** Groundbreaking at Veterans Affairs Medical Center for UCSF Fresno. Opens in 1981.

**1980:** Affiliates with partners – Selma Community Health Center, Fresno Community Hospital and Medical Center, Sierra Hospital, St. Agnes Medical Center, Valley Children’s Hospital, Hanford Community Hospital, Sacred Heart Hospital, Kaweah Delta District Hospital and Kings View Center.

**1981:** Dr. Howard Corbus is associate dean (1981-89).

**1986:** Creates Summer Biomedical Internship Program for high school students.

**1989:** Alzheimer’s Center opens. Dr. David F. Altman is associate dean (1989-92).

**1992:** Dr. H. John Blossom is associate dean (1992-99).

**1993:** Bruce Bronzan is associate dean, administration and development (1993-97).

**1999:** Dr. Deborah C. Stewart is associate dean (1999-2002). UCSF Fresno Latino Center for Medical Education and Research establishes the Sunnyside High School Doctors Academy.

**2001:** UC Board of Regents approves construction of $26 million state-of-the-art center for UCSF Fresno in downtown Fresno. Pharmacy education program starts.

**2002:** Construction begins on UCSF Fresno Center for Medical Education & Research. Dr. Joan L. Voris is associate dean (2002-15). Dr. Michael W. Peterson is the first endowed chair of medicine. UCSF Fresno named as the only California medical education program in a nationwide model study by the American Association of Medical Colleges.

See UCSF Fresno Turns 40 on page 8
UCSF Fresno Turns 40

Continued from page 7

2003: Peterson becomes the first faculty member inducted into the Haile T. Debas Academy of Medical Educators of the UCSF School of Medicine. Sunnyside High School Doctors Academy celebrates first graduating class.

2005: UCSF Fresno Center for Medical Education & Research opens at 155 N. Fresno St., consolidating faculty and staff under one roof for the first time. The Surgeon General of the United States, Richard Carmona, attends the grand opening. Dr. Mouatou Mouanoutoua becomes first Hmong physician to join the faculty.

2007: Two internal medicine fellowships in cardiology and pulmonary medicine are introduced. Doctors Academy programs begin at Caruthers and Selma high schools.

2008: UCSF Fresno hosts National Library of Medicine’s “Changing the Face of Medicine” traveling exhibition, which features two Fresno faculty members. New fellowships introduced in infectious disease and wilderness medicine.

2009: Dr. Steven Parks, longtime chief of surgery and program director of the surgery residency, is recognized with an endowed chair named in his honor. Fellowship in gastroenterology begins.

2010: Longitudinal Integrated Fresno Experience (LIFE) program begins. Fellowships in acute-care surgery and psychosomatic medicine and residency in orthopaedic surgery begin. Dermatology added to internal medicine department. Deran Koligian Ambulatory Care Center opens. UCSF mourns the loss of Parks, longtime chief of surgery.

2011: UCSF Fresno, UC Merced and UC Davis School of Medicine begin training the first class of students in the UC Merced San Joaquin Valley Program in Medical Education.

2012: Dr. James W. Davis appointed the Steven N. Parks Endowed Chair. Fresno-Madera Medical Society honors Dr. Joan L. Voris.

2013: UCSF Fresno Clinical Research Center opens. New fellowships announced in maternal child health and medical education. First Hmong psychiatrist, Dr. Michael Thao, graduates. First class of students in San Joaquin Valley PRIME begin clinical training.

2014: Fellowships begin in sleep medicine and community pediatrics. UCSF Fresno hosts the first Reaching Out to Aspiring Doctors for the San Joaquin Valley premedical conference for Fresno State, UC Merced and Fresno Pacific University students. UC President Janet Napolitano and other UC leaders visit. UCSF Fresno Alzheimer’s & Memory Center celebrates 25th anniversary. The only female cardiologist between Modesto and Bakersfield, Teresa Daniele, joins UCSF Fresno as an assistant clinical professor.

2015: Dr. Joan L. Voris retires. Dr. Michael Peterson, chief of medicine, named interim associate dean. First students in the San Joaquin Valley PRIME participate in Match Day, where graduating medical students learn where they will be spending the next three to five years conducting residency training. UCSF Fresno celebrates 40th anniversary.

We asked Dr. Michael W. Peterson, Interim Associate Dean, UCSF Fresno Medical Education Program, to share some current program highlights with Physicians Edition:

“All residency programs filled completely in the match for the 5th consecutive year with most filling with their top choices. Between the residents and fellows starting this summer, almost 100 new physicians will come to Fresno to start their training. In addition, five new UCSF students will be joining the LIFE program next year, and nine San Joaquin Valley PRIME students from the joint program with UC Merced and UC Davis. Also, 16 traditional UC Davis Internal Medicine students will be coming to Fresno during the next year along with more than 250 students doing individual clinical rotations with us.

“This summer UCSF Fresno will host the 28th class of the Summer Biomedical Intern program to provide research experience to talented high school students from the region working with UCSF Fresno faculty members. The residents and fellows completing their programs will be honored at a graduation ceremony to be held at the Saroyan Theater on June 11. Over 100 residents and fellows will be graduating including the inaugural class for orthopedic surgery.”
Epic 2014 Upgrade May 3, 2015:
Training to Prepare You for Key Changes in Epic

By Hagop Afarian M.D., CMIO

The educational modules will highlight all of these key changes, and other key enhancements within the 2014 version, and are available through Community’s online learning tool, HealthStream Learning Center (HLC). The link can be found on the Forum homepage, and some computers may also have an icon on the desktop to take you straight to the training modules. If the HLC link from the forum does not work, look for this icon.

Click the link and follow the logon process:
• Log on using your CMC Network Log on credentials (same as Epic)
• Click on the “My Learning” tab – there will be Epic 2014 modules to complete

For any questions regarding logging in please contact the Help Desk – 459-6560 / ext. 56560.

Epic Upgrade 2014 Physician Training
• Chart Search – Epic 2014 now makes it possible to search a patient’s chart for any word, phrase, or test using one search field.
• Collapsible Notes and Smart links – Minimize note bloat by collapsing information that has been copied from other parts of the chart.
• Orders Not Requiring Reconciliation – Certain types of orders can now be excluded from Order Reconciliation, saving time and minimized errors.
• User Version Order Sets – With 2014, you are now able to save multiple versions of an order set, tailored to individual groups of patients.

Emergency Medicine (ASAP)
• Orders Quick List – Improve ordering efficiency by rapidly placing complaint driven order panels.

Ob/Gyn (Stork)
• Enhanced OB history documentation: To make documentation more consistent with the deliver summary and more user friendly

Anesthesia
• Enhanced procedure documentation – Improved documentation of procedure performed outside of the operating room.
• Vitals at a glance – Abnormal vital signs will now be highlighted to draw attention to them, and will align better for trend comparison

Ambulatory
• Enhanced Physician Productivity – 2014 provides many tools to improve efficiency by minimizing click.

This material is now available, and is required and needs to be completed by May 22, 2015. If not completed within the timeframe outlined, you will not have access to the Epic system.

EPIC 2014 Upgrade

By Jamie Franklin
Vice President/Chief Project Management Officer
Corporate Information Systems
Community Medical Centers

The Epic 2014 upgrade went live Saturday Night/Sunday Morning, May 3 at 04:00. Final preparations were continually monitored and managed for patient activity trends vs. capacity to ensure the successful “go live.”

Thank you all for your support – we trust you will appreciate the new efficiency features of this newest version of Epic.
Your Community At Work:
Breathing Easier

By John G. Taylor, Director
Public Affairs, Community Medical Centers

The May edition of “Your Community at Work,” the Community Medical Centers corporate social responsibility report, focuses on efforts to combat lung disease and clean the Valley’s air. These include stories about expediting diagnoses and treatment for lung care patients, helping asthma patients avoid trips to the emergency department and Community’s charging stations to encourage doctors and staff to use electronic cars.

“Your Community at Work” began publication last year. It runs monthly in The Fresno Bee. It’s also published in the Business Journal and the California Advocate, and its contents are available through Community’s website, public affairs newsletter and elsewhere.

This type of report, sometimes referred to as an “advertorial,” has become an important communications tool for corporations around the world. It allows industry leaders to report back to stakeholders on how well they are meeting their mission, acting ethically and being good stewards of financial and human resources. Given that Community is a locally owned non-profit health system, we are in a real sense reporting to our owners.

CMC’s content fits under these six categories: making care accessible, building relationships, advancing clinical quality, shaping patient care, stewarding our resources, and caring for our workforce. John Taylor, Community’s public affairs director, serves as primary editor.

Here’s a link to the Web page that contains the May report as well as previous editions:
www.communitymedical.org/news-events/facts-reports-publications

Vancomycin-Induced Nephrotoxicity in Monotherapy and in Combination With Other Nephrotoxic Antimicrobials

By Teresa Tu PharmD, PGY1, Pharmacy Resident,
Nicole Lu PharmD, BCPS
Internal Medicine Clinical Pharmacist, and
Marisa Méndez PharmD, MPH, BCPS
Performance Improvement Director

Since its approval in 1958, vancomycin (Vancocin®) has been a common antimicrobial for treatment of staphylococcal infections, particularly for methicillin-resistant Staphylococcus aureus (MRSA) coverage. Secondary to concerns of subtherapeutic vancomycin dosing for MRSA treatment and the potential for resistance development, higher doses to attain trough concentrations of 10-20 mcg/mL are recommended. Loading doses as high as 25-30 mg/kg of actual body weight have been used to rapidly achieve target concentrations in severely ill patients. A single dose of vancomycin should not exceed 2 g per dose. If a higher dose is calculated, the vancomycin dose should be administered in divided doses. After the changes were made to target higher trough levels, many studies have reported vancomycin-associated nephrotoxicity with higher doses, higher serum vancomycin concentrations, longer duration of therapy, and concomitant nephrotoxic agents. Trough levels ≥ 15 mcg/mL have been shown to cause nephrotoxicity, with an overall incidence up to 65% for trough levels >20 mcg/mL. Due to its potential for nephrotoxicity, vancomycin therapy requires frequent monitoring and corresponding dose adjustments to avoid accumulation and renal toxicity. Clinically relevant outcomes associated with vancomycin-related nephrotoxicity include increased hospital length of stay, critical care stay, use of renal replacement therapy, and mortality.

Timeframe and Incidence of Nephrotoxicity

The onset of renal dysfunction generally ranges from 4 to 8 days from the start of vancomycin therapy. Factors such as a vancomycin doses ≥ 4 g per day, total body weight ≥ 101.4 kg, baseline creatinine clearance ≤ 86.6 mL/min, and intensive care unit (ICU) admission may have an impact on the time to renal toxicity. In a study comprised mainly of elderly patients with severe underlying illness and concomitant nephrotoxic drugs, treatment durations for longer than one week at trough levels ranging from 15-20 mcg/mL have been associated with increased nephrotoxicity rates from 6% to 21%. The incidence of nephrotoxicity rises up to 30% with treatment courses lasting longer than 2 weeks. Although acute kidney injury is concerning with vancomycin, nephrotoxicity is usually reversible once the antimicrobial is discontinued or if doses are adjusted immediately after renal dysfunction develops.

Vancomycin monotherapy is associated with a 5% incidence of nephrotoxicity, compared to 35% when used concomitantly with other nephrotoxic agents. Table 1 contains a list of agents and risk factors that contribute to the development of nephrotoxicity with vancomycin.

See Vancomycin on page 11
Nephrotoxicity Risk with Vancomycin and Piperacillin-tazobactam Combination

The antibiotic combination of vancomycin and piperacillin-tazobactam (Zosyn®), commonly used for broad-spectrum antimicrobial coverage, has been shown to increase the risk for acute kidney injury. Piperacillin-tazobactam monotherapy is seldom associated with nephrotoxicity, with less than 1% incidence of interstitial nephritis. Proposed mechanisms for the nephrotoxicity caused by the combination of vancomycin and piperacillin-tazobactam include vancomycin-induced nephrotoxicity leading to piperacillin-tazobactam accumulation, suggesting a synergistic toxicity.7,12

The addition of piperacillin-tazobactam (Zosyn®) to vancomycin was found to increase the incidence of nephrotoxicity in several studies. A retrospective cohort study at a large academic tertiary hospital found nephrotoxicity occurred in 16.3% in the combination group compared to 8.1% in the vancomycin monotherapy group (p=0.041).12 In a study investigating vancomycin-associated nephrotoxicity in adult internal medicine patients, the addition of piperacillin-tazobactam resulted in increased nephrotoxicity (adjusted odds ratio 5.36, 95% CI 1.41-20.5, p=0.014).13 This cumulative toxicity is also demonstrated in a retrospective matched-cohort study comparing vancomycin in combination with piperacillin-tazobactam or cefepime. After receiving antibiotic therapy for more than 48 hours, the piperacillin-tazobactam and vancomycin group had a significantly higher incidence of acute kidney injury compared to the cefepime and vancomycin group (36.4% vs. 10.9%, p=0.003).14 It is important to note this study’s institutional protocol allowed for piperacillin-tazobactam 4.5 g to be given over 30 minutes for the first dose, then over 4 hours with following doses, whereas Community Medical Centers’ protocol utilizes a 4-hour extended-infusion of piperacillin-tazobactam 3.375 g.14 Confounding factors notable in these studies include the use of variable outcome definitions (i.e. acute kidney injury definitions), differences in illness severity between treatment groups, and dosing regimens.7,14 Large prospective trials are warranted to establish the relationship between vancomycin and piperacillin-tazobactam induced nephrotoxicity.

Conclusion

An important practice to minimize nephrotoxicity is to prevent inappropriate antimicrobial use. Before initiating vancomycin therapy, prescribers should evaluate patients’ risk factors for MRSA and whether MRSA coverage is warranted, identify the appropriate target vancomycin trough levels based on the indication, and determine the duration of therapy. If vancomycin therapy is warranted, nephrotoxicity risk factors and concomitant nephrotoxic agents should be evaluated and minimized if appropriate. Vigilant monitoring of renal function and vancomycin serum levels are necessary in patients with additional risk factors for drug-induced nephrotoxicity (Table 1). Vancomycin dosing should be managed to minimize additional risks (e.g. not to exceed 2g/dose), target serum levels should be selected and maintained within the desired goal trough level ranges, and renal function should be monitored closely to assist in determining the need for dosage adjustments. Some key mon-
Vancomycin

Continued from page 11

itoring points are listed in Table 2. Additional dosing and monitoring details are available in the “Adult Vancomycin and Aminoglycoside Dosing Guidelines” under Community Medical Centers’ Policies and Procedures. Of note, duration of therapy should be limited according to evidence-based recommendations and vancomycin should be discontinued if culture results are negative for resistant gram-positive organisms (e.g. MRSA). After considering all safety measures to prevent vancomycin-induced nephrotoxicity, it is important to weigh the benefits versus the risks of vancomycin therapy in each clinical scenario.

Table 2. Vancomycin Monitoring Recommendations

<table>
<thead>
<tr>
<th>Baseline Monitoring</th>
<th>Monitoring during Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Renal function (SCr, BUN, urine output)</td>
<td>• Serum creatinine (SCr) twice weekly</td>
</tr>
<tr>
<td>• Complete blood count</td>
<td>• Urine output daily</td>
</tr>
<tr>
<td>• Microbiology cultures: to determine appropriateness of</td>
<td>• Complete blood count weekly</td>
</tr>
<tr>
<td>therapy and desired therapeutic trough level range</td>
<td>• Initial trough level or when therapy adjusted: 30 minutes prior to 4th dose, sooner in</td>
</tr>
<tr>
<td></td>
<td>patients with renal dysfunction</td>
</tr>
<tr>
<td></td>
<td>• Patients who have achieved desired therapeutic level: Repeat trough level every 5-7</td>
</tr>
<tr>
<td></td>
<td>days, or sooner if development of complications (e.g. septic shock, addition of</td>
</tr>
<tr>
<td></td>
<td>nephrotoxic drugs, renal dysfunction)</td>
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</tbody>
</table>

References:
New Enteric Pathogen PCR Panels

<table>
<thead>
<tr>
<th>New Test(s)</th>
<th>STOOL BACTERIAL AND VIRAL PATHOGENS by PCR</th>
<th>STOOL NOROVIRUS AND ROTAVIRUS by PCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replaced Test(s)</td>
<td>Replaces STOOL CULTURE (CXSTO)</td>
<td>Rotavirus, Rapid Antigen (ROTA)</td>
</tr>
<tr>
<td>Includes</td>
<td>• Campylobacter species</td>
<td>Miscellaneous, NOROVIRUS (MISC)</td>
</tr>
<tr>
<td></td>
<td>• Salmonella species</td>
<td>• Rotavirus</td>
</tr>
<tr>
<td></td>
<td>• Shigella species</td>
<td>• Norovirus</td>
</tr>
<tr>
<td></td>
<td>• Shiga Toxin 1&amp;2 (for E.coli O157, etc.)</td>
<td></td>
</tr>
<tr>
<td>EPIC Name(s)</td>
<td>STool, Bacterial and Viral Pathogens</td>
<td>Stool, Norovirus, Rotavirus by PCR</td>
</tr>
<tr>
<td>Synonyms:</td>
<td>Stool Culture, Campylobacter, Salmonella,</td>
<td>Synonyms: Norovirus, Rotavirus</td>
</tr>
<tr>
<td></td>
<td>shigella, vibrio, yersinia, norovirus, rotavirus</td>
<td></td>
</tr>
</tbody>
</table>

New Tests:
(1) Stool Bacterial and Viral Pathogens by PCR
(2) Stool Norovirus and Rotavirus only by PCR

Effective Date: Early May 2015
Lab Locations: (CRMC, CCMC, FH&SH)

The Microbiology laboratory at CMC is pleased to announce improved testing for detection of enteric pathogens. The new method by Nanosphere uses a multiplex, amplified nucleic acid detection process. Two Panels will be available. NOTE: The PCR test replaces routine stool culture, which will be removed from Epic Test menu. Stool culture for special indications can be ordered as Miscellaneous Test after consult with Micro lab.

Acceptable Specimen(s):
• Liquid or semi-formed stool
• Diaper – “inside-out diaper” or diaper lined with plastic wrap to contain the contents. Pour contents into clean container so contents don’t absorb into diaper.
• Rectal Swab (logistically understandable but may have reduced sensitivity; bowel content should be evident).

Stool specimen Stability: Deliver to lab within 1-2 hours to preserve sensitivity.

Improved Turnaround Time: PCR results will be available between 3-12 hours.
• Current Stool Culture now takes approximately 72 hours.
• Norovirus PCR testing is currently sent to a reference laboratory and takes 2-3 days.

Improved specificity and sensitivity: The PCR method offers excellent specificity and sensitivity compared to traditional stool culture. However, the current traditional stool culture will be available where the suspect organism is not included in this PCR panel. Contact Microbiology directly for help in these unique or rare cases.

Susceptibility Testing: Susceptibility testing will not change and will continue to follow current practice.

Test Availability: 7 days per week.

For additional information or questions, please contact:
Dr. David Slater, Laboratory Medical Director, 459-6563, dslatermd@communitymedical.org
Hap Morrissey, Administrative Laboratory Director, 459-6504, gmorrissey@communitymedical.org
Marilyn Mitchell, Microbiology Supervisor, 459-2021, mmitchell@communitymedical.org

A THOUGHT FOR WELL BEING:
“Ill habits gather by unseen degrees, as brooks make rivers, rivers run to seas.”
– Ovid, Ancient Roman poet
Choosing Wisely Campaign Covered in NorCal Mutual’s Claims RX Publication

Editor’s Note: This newsletter has made a standing commitment to bring the Choosing Wisely Specialty Lists to our readers (in this issue, find the Infectious Diseases Society of America on page 26). NorCal’s April issue of Claims Rx has a nice high altitude discussion about Choosing Wisely from a risk management perspective, which is reprinted with permission below. Please note these two resources available at www.choosingwisely.org:

- One page documents, developed by Choosing Wisely partner Consumer Reports to give your patients as you discuss or order (or wish to counsel against ordering) certain tests.
- A video for you and your mid-level patient care staff, to train you to sensitively and effectively communicate about care you believe is unnecessary. This is a risky area but it must be one of our competencies. It is no surprise that NorCal is interested in this being handled well by its insured providers!

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The Choosing Wisely® Campaign

Talking frankly and clearly with patients about risks and benefits of tests is one of the fundamental actions encouraged by the Choosing Wisely campaign. The American Board of Internal Medicine Foundation, the product-testing and publishing organization Consumer Reports, and nine U.S. medical specialty societies launched the Choosing Wisely campaign in 2012 as a project to reduce waste in healthcare.1 A core goal of the campaign is to “encourage physicians and patients to have conversations about what care is truly needed and to debunk the notion that more is better,” the leaders for this effort wrote in one article.2

At the start of the Choosing Wisely campaign, each of the initial nine U.S. specialty societies identified five tests or treatments that are over-ordered or overused.2 The concept is not to foster healthcare rationing but rather to point out situations in which particular tests or treatments are unnecessary and add little or nothing to patients’ diagnoses or wellbeing. There may be times when a test on a specialty society’s list is indicated, but when a test will not be appropriate or helpful, the Choosing Wisely campaign calls for physicians to enter into conversations with patients. In these discussions, physicians can explain advantages and hazards and empower the involved patient to choose wisely the course of action that will likely be most beneficial and least harmful and wasteful.

At the time of this publication, more than 60 U.S. specialty societies have contributed lists of their specialty’s top five frequently overused tests and treatments.3 Recognizing that these lists offer a starting point for physician-patient communication, the Choosing Wisely organization has developed some resources to help physicians communicate with patients about potentially unwarranted tests and care. Leaders of the campaign stated, “We know that physicians don’t necessarily have the communication skills to discuss ‘what not to do’ with their patients.”3 To assist with such physician-patient exchanges, the Choosing Wisely website offers:

- A set of online video clips that allow physicians to see simulations of ways to talk with patients about unnecessary care. These videos give sensitive and realistic demonstrations of physicians using key communication skills such as eliciting patient concerns, expressing empathy, overcoming barriers and confirming plans of action. Available at: www.choosingwisely.org/resources/modules (accessed 1/18/2015).

References:
What is “Capacity?”

An adult is presumed to have capacity for making their own healthcare decisions unless determined otherwise. Both legally and ethically Western culture favors an individual patient’s autonomy and right to self-determination. The principle of autonomy requires that a physician respect the authority of a patient to make decisions, even when the decisions appear to be unwise. Restricting this autonomy requires a clear and convincing assessment that a patient’s decision regarding care will result in unintended, irreparable harm. However, it is important to recognize that autonomy is only possible when the patient possesses the ability to make relevant health decisions. If individuals lack decision-making capacity they may make decisions that are contrary to their best interests and thus need to be protected from harm.

Who Can Determine Capacity?

As a mental health professional and a member of the Community Medical Centers Ethics Committee I frequently encounter situations, which indicate a lack of clarity among members of the Medical Staff regarding the role of physicians in assessing a patient’s capacity to make informed consent and/or basic decisions about their healthcare. A review of the literature on this topic supports the position that the patient’s primary physician is best suited to make the capacity determination. However, in the hospital, the primary physician might not be the attending physician. In such cases it is generally considered best, and most appropriate, for the inpatient attending physician to determine capacity. It is common for there to be an expectation that a psychiatrist should perform the evaluation to determine capacity. A psychiatric consultation may be helpful if the patient has or is suspected to have a psychiatric disorder. However, any licensed physician who undertakes the task can determine a patient’s capacity to make healthcare decisions. Furthermore, the UCSF School of Medicine website Ethics page states, “the attending physician is ultimately responsible for determining whether the patient has decision-making capacity”. Thus, a psychiatric consultation is neither always required nor always appropriate to determine capacity.

Physicians assess the decision-making capacity of their patients at every clinical encounter even if a concern regarding capacity is not at issue. This reinforces that any licensed physician undertaking the responsibility may determine a patient’s capacity. When a concern regarding capacity presents itself, a directed clinical interview can assist in the assessment process. Such assessments by nature will always contain a subjective element. Generally, the following should be explored with the patient:

- Ability to understand information and respond to questions about proposed diagnostic tests and/or treatments
- Ability to appreciate the impact of treatment versus non-treatment on their situation
- Ability to appreciate the nature, risks and benefits of any reasonable alternatives
- Display a use of reason in making their decisions
- Ability to clearly communicate their choices

If a physician determines that a patient lacks decision-making capacity, the medical team will need to look to advance directives and/or surrogate decision-makers to help make healthcare decisions for the patient. The physician will also need to document the determination in the medical record, and should include the factors taken into account in reaching the determination.

If you have any questions about a particular case, you may contact the Ethics Committee for assistance.

Calling all Reader Photographers!

Do you have some photos you have taken on a trip abroad, or here in the US, or at your favorite recharge-your-batteries spot, or even from your back garden? We would love to see your photos for potential publication in an upcoming issues of Physicians’ Edition. We do require that all photos be high resolution in order to produce quality outcomes in the newsletter.

For our non-medical staff readers: Yes we consider photos from the broader Community family and you have seen some beautiful ones in past issues – we would love to hear from you, too. Please contact our office for more information, 559-459-1777 (2-1777) or lsmith@communitymedical.org.
Obama Administration Releases National Action Plan to Combat Antibiotic-Resistant Bacteria

Submitted by David Slater M.D., Physician Editor

When the White House (we don’t mean any President’s in particular) weighs in on things medical, some folks become concerned. But there can be no debate that such added gravitas is to be welcomed in what has to be a global fight on multiple fronts against antibiotic-resistant bacteria.

The National Action Plan for Combating Antibiotic-Resistant Bacteria (print readers can easily find it on line) was released in late March. The plan is organized around five goals for collaborative action by the U.S. Government, in partnership with foreign governments, individuals, and organizations aiming to strengthen healthcare, public health, veterinary medicine, agriculture, food safety, and research and manufacturing. Aggressive action will move the nation towards major reductions in the incidence of urgent and serious drug-resistant threats.

These goals are:

• Slow the Emergence of Resistant Bacteria and Prevent the Spread of Resistant Infections.
• Strengthen National One-Health Surveillance Efforts to Combat Resistance,
• Advance Development and Use of Rapid and Innovative Diagnostic Tests for Identification and Characterization of Resistant Bacteria.
• Accelerate Basic and Applied Research and Development for New Antibiotics, Other Therapeutics, and Vaccines.
• Improve International Collaboration and Capacities for Antibiotic Resistance Prevention, Surveillance, Control, and Antibiotic Research and Development.

There is much in the plan of direct interest to hospitals and other health facilities and to providers of inpatient and outpatient care. For example, the plan dramatically ramps up reporting and benchmarking of antibiotic use across the spectrum of patient care. It sets ambitious goals for curbing antibiotic use in food-producing animals and reducing presence of antibiotics in the environment. It incentivizes development of rapid diagnostic tests to distinguish viral from bacterial infection and to quickly deliver information about antibiotic sensitivity to treating providers. The plan has a wide range of other initiatives for better public health-level surveillance, research and innovation on multiple fronts, and international cooperation and coordination.

We invite readers to learn more about this major initiative, whose success will require front line providers to take the lead on its care-related goals. Community Medical Centers is already in this fight, through a robust, multidisciplinary antibiotic stewardship program with expert ID Specialist and Pharmacy support and information system tools to move it forward. As well, the CRMC Microbiology Lab has added numerous rapid PCR assays to quickly determine the organisms present in numerous major specimen types, and alert to molecular fingerprints predictive of resistance. We are currently evaluating state of the art MALDI-TOF mass spectrometry technology to further accelerate and expand rapid organism identification.

As a Call to Action, the Plan closes with CDC’s 2013 List of Antibiotic Resistant Threats:

| TABLE 3: CDC’s Antibiotic-Resistant Threats in the United States, 2013 |
|-----------------|--------------------------------------------------------------------------------|
| **URGENT Threat Level Pathogens (3)** |                                                                                   |
| *Clostridium difficile* | 250,000 infections per year requiring hospitalization or affecting hospitalized patients. |
| | 14,000 deaths per year. |
| | At least $1 Billion in excess medical costs per year. |
| | *C. difficile* deaths increased 400% between 2000-2007 because of the emergence of a strain resistant to a common antibiotic class (fluoroquinolones). |
| | Almost half of infections occur in people younger than 65, but more than 90% of deaths occur in people 65 and older. |
| | Half of *C. difficile* infections first show symptoms in hospitalized or recently hospitalized patients, and half show symptoms in nursing home patients or in people recently cared for in doctors’ offices and clinics who received antibiotics. |
| | The majority (71%) of pediatric *Clostridium difficile* infections, which are bacterial infections that cause severe diarrhea and are potentially life-threatening, occur among children in the general community, 73% were found to have recently taken antibiotics prescribed in doctor’s offices for other outpatient settings.⁶ |

*See Antibiotic-Resistant Threats on page 17*
Extended Spectrum β-Lactamase (ESBL) Producing Enterobacteriaceae*

Extended Spectrum β-Lactamase (ESBL) is an enzyme that allows bacteria to become resistant to a wide spectrum of penicillins and cephalosporins.

Of 140,000 Enterobacteriaceae infections per year, 26,000 are drug resistant causing 1,700 deaths.

26,000 healthcare-associated Enterobacteriaceae infections are caused by ESBL-Enterobacteriaceae.

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Vancomycin-Resistant Enterococcus

Of 66,000 Enterococcus infections per year, 20,000 are drug resistant causing 1,300 deaths. Enterococcus strains resistant to vancomycin leave few or no treatment options.

Multidrug-Resistant Pseudomonas aeruginosa

Of 51,000 Pseudomonas infections per year, 6,700 are multidrug resistant causing 440 deaths. 13% of severe healthcare-associated infections caused by Pseudomonas are multidrug resistant, meaning nearly all or all antibiotics no longer cure these infections.


drug resistance increased from 13% in 1997 to 25% in 2011.

Campylobacter spreads from animals to people through contaminated food, particularly raw or undercooked chicken and unpasteurized milk.

Antibiotic use in food animals can result in resistant Campylobacter than can spread to humans.

Fluconazole-Resistant Candida

Out of 46,000 Candida yeast infections per year, 3,400 (30%) of patients with bloodstream infections with drug-resistant (DR)-Candida die during their hospitalization.

CDC estimates that each case of Candida infection results in 3-13 days of additional hospitalization and a total of $6,000-$29,000 in direct healthcare costs per patient.

Serious Threat Level Pathogens (12)

Neisseria gonorrhoeae* (Notifiable to CDC)

Neisseria gonorrhoeae causes gonorrhea, is the second most common reportable infection in the United States, and is developing resistance to the cephalosporin antibiotics, the last line treatment option for this infection.

Of the 820,000 cases per year, 30% (246,000) now demonstrate resistance to at least one antibiotic.

If cephalosporin-resistant N. gonorrhoeae becomes widespread, the public health impact during a 10-year period is estimated to be 75,000 additional cases of pelvic inflammatory disease, 15,000 cases of epididymitis, and 222 additional HIV infections, with an estimated direct medical cost of at least $235 million.

Multidrug-Resistant Acinetobacter

12,000 healthcare-associated Acinetobacter infections occur in the U.S. of which 7,000 are multidrug-resistant – 500 deaths per year.

At least three different classes of antibiotics no longer cure resistant Acinetobacter infections.

Drug-Resistant Campylobacter

Campylobacter causes ~1.3 Million infections, 13,000 hospitalizations and 120 deaths each year; 310,000 (25%) drug-resistant Campylobacter infections are found each year.

Drug-Resistant Campylobacter

Campylobacter drug resistance increased from 13% in 1997 to 25% in 2011.

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Antibiotic use in food animals can result in resistant Campylobacter than can spread to humans.

Table 3: CDC’s Antibiotic-Resistant Threats in the United States, 2013

### Carbapenem-Resistant Enterobacteriaceae*

Out of ~140,000 healthcare-associated Enterobacteriaceae infections per year, more than 9,000 are caused by CRE (7,900 CR-Klebsiella spp; 1,400 CR-E. coli).

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44 States have had at least one type of CRE confirmed by CDC testing.

CRE are resistant to nearly all antibiotics including carbapenems—the antibiotic of last resort.

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See Antibiotic-Resistant Threats on page 18
TABLE 3: CDC’s Antibiotic-Resistant Threats in the United States, 2013

<table>
<thead>
<tr>
<th>Drug-Resistant Non-Typhoidal Salmonella* (Notifiable to CDC)</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Non-typhoidal Salmonella causes 1.2 million infections per year, of which 100,000 are drug-resistant resulting in 23,000 hospitalizations and 450 deaths each year.</td>
<td></td>
</tr>
<tr>
<td>Non-typhoidal Salmonella results in higher number of hospital stays, length of stay, and treatment costs.</td>
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<table>
<thead>
<tr>
<th>Drug-Resistant Salmonella typhi (Notifiable to CDC)</th>
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</thead>
<tbody>
<tr>
<td>Of 21.7 M Salmonella typhi infections worldwide, 5,700 illnesses in the U.S. with 3,800 (67%) of infections are drug-resistant resulting in 620 hospitalizations each year.</td>
<td></td>
</tr>
<tr>
<td>Before the antibiotic era or in areas where antibiotics are unavailable, Salmonella typhi results in up to 20% deaths.</td>
<td></td>
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<table>
<thead>
<tr>
<th>Drug-Resistant Shigella* (Notifiable to CDC)</th>
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<tbody>
<tr>
<td>Shigella causes ~500,000 illnesses, 5,500 hospitalizations, and 40 deaths each year in the U.S.</td>
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<tr>
<td>Since 2006, Shigella resistance to traditional first-line antibiotics has become so high that physicians must now rely on alternative drugs (ciprofloxacin and azithromycin) to treat infections.</td>
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<tr>
<th>Methicillin-Resistant Staphylococcus aureus (MRSA)*</th>
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<tbody>
<tr>
<td>Over 80,000 invasive MRSA infections and 11,285 related deaths per year (in 2011).</td>
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<tr>
<td>Severe MRSA infections most commonly occur during or soon after inpatient medical care.</td>
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<tr>
<td>Between 2005 and 2001, overall rates of invasive MRSA dropped 31% predominantly due to appropriate medical procedures implemented in central-line maintenance.</td>
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<tr>
<th>Drug-Resistant Streptococcus pneumoniae* (Notifiable to CDC)</th>
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<tbody>
<tr>
<td>Of 4 million disease incidents and 22,000 deaths; 1.2 M are drug resistant (to amoxicillin and azithromycin (Z-Pak) resulting in 19,000 excess hospitalizations and 7,900 deaths.</td>
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<tr>
<td>In 30% of S. pneumoniae cases, the bacteria are fully resistant to one or more antibiotics causing complications in treatment and death.</td>
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<tr>
<td>Pneumococcal pneumonia accounts for 72% of all direct medical costs for treatment of pneumococcal disease and in excess of $96 million in medical costs per year.</td>
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<tr>
<td>Pneumococcal conjugate vaccine (PCV) prevents disease, reduces antibiotic-resistance by blocking the transmission of resistant S. pneumoniae strains, and protects against 13 strains of Streptococcus.</td>
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<table>
<thead>
<tr>
<th>Drug-Resistant Tuberculosis* (Notifiable to CDC)</th>
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<tbody>
<tr>
<td>Tuberculosis is among the most common infectious diseases and cause of death worldwide.</td>
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<tr>
<td>Of 10,528 Tb cases in the U.S. in 2011, 1,042 (9.9%) were resistant to antibiotics resulting in 50 deaths.</td>
<td></td>
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<tr>
<td>CDC manages 5 Tb Regional Training and Medical Consultation Centers (RTMCCs) and ongoing surveillance for drug-resistant Tb in all 50 states and DC using the National Tuberculosis Surveillance System (NTSS).</td>
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<tr>
<th>OF CONCERN Threat Level Pathogens (3)</th>
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<tr>
<th>Vancomycin-Resistant Staphylococcus aureas (Notifiable to CDC)</th>
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<tr>
<td>Few cases thus far (13 cases in 4 States since 2002).</td>
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<tr>
<td>Staph is a strain resistant to vancomycin leave very fewer or no treatment options.</td>
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<tr>
<th>Erythromycin-Resistant Group A Streptococcus</th>
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<tbody>
<tr>
<td>Group A Strep (GAS) causes many illnesses including strep throat (up to 2.6 M cases per year), toxic shock syndrome, and “flesh-eating” disease (necrotizing fasciitis, 25-35% fatal).</td>
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<tr>
<td>Erythromycin-resistant GAS causes 1,300 illnesses and 160 deaths.</td>
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<tr>
<td>Current concern is the increase in bacteria that show resistance to clindamycin—which has a unique role in treatment of GAS infections.</td>
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<tr>
<th>Clindamycin-Resistant Group B Streptococcus</th>
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<tbody>
<tr>
<td>Of 27,000 Group B Strep (GBS) cases, 7,600 illnesses are drug-resistant resulting in 440 deaths in the U.S. each year.</td>
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</table>
Do Patients Know What Their Test Results Mean?
A NorCal Claims Rx Case Study and Commentary

Submitted by David L. Slater MD, CRMC Laboratory Medical Director

Editor’s Note: NorCal’s April Claims Rx publication is devoted to 3 cases exemplifying hazards associated with testing. Theme include (1) direct patient access to test results, (2) patients wanting tests the physician does not think is clinically indicated, and (3) procedural tests that may have complications.

We present with permission the first case (others may be presented in a later issue), followed by local commentary from CMC’s Dr. Dominic Dizon, Associate Professor of Medicine and Director of Ambulatory Care and Division of General Medicine, UCSF Fresno. More and more patients access their test results via CMC’s MyChart and other electronic portals, and a 2014 CMS regulation clarified that patients nationwide must be given access to nearly all types of test results within 30 days of a request.

Case #1
When Patients Want Unnecessary Tests

When talking with patients and working to achieve patient-centered care and participatory decision making, physicians must be careful that they are not disregarding appropriate care in efforts to cooperate with patients’ unsuitable requests. One study found that physicians “reported using technology to pacify demanding patients.”4 Patients often do not have the medical knowledge to make unilateral decisions about specific tests they need. For optimal care, the patient and the physician should work together. The standard of care should not be cast aside in order cater to the desires of the patient.

Allegation: Delayed diagnosis of diabetes

A 58-year-old female patient presented to her family physician (FP) with symptoms of pharyngitis. She also complained of excessive thirst. The FP diagnosed viral illness, advised rest and adequate fluid intake, and ordered labs. She told the patient that her lab results would be posted on the practice’s new online patient portal, and she advised the patient to log in to check the portal and to follow up with an appointment if she was not better after four days.

The laboratory results showed the patient’s glucose was abnormally high, and the patient was called and scheduled to come back for additional testing. The physician ordered an A1C test and again told the patient that the results would be put on the Internet portal. The A1C result was 7.2% (normal 4% to 5.6%; at risk 5.7% to 6.4%; 6.5% or above indicates diabetes). This high A1C value appeared as a scanned test result in the electronic health record (EHR) for the patient and was posted on the portal; however, there was no follow-up by the practice after this test. The patient looked at the result on the portal, but since she heard nothing from the FP’s office she assumed the value did not indicate anything was seriously wrong.

The patient visited the practice two times in the next year, once for upper respiratory symptoms and once for diarrhea. Neither the earlier A1C result nor the presence of type 2 diabetes was addressed at these visits. At each visit, the medical assistant reviewed the medical history with the patient in order to update the record, and the patient denied having diabetes at both visits.

Fifteen months after the A1C test, the patient presented with complaints of an ulcer on her left foot. The patient said it had started as a small blister. It was now a 1.5 cm ulceration with mild bloody drainage. The FP advised twice-daily soaks and prescribed ciprofloxacin hydrochloride. She also ordered blood work, including an A1C test, which came back at 8.9%.

The patient returned two days later for follow-up. Three new shallow ulcers had developed on the left foot. The patient was diagnosed with type 2 diabetes and foot ulceration. The FP started the patient on metformin for the diabetes and added another antibiotic to help manage the foot infection.

Upon reassessment by the FP a week later, the patient’s foot was still blistered and erythematous. A consultation with a surgeon the next day led to hospital admission for IV antibiotics and for an incision and drainage. Five days into the hospital admission, the surgeon performed a below-the-knee amputation on the patient’s left leg. The patient filed a lawsuit against the FP, alleging that delayed diagnosis of diabetes and negligent treatment of a foot ulcer led to the loss of her left foot and ankle.

Expert reviewers thought the patient should have been diagnosed with diabetes at least a year earlier and placed on proper medication. Experts believed that earlier diagnosis of the diabetes and more aggressive treatment of the patient’s foot could have prevented the amputation. Because experts believed the FP did not meet the standard of care and that her failure to respond to the initial A1C result caused harm to the patient, this settled.

Discussion: In this case, the patient saw the numerical result of her A1C test, but she did not understand that the result indicated she had type 2 diabetes. When there was no follow-up from her FP, she believed these test results were insignificant, even though the normal values were shown on the portal beside her result, and she could see her result was above the normal range. She did not recognize the fact

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that she had diabetes because she was never told what her test results meant, and, in fact, she denied having the disease at two additional visits in the year before she developed the foot ulcer. The test results were shared with the patient through the practice’s online portal, but this was not enough. As practices with EHRs begin to establish portals to communicate with patients, they should evaluate the ways they are using their portals to share test results. Are the results they’re sharing meaningful to patients? Are processes in place to flag and communicate abnormal test results to patients?

The second issue, follow-up, is related to the first. Even though many more patients are taking responsibility to collaborate with physicians to improve their health, they still need information from doctors. Once a physician orders a particular test, he or she has a duty to track results and to take appropriate action. By ordering the test, the physician is implying that the results are important and should be taken into account in the subsequent management of the patient. In Case One, the patient was contacted after the first abnormal result but was not notified after the second abnormal result. No treatment was initiated after the high A1C result. The practice had no written follow-up protocol; however, the custom was to scan incoming test results into the EHR and to electronically route them to the ordering physician for review. Then the results would be posted on the Internet portal. When the FP received notice of this lawsuit, she looked at the patient’s record but could not find any evidence that she had reviewed the A1C result or contacted the patient about it.

A number of studies indicate that follow-up is a continuing challenge in physicians’ practices, and as Case One shows, it is an ongoing risk management problem in professional liability claims. One group of researchers found that less than half of all the physicians surveyed for their study (only 41%) said they were satisfied with their own management of test results.2 Another study found that “fewer than one-fourth of physicians had a reliable method for identifying patients overdue for follow-up of abnormal test results.”2 Establishing a reliable test followup system improves patient safety and increases a physician’s satisfaction with his or her practice.2,3

Risk Management Recommendations: Increasing Patients’ Ability to Recognize Out-of-Range Test Results
• Recognize that to be fully informed a patient “requires more than having access to test results or being able to recite specific numbers. It means understanding what test data mean for evaluating one’s health status and how [the data] should influence future health decisions or behaviors.”

Case #1 Commentary

By Dr. Dizon:

With over 170 million patient lives represented within the Epic customer community, the MyChart application is now the most used patient portal in the U.S.

As a primary care physician, I certainly see the risks and benefits of having my patients view their test results in MyChart on a daily basis. I have to admit though, that it has improved my communication with my patients, as long as I stay on top of the tests that I order for them.

One of the advantages of doing computerized physician order entry (CPOE), at least using Epic in Fresno, is that the lab results return to my In-Basket whether testing is done by CMC’s laboratories or by Quest Lab. This way, I don’t have to rely on my medical assistant to scan results back into the electronic health record (EHR) for me to review. Apparently, this was the risk exposure in the NorCal case provided.

My In-Basket also allows me to trend these results, flags abnormal values with a color code, makes it possible to see other lab tests without leaving the screen, shows my patient’s next appointment, and displays the patient demographics for me to quickly contact the patient. I can then document my notification of the patient through a telephone encounter or annotate with a quick result note. I can even choose to notify the patient through the MyChart patient portal.

In the end, I believe patients do benefit from this increased vigilance and built-in notification features. It helps them become more empowered with decisions involving their health and makes them feel closer to their primary care provider.

• When communicating with patients about test results, use adjectives such as “poor,” “good,” “borderline high,” “very high,” “solidly in range,” etc., in conjunction with numbers. Some studies show that communicating numerical results alone can be confusing and that use of adjectives can help “reinforce the critical ‘gist’ of messages.”

• Educate patients at visits about what test results are expected and what values will represent out-of-normal-range results.

• Especially attend to education of patients who have chronic conditions such as diabetes and who therefore require repeated testing to monitor their conditions.

• Consider designating appropriate, qualified staff to tu-
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...tor patients with chronic diseases about the reasons for ongoing testing, the meaning of various results and the aimed-for range.

• When posting test results on patient portals, include information about the normal range of values beside each posted result.

• Consider using color cues to alert patients to values that are out of range (for example, normal values could be shown in black and out-of-range values in red).

Establishing Dependable Follow-Up Systems

• Examine your practice’s follow-up system for gaps. A follow-up system should include processes that ensure test results are returned and are consistently managed, including being reviewed, reported to the patient, acted on, and documented in the patient’s medical record.

• On any given day, an office follow-up system should be able to identify all patients who have pending test results that have not yet been received. Staff members can use this information to make contacts when results are overdue.

• Upon ordering tests, inform patients how long it will take to obtain results, and advise them to call by a certain date if they have not heard from you (the physician) or the office staff. However, always rely on your own system for tracking completion of tests and communicating results of all ordered tests – do not base your system of notification on having the patient call in for results.

• When test results come in, document your review of the results by initialing or signing off and dating reports, or by otherwise noting your review in the patient’s medical record. Note what action is required or has been implemented.

• Make it a standard procedure to inform patients about all test results – positive and negative. Do not advise patients that “no news is good news.”

• Document patient notification of test findings and any recommendations for further testing or treatment.

Resources


At the time of this writing, the world is still processing the shocking images and devastating statistics that are emerging from the scenes of a massive earthquake in the Himalayan nation of Nepal. All the news footage is doubly surreal for those of us who have been anticipating and preparing for a massive earthquake to strike Nepal. I travelled there in 2013 with a group of residents, paramedical staff and nurses from the Fresno area to learn about their preparedness needs and educate doctors on what to do when an earthquake hits. Drawing from my experiences in Haiti after their massive 2010 quake, it was much easier to brainstorm with fellow emergency specialists about how to conduct disaster relief in a place where disorder in health care is standard operating procedure, because at that point such a catastrophic scenario was only a hypothetical situation. Now, the tragic loss of almost 5000 lives and counting, all from a 7.8-magnitude earthquake just 50 miles from the capital, has forced all of us from that educational mission to revisit our lessons and protocols to try to aid our friends and colleagues who are in the country now.

I first went to Kathmandu 5 years ago, strictly as a toxicologist. I instantly grew fond of its welcoming and liberal culture, its respect for art and religion, and the quiet dignity and resilience of the people I befriended there. Realizing that toxicology infrastructure could only be developed after general emergency medicine was stronger, I resolved to become the Nepal Ambassador for the American College of Emergency Physicians (ACEP) and then create a collective of likeminded friends and fans of

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Nepal by using social media, on a Facebook group called NEMO (Nepal Emergency Medicine Organization, https://www.facebook.com/groups/179933335362963). Since then I have been happy to meet with dozens of fellow faculty in multiple disciplines and teach hundreds of medical students, nurses, and house officers throughout the cities of Nepal. NEMO itself has taken on a life of its own and grown to over 1000 members who connect over Facebook and are actively sharing information and requests for medications, tents, volunteers and information. Despite the many difficulties in visiting and living in Nepal, the cadres of young, bright, and enthusiastic medical professionals are the reason I continued to go back, visiting old friends and making new ones with each of my three trips there.

Regarding health care, Nepal is really under resourced. They are usually at capacity in all of their public hospitals. On the world’s lists of countries, Nepal is often comparable to Haiti in terms of its per-capita resources and morbidity and mortality statistics. And just as with Haiti, this earthquake is really going to stress that medical system, perhaps even more so because of Nepal’s remote and inaccessible locations in the crags and crevices of the Himalayas. In the coming weeks, relief organizations will start focusing their efforts from rescue mode, to making sure those who are still alive don’t get sick. Terrifying aftershocks have been hampering rescue efforts and triggering landslides across the mountainous terrain. At least 18 people were killed in an earthquake-triggered avalanche on Mount Everest, in addition to the tens of thousands missing or declared dead in the hills and valleys of Nepal and neighboring countries. Many areas remain without power and water as overcrowded hospitals work to help the injured in makeshift tents and outdoors health camps. I have been in contact with friends and colleagues in the medical system in Nepal since the earthquake, and thankfully almost all of them have reported themselves as safe and are ready to pull up their sleeves and get to work with the relief efforts.

As with refugee crises anywhere, all the internally displaced persons will be facing an Olympian challenge as they try to rebuild their lives and mourn their loved ones. The threat of flooding, landslides, starvation, infections, and exposure to cold are very real and ready to claim the most vulnerable of the survivors within and around the capitol city of Kathmandu which rests at an altitude of 4,000 feet. This combination of stresses, both natural and man-made, are called complex humanitarian emergencies, and there is a considerable literature devoted to the factors which contribute to them. However, each context is unique and requires its own response. In Nepal, for instance, there will be both the availability and need for airlifts and drone surveillance, which was not used in Haiti. I am hopeful that as the recovery from this crisis unfolds, disaster relief agencies and professionals will use the lessons learned from Haiti as well as other natural disasters such as typhoons, tornadoes, and hurricanes. I myself am planning to journey there as soon as feasible, in order to support the relief work and ongoing education of the local and foreign volunteer workforces. Although I harbor no illusions that this will be a speedy or easy recovery – Nepal will be tending to its damaged homes and hearts for a long time – I have absolute confidence that the focus and resilience of the people will pull them through this national crisis.

Which brings me to one last point: how we can all help, from right here at home. The best way to show our support and compassion for the suffering of the earthquake victims in Nepal (and to a smaller extent those in India, Bangladesh and Pakistan) is to offer monetary donations to a credible, effective agency which is already working within the country. I would suggest the Red Cross, Doctors without Borders, Direct Relief International or the two agencies which I am See Nepal on page 23
A Bloody Good Job: Celebrating the Success of CRMC’s Blood Management Program

By Chelsea Tooke-Barry M.D.
Transfusion Medicine physician

Blood transfusion has long been universally accepted as mainstream therapy in the treatment of a variety of surgical and medical ailments; so mainstream, in fact, that transfusion is the most commonly performed procedure in U.S. hospitals today. However, blood transfusion is not without certain risks, including the risk of serious transfusion reactions and transfusion-transmitted infections from pathogens both known and emerging. Additionally, a growing body of literature suggests that blood transfusion may be associated with an increase in complications in hospitalized inpatients and worsened patient outcomes overall. There is no question that in some circumstances, the risks of transfusion outweigh the potential benefits. Yet despite these cautions, there are patients for whom transfusion therapy is life-saving, and difficulties can arise in determining when and for whom transfusion is most appropriate. It is from these circumstances that the concept of patient blood management was crafted.

Patient blood management (PBM) is now a core element of transfusion medicine. It is defined by the American Association of Blood Banks (AABB) as an “evidence-based, multidisciplinary approach used to optimize the care of patients who may require transfusion”. PBM seeks to improve patient outcomes by implementing a variety of evidence-based medical and surgical strategies to prevent anemia and reduce surgical blood loss. Given historically liberal transfusion practices (in the US, particularly), PBM has significantly reduced unnecessary transfusions in recent years.

With this in mind, I would like to focus on the success to date of Community Regional’s blood management program – a truly multidisciplinary program that has measurably improved transfusion practices and reduced blood utilization.

In late 2007, CRMC partnered with Strategic Healthcare Group (SHG), a consultant group focused solely on supporting and improving hospitals’ blood management efforts through both the provision of educational materials and data collection. The wealth of data collected by

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planning to volunteer with, International Medical Corps and Nepal Ambulance Service (www.friendsofNAS.org). Sending goods such as clothes, tents and blankets or even medications and devices seems like a good idea but it is a MUCH less desirable way to contribute. The burden of sorting useful items from the rest and the logistics involved with transport of these items is ultimately counterproductive and it is best to donate money to agencies who can buy their supplies in bulk or use their funds for other purposes like paying local staff.

The earth’s awesome forces have shaped Nepal into an epic place, geographically – a land that rises up from sea level at its border with Bangladesh in the East to the impossible heights of Mt Everest in the north. However, what really attracts me to the country are its cultural legacies and gifts, which, like the prayer flags that wave across every terrace and temple, wind through the hearts of all who visit this amazing nation. I hope you join me in supporting Nepal through your prayers, your posts on the social media, and your charitable contributions to established aid agencies which operate in a persistently challenging environment to save and improve lives worldwide.

The UCSF Fresno Global Health Curriculum represents a group of dedicated providers associated with the UCSF Fresno Medical Education Program. Our events highlight local connections to international medical projects and overseas clinical opportunities. Attendance is open to healthcare staff and clinical providers from all departments and disciplines, including physicians, nurses, therapists, and staff. For information or to join our listserv, please email rvohra@fresno.ucsf.edu.

UCSF Fresno Global Health on FaceBook: https://www.facebook.com/groups/368994383236895
Nepal Relief Efforts on NEMO: https://www.facebook.com/groups/179933335362963

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SHG allows hospitals to benchmark their transfusion practices against other hospitals nationwide. The data also allows for comparison of transfusion practices across key diagnosis-related groups (DRG) sorted by hospital service lines (i.e. surgical subspecialties), or by individual provider. SHG’s benchmarking metric is “opportunity” units – meaning the number of units that could have been saved through closer adherence to patient blood management guidelines and interventions. One can regard ‘opportunity’ units as the ‘opportunity for improvement’ compared to peer transfusion practices at other US hospitals: the higher the “opportunity,” the more room for improvement, and the lower the “opportunity,” the better the institution is doing compared to peer hospitals. (Yes, this does assume non-inferior transfusion-influenced clinical outcomes at lower transfusing hospitals, but data bear that out).

As the graphs above show, since 2008, transfusions at CRMC have substantially decreased, with total transfusion ‘opportunity’ dropping from 19.7% of all units we transfused in 2008 to approximately 9% of units in 2014. This data does not include ‘outlier’ cases in which blood transfusion was unexpectedly more than anticipated. Reductions in red blood cell and plasma usage account for the majority of this downward trend.

What accounts for CRMC’s increasingly conservative blood use? First and foremost – and congratulations to you, the readers – it comes as a direct result of the efforts of medical staff and nursing at CRMC to remain up-to-date with current standards, through review of pertinent literature in subspecialty publications, reading articles in this newsletter, attendance at specialty meetings, awareness of the ABIM Choosing Wisely campaign, or through participation in SHG blood management webinars.

Innovations in patient care also deserve much credit. These include blood-sparing surgical techniques, the expanded use of intraoperative cell salvage, and incorporation into care of pharmacologic agents such as tranexamic acid. Real-time decision support from our recently implemented ROTEM hemostatic testing has improved transfusion practice by helping clinicians determine which patients may truly benefit from transfusion, and when hemostatic impairment is shown to be present, aiding clinicians to select appropriate product(s). In some cases this information leads to more blood use, but that is as it should be.

The success of Community Regional's blood management program is something to celebrate, but data remind us there is still room for improvement. Providers must remain knowledgeable regarding current transfusion standards and evidence, and must continue to reassess their transfusion practices as knowledge changes. In an effort to help busy providers stay abreast of current transfusion guidelines and to link guidelines to transfusion decisions, Best Practice Alerts (BPA) and a link to CMC medical staff’s transfusion guidelines from blood order fields have been built into Epic. We believe these tools will encourage best transfusion practices throughout CMC facilities. A number of institutions using Epic (e.g., Stanford Hospital) report that BPAs similar to ours have favorably impacted their PBM efforts.

Other coming resources at CMC include readily accessible guidelines for reversal of oral anticoagulant therapies and a pre-operative anemia clinic to assist clinicians in optimization of hematologic parameters prior to elective surgical procedures. Also on the horizon are personalized transfusion reports for various clinical services within CRMC, and soon also Clovis Community and Fresno Heart and Surgical. These reports will serve as a valuable resource for medical staff members by allowing you to both monitor transfusion trends within your respective specialty service at CRMC and to compare your service line’s performance to national means for the same specialty.

CRMC’s blood management program has achieved success through the efforts of many individuals across many disciplines, effectively led by the multidisciplinary CMC Transfusion Committee. Chaired by UCSF-Fresno Surgeon Dr. Jennifer Hubbard, its members have been of great assistance in education activities and in the development and implementation of transfusion guidelines and other PBM strategies. So, from our medical staff, nurses and pharmacists who keep abreast of transfusion science and blood-saving innovations, to the Epic experts who have helped in so many ways, to all members of the Transfusion Committee, congratulations to us for building a successful patient blood management program at CRMC. Keep up the good work!
New Test: Trichomonas Vaginalis Amplified Probe Testing (TRCMP) is Now Available

Lab Locations: CMC ALL LAB LOCATIONS
• Trichomomas testing by amplified nucleic acid is now an additional STD test option to improve detection of this common sexually transmitted infection.
• According to the CDC, trichomomasis is the most prevalent non-viral sexually transmitted infection. It is caused by the protozoan parasite Trichomonas vaginalis. Its worldwide incidence surpasses that of chlamydia and gonorrhea combined.
• Several studies have shown that the GenProbe Aptima Trichomonas vaginalis amplified probe assay detects 50% more Trichomonas infections than the traditionally used Wet Mount exam.

Specimen Collection: The APTIMA Trichomonas vaginalis Assay is designed to detect the presence of T. vaginalis in clinician-collected endocervical and vaginal swab specimens.
• APTIMA Unisex Swab Specimen Collection Kit:
  • for Endocervical Swab Specimens
  • for Vaginal Swab Specimens

Specimen Processing/Storage:
• After collection, transport and store the swab in the swab specimen transport tube at 2°C to 30°C until tested. Assay specimens within 60 days of collection.
• If longer storage is needed, freeze the specimen transport tube at ≤ –20°C for up to 24 months.

EPIC Test Name: Trichomonas by Amp. DNA (LABTRCMP)
Test Availability: M-F  (Specimens collected on Sat/Sun will be tested and reported on Monday.)


Current Test Options used for Trichomonas diagnosis will still be available.
• Wet Mount
• Vaginitis Panel by DNA Probe (non-amplified method):
  Includes Trichomonas, Gardnerella, Candida

For additional information or questions, please contact:
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Hap Morrissey, Administrative Laboratory Director, 459-6504, gmorrissey@communitymedical.org
Marilyn Mitchell, Microbiology Supervisor, 459-2021, mmitchell@communitymedical.org

ICD-10 CORNER
Congestive Heart Failure Documentation
Submitted by Sandra Sidel RHIA, CCS

Avoid later queries for clarification by documenting type and acuity of CHF. Enhanced documentation for CHF means assigning codes that accurately reflect the patient’s severity of illness and risk of mortality (e.g., sudden cardiac death).

Congestive Heart Failure should be specified as to both type and acuity:
• Systolic
• Diastolic
• Combined [Systolic and Diastolic]

With ICD-10, CHF coding requires all the above detail; unless both type or acuity are documented, severity of illness cannot be communicated by the code assignment.

Tips to a Successful ICD-10 Transition
Submitted by Sandra Sidel, RHIA, CCS, HIM Coding Educator

Current ICD-9 Documentation
65 year old female with CHF exacerbation.

Improved ICD-10 Documentation
65 year old female with acute on chronic diastolic CHF exacerbation.

The following documentation improvements are needed for ICD-10: Type, Acuity

If you would like more information or have any questions, please do not hesitate to contact Sandra Sidel: email ssidel@communitymedical.org or (559) 459-6003/Ext.: 5603.
Editor’s Note: CRMC Infection Control expert Beverly Kuykendall and Infectious Disease Physician Dr. Robert Libke confirm the item below regarding C. difficile. An excerpt follows from an e-mail from Beverly Kuykendall regarding this:

“...We do not routinely screen patients for C. diff and the lab will not accept formed stool for this testing. Even if the patient is re-admitted with a known history of C. diff infection, they are not retested unless there are signs/symptoms of the disease. We do tell the nursing staff if the patient has 3 loose stools in 24 hours, think C. diff and call the MD to get an order for the test.

The major problem we have with C. diff testing is the patient tells the ED physician they had diarrhea at home before arriving to the hospital or the patient has one episode of diarrhea while in the hospital, the physician orders a C. diff test, the patient is placed on precautions for rule-out C. diff and 24 hours later the patient has not had a bowel movement. In these cases, we call the physician and encourage him/her to discontinue the C. diff test. Most of the time these patients are not treated for C. diff infection.”

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18th in Our Series of Specialty Recommendations for “Choosing Wisely”

Don’t treat asymptomatic bacteruria with antibiotics.

Inappropriate use of antibiotics to treat asymptomatic bacteruria (ASB), or a significant number of bacteria in the urine that occurs without symptoms such as burning or frequent urination, is a major contributor to antibiotic overuse in patients. With the exception of pregnant patients, patients undergoing prostate surgery or other invasive urological surgery, and kidney or kidney pancreas organ transplant patients within the first year, receiving the transplant, use of antibiotics to treat ASB is not clinically beneficial and does not improve morbidity or mortality. The presence of a urinary catheter increases the risk of bacteria, however, antibiotic use does not decrease the incidence of symptomatic catheter-associated urinary tract infection (CAUTI), and unless there are symptoms referable to the urinary tract or symptoms with no identifiable cause, catheter-associated asymptomatic bacteriuria (CA-ASB) does not require screening and antibiotic therapy. The overtreatment of ASB with antibiotics is not only costly, but can lead to C. difficile infection and the emergence of resistant pathogens, raising issues of patient safety and quality.

Avoid prescribing antibiotics for upper respiratory infections.

The majority of acute upper respiratory infections (URIs) are viral in etiology and the use of antibiotic treatment is ineffective, inappropriate and potentially harmful. However, proven infection by Group A Streptococcal disease (Strep throat) and pertussis (whooping cough) should be treated with antibiotic therapy. Symptomatic treatment for URIs should be directed to maximize relief of the most prominent symptoms. It is important that health care providers have a dialogue with their patients and provide education about the consequences of misusing antibiotics in viral infections, which may lead to increased costs, antimicrobial resistance and adverse effects.

Don’t use antibiotic therapy for stasis dermatitis of lower extremities.

Stasis dermatitis is commonly treated with antibiotic therapy, which may be a result of misdiagnosis or lack of awareness of the pathophysiology of the disease. The standard of care for the treatment of stasis dermatitis affecting lower extremities is a combination of leg elevation and compression. Elevation of the affected area accelerates improvements by promoting gravity drainage of edema and inflammatory substances. The routine use of oral antibiotics does not improve healing rates and may result in unnecessary hospitalization, increased healthcare costs and potential for patient harm.

Avoid testing for a Clostridium difficile infection in the absence of diarrhea.

Testing for C. difficile or its toxins should be performed only on diarrheal (unformed) stool, unless ileus due to C. difficile is suspected. Because C. difficile carriage is increased in patients on antimicrobial therapy, and patients in the hospital, only diarrheal stools warrant testing. In the absence of diarrhea, the presence of C. difficile indicates carriage and should not be treated and therefore, not tested.

Avoid prophylactic antibiotics for the treatment of mitral valve prolapse.

Antibiotic prophylaxis is no longer indicated in patients with mitral valve prolapse for prevention of infective endocarditis. The risk of antibiotic-associated adverse effects exceeds the benefit (if any) from prophylactic antibiotic therapy. Limited use of prophylaxis will likely reduce the unwanted selection of antibiotic-resistant strains and their unintended consequences such as C. difficile-associated colitis.
Advanced HazMat Life Support (AHLS) Comes to Fresno

Submitted by Rais Vohra M.D.
CRMC Emergency Medicine
California Poison Control System

In April, the UCSF Fresno Department of Emergency Medicine offered a unique, first-of-its-kind course in California: Advanced Hazardous Materials Life Support (AHLS). Developed by Dr. Frank Walter and other nationally recognized toxicology experts, this 3-day curriculum is a lot like ACLS and ATLS – imparting essentials of diagnosis and treatment which are important clinical contents for the whole treatment team to know. Our inaugural course had participants from all over the Central Valley and based in a range of disciplines such as respiratory therapy, EMS provider, surgeon, and emergency physician. This variety of participants was wonderful to see, because as with ACLS/ATLS, there are basic poisoning terms and concepts that every provider should recognize regardless of their role in caring for the exposed patient, from the prehospital setting all the way to the ICU and operating room.

One aspect of AHLS which is different from ACLS and ATLS, however, is that the context of patient care expands beyond a single resuscitation room to the whole of society. Often times, the incident command team is treating not just one or several persons, but a large group of affected victims in a challenging and dangerous environment.

Hazardous materials can be found everywhere, divided between fixed facilities (factories, farms, and industrial plants) and vehicles of transportation between them (trucks and railways). Adding to this risk, the clandestine criminal manufacture of methamphetamines or cannabis “hash oil” with flammable materials like butane can lead to catastrophic burns and chemical injuries in an accident. Most importantly, the household and garage/lawn chemicals that we all depend on for home use means that there is a high likelihood that as health care providers we could encounter a legitimate “hazmat” patient on any given day in our medical center.

The central concepts of AHLS can be summarized by two well-designed acronyms and five toxidromes covering a great many hazardous substances commonly encountered in the clinical setting. This core information is repeated with different emphasis for each of the many occupations, environmental, and agricultural toxins that one may encounter in a true HazMat scenario.

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Tox Tidbits

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The first key AHLS concept, related to diagnosis and assessment, is directly derived from acute care of any patient, and is summarized as ABCDE (airway, breathing, circulation, disability, and elimination organs such as renal and hepatic toxicity).

The second set of concepts, related to specific treatment of a known toxicant, is a trademarked product of AHLS and is quite cleverly called “AaAaBCcDdEe.”

a. alter absorption: after removal from exposure, is further decontamination necessary?

b. administer antidote: this applies to a very small number of toxins overall but may be life-saving when given expeditiously

c. BASICS – don’t forget that great supportive care saves many more lives than anything else in the care of poisoned patients.

d. Change catabolism – is there a way to enhance breakdown of the toxicant?

e. Distribute differently – is there a way to change the way the toxicant is distributed in the tissues of the body?

f. Enhance elimination: can increasing renal function or starting hemodialysis aid with ameliorating the signs of toxicity?

We have discussed toxidromes in this column previously, and as you may recall this term refers to a “toxic syndrome,” defined as the constellation of organ effects all due to the actions of a single agent. Example: organophosphate insecticides. These agents disrupt the breakdown of acetylcholine, and the excess acetylcholine causes a number of signs that can be summarized as “cholinergic toxidrome.”

There are of course dozens of toxidromes in general clinical toxicology. For the purposes of AHLS, there are 5 toxidromes that are critical to recognize in the prehospital or emergency department – and fortunately they are usually quite readily diagnosed even if the specific offending chemical is not known. Rapid recognition of the clinical effects and basic management of these 5 categories of poison is one of the goals of the AHLS course. These 5 major types of poisoning responsible for commonly encountered HazMat toxidromes include the following: cholinergic (from organophosphates), irritant gases (such as ammonia), asphyxiants (which disrupt oxygen delivery or extraction, including carbon monoxide, azides, and cyanide), corrosives (acids, bases and phenol), and hydrocarbons (butane, kerosene etc). Miscellaneous HazMat toxins which don't fit into these categories include hydrofluoric acid (HF) which can cause severe burns as well as fatal hypocalcemia and hyperkalemia; hydrazines (like INH and rocket fuel) which cause status epilepticus responsive only to pyridoxine (vitamin B-6), and phenol (an anesthetic corrosive which can cause severe rhabdomyolysis, cardiac arrhythmias, and pale discoloration of the skin).

Although there was a fair amount of biochemistry in this class, it was very practically oriented and we had some

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Tox Tidbits

Continued from page 28

great case based teaching as well as “field trip” to the CRMC Mobile Decontamination Unit. This is a truly impressive and well-designed multi-person shower and decontamination trailer with its own water supply and collection system, and it’s permanently parked right outside our emergency department, next to the ambulance bays. So if and when we get patients who have been exposed to chemicals in the field, they will be decontaminated rapidly (whether they are ambulatory or intubated and stretcher bound) before coming inside our resuscitation bays at CRMC. (Ironically, at one point during our training, there was a real HazMat incident here in town, when someone noted a noxious odor in a government building. This episode was, fortunately, inconsequential in terms of casualties, but it definitely drove home the importance of the information we were all learning in the slide sets.)

The best part of the AHLS course, in my opinion, was in meeting the instructors and my fellow students who work at various institutions in our region. Almost all of us got certified not just as providers but also as instructors so we can help continue the task of educating and updating prehospital and hospital providers. Besides emergency physicians and paramedics, this course is open to respiratory therapists, pharmacists, nurses, midlevel providers, and physicians from virtually discipline. CME credit is also available and the best place to check for future courses is www.ahls.org.

You probably saw the news stories or heard about the recent, tragic gas line explosion in Northwest Fresno – this is just one of the many incidents, large and small, that involve hazardous materials and challenge prehospital care providers almost daily. The AHLS course and curriculum represents one way to keep up our healthcare community’s skills and knowledge base to respond to these incidents. Special thanks to our own Dr. Michael Darracq (EM and toxicology) who coordinated this course, and stay tuned for future courses to be offered very soon!

Pediatric Lecture Series

<table>
<thead>
<tr>
<th>Title</th>
<th>Date</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>“Approach to the Newborn”</td>
<td>Thursday, May 7, 2015</td>
<td>James Prochazka MD</td>
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<td>Kenneth Rouillard MD</td>
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<td>“Cyanotic Heart Disease”</td>
<td>Thursday, May 28, 2015</td>
<td>Valeriano Simbre, MD</td>
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Perinatal M & M

<table>
<thead>
<tr>
<th>Title</th>
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<th>Speakers</th>
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<tbody>
<tr>
<td>“Resurgence of Congenital E-coli Sepsis”</td>
<td>Wednesday, May 20, 2015</td>
<td>Drs. Marian Pak, Anand Rajani and Chris Downer</td>
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University Centers of Excellence Presents

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<tr>
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<tr>
<td>“2015 Dermatology Symposium”</td>
<td>Thursday, May 7, 2015</td>
<td>Drs. Greg Simpson and Leslie Storey</td>
</tr>
</tbody>
</table>

See CME Highlights on page 30
Continued from page 29

**CME Dinner Lecture**

**Title:** “Treatment of Brain Aneurysms and Subarachnoid Hemorrhage”  
**Date:** Tuesday, May 12, 2015  
**Speakers:** Armen Choulakian MD  
**Time:** 6:30-8:30pm (dinner provided)  
**Place:** Bella Luna Bistro, 350 W. Main St., Merced, CA  
**Contact:** Denise Jennings, 559-459-3136 or djennings@communitymedical.org  
**CME:** 1 CME

**Title:** “When to Refer To A Pediatric Cardiologist”  
**Date:** Thursday, May 14, 2015  
**Speakers:** Ana Coll MD  
**Time:** 6:30-8:30pm (dinner provided)  
**Place:** Vintage Press, 216 N. Willis, St., Visalia, CA  
**Contact:** Denise Jennings, 559-459-3136 or djennings@communitymedical.org  
**CME:** 1 CME

**Title:** “Treatment of Brain Aneurysms and Subarachnoid Hemorrhage”  
**Date:** Tuesday, May 19, 2015  
**Speakers:** Armen Choulakian MD  
**Time:** 6:30-8:30pm (dinner provided)  
**Place:** Vintage Press, 216 N. Willis, St., Visalia, CA  
**Contact:** Denise Jennings, 559-459-3136 or djennings@communitymedical.org  
**CME:** 1 CME

**CRMC Trauma Program Presents**

**Title:** “Central California Trauma Symposium”  
**Date:** Wednesday, May 13, 2015  
**Speakers:** Drs. Jim Davis, Krista Kaups, Nancy Parks, John Bilello and Linnea Ashley, MPH, Ken Katz, MSW and Sgt. Rich Escalante-FPD  
**Time:** 7:00am-5:00pm (breakfast, lunch and afternoon snack provided)  
**Place:** UCSF Fresno MERC, 155 N. Fresno St., Fresno, CA  
**Cost:** $75/Person  
**Register:** www.Treffresno.org or call 559-459-5130  
**CME:** 7 CME

**UCSF-Fresno Presents**

**Title:** “2015 10th Annual Cardiology in the Valley Symposium”  
**Date:** Saturday, May 16, 2015  
**Speakers:** Drs. Teresa Daniele, Ryan Berg, Ralph Wessel, John Ambrose and Sundararajan Srikanth  
**Time:** 8:00am-1:30pm (continental breakfast and lunch provided)  
**Place:** UCSF Fresno MERC, 155 N. Fresno St., Fresno, CA  
**Register:** www.fresno.ucsf.edu/conferences/cardiology2015  
Pre-registration is required. Registration is on a first-come, first-served basis. Early registration is recommended, as seating is limited.  
**CME:** 5 CME

**Save The Date**

**CCMC Presents:**

**Title:** “Advanced Fetal Monitoring: A Multidisciplinary Approach”  
**Date:** Friday, June 12, 2015  
**Speaker:** Lisa Miller, CNM, JD-Professional Education Center  
**Time:** 7:30-11:30am (breakfast provided)  
**Place:** H. Marcus Radin Conference Center – Clovis Community Campus  
**Contact:** Jessica Lipsius, 559-324-4002 or jlipsius@communitymedical.org  
**CME:** 4.0 hrs

**Perinatal M & M**

**Title:** “Cord Blood Banking”  
**Date:** Wednesday, July 15, 2015  
**Speakers:** TBA  
**Time:** 12:30-1:30pm  
**Place:** UCSF Fresno Center, 155 N. Fresno Street, Fresno, CA 93701, Room 143  
**Contact:** Bernadette Neve, 559-459-7059  
**CME:** 1 CME

Please also see the enclosed individual flyers for more on these & other upcoming local CME activities to meet your CME needs.
MAY 2015 PHYSICIAN PHOTOGRAPHER

DAVID L. SLATER MD
See page 2 for details
University Centers of Excellence presents

2015 Dermatology Symposium

Greg Simpson, M.D.
Medical Director, University Dermatology Associates
Assistant Clinical Professor, UCSF at UCSF Fresno
General Dermatology and Pediatric Dermatology

Leslie Storey, M.D.
Assistant Clinical Professor, UCSF at UCSF Fresno
Mohs/Dermatological Surgery and General Dermatology

Sheila Mayo, PA-C, MMSc & Margot Ceglieski, NP

Thursday, May 7th, 2015 • 6 PM

Limon ▼ 9455 N. Fort Washington, Suite 101 ▼ Fresno, CA 93730

6:00 - 6:30 PM  Complimentary Dinner
6:30 - 8:00 PM  Dermatological Manifestations of Chronic Disorders

Please submit your RSVP to Allison Hernandez at 559.453.5256 by April 30th, 2015.

Participants will be able to:

1. Identify dermatology resources and use that knowledge to communicate with patients available options to improve patient care, patient safety and outcomes.
2. Recognize dermatological manifestations of chronic disorders increasing physician competency, provide more effective care and achieving better patient outcomes.

Target Audience:
Pediatricians, Internists, Family Practitioners, General Practitioners, Physician Assistants and Nurse Practitioners

Program director: Dominic Dizon, M.D., Speakers: Leslie Storey, M.D., Greg Simpson, M.D., Sheila Mayo, PA-C, Margot Ceglieski, NP, and Planners Allison Hernandez and Stephen Esqueda have no relevant commercial relationships to disclose. This CME activity has no commercial support associated with it. Food or refreshments provided by University Dermatology Associates.

Community Medical Centers is accredited by the Institute for Medical Quality/California Medical Association (IMQ/CMA) to provide continuing medical education for physicians. Community Medical Centers designates this live activity for a maximum of 1.5 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity. This credit may also be applied to the CMA Certification in Continuing Medical Education.
SPEAKER: Armen Choulakian, M.D.
Neurosurgeon
UCSF Neurosurgery Associates

DATE/TIME: May 12, 2015
Tuesday, 6:30 p.m. - 8:30

ATTENDEES WILL:
1. Will know how to diagnose brain aneurysms and subarachnoid hemorrhage.
2. Will become aware of treatment options for brain aneurysms and subarachnoid hemorrhage and use that knowledge to more effectively communicate availability of these treatment options to patients, improving satisfaction, care and patient outcomes

LOCATION: Bella Luna Bistro
350 W. Main St., Merced, CA

CME 1.0
Dinner provided (Vegetarian options available)

TARGET AUDIENCE:
Primary Care Physicians, Family Practice Physicians, Internal Medicine, Emergency Medicine Physicians, Radiologists, Neurologists, Neurologic Surgeons, Critical Care Physicians, Physician Assistants, Nurse Practitioners, R.N.’s, and all Allied Health Professionals who work in primary care fields.

RSVP to Business Development Outreach Dept. Denise Jennings, Admin Sec. at (559) 459-3136
E-mail: Djennings@communitymedical.org

Community Medical Centers is accredited by the Institute for Medical Quality/California Medical Association (IMQ/CMA) to provide continuing medical education for physicians.

Community Medical Centers designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This credit may also be applied to the CMA Certification in Continuing Medical Education.

Disclosures: Speaker Dr. Armen Choulakian, MD and event planners, Kimberly Goldring, Ric Morales and Louis Triana have no disclosures to make.

www.CommunityRegional.org
CME Dinner Lecture

When to Refer To a Pediatric Cardiologist

SPEAKER: Dr. Ana Coll
Pediatric Cardiologist

DATE/TIME:
May 14, 2015
Thursday, 6:30 pm to 8:30 pm

ATTENDEES WILL:

1. Will learn and become familiar with signs and symptoms of cardiovascular disease in infants, children and adolescents to impact patient outcomes.

2. Will more proficiently diagnose the sick Congenital Heart diseased patient, improving patient care.

3. Will gain a better understanding of the treatment options and how to access services to improve patient outcomes.

LOCATION: Vintage Press
216 N. Willis St., Visalia, CA

CME 1.0

Dinner provided (Vegetarian options available.)

TARGET AUDIENCE:
Pediatricians, Family Practice, General Practice, Internal Medicine, Physician Assistants, Nurse Practitioners, R.N.’s and all Allied Health Professionals who work in primary care fields.

RSVP to Business Development Outreach Dept. Denise Jennings, Admin Sec. at (559) 459-3136
E-mail: Djennings@communitymedical.org

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This credit may also be applied to the CMA Certification in Continuing Medical Education.

Disclosures: Speaker Dr. Ana Coll and event planners Kimberly Goldring, Ric Morales and Louis Triana have no disclosures to make.
SAVE THE DATE

2015
10TH ANNUAL
CARDIOLOGY IN THE VALLEY SYMPOSIUM
“CONTROVERSIES IN CARDIOLOGY”
Course Director: John A. Ambrose, MD, FACC

Saturday, May 16, 2015
8:00AM–1:30PM

UCSF Fresno Center for Medical Education and Research
155 N. Fresno Street
Fresno, CA 93701

CME: 5 AMA PRA Category 1 Credits
Fees: No Charge

Continental Breakfast & Lunch will be provided

Topics:
Approach to Women with Coronary Artery Disease
Teresa Daniele, MD

Cardiology Clearance & Perioperative Risk Assessment
Ryan Berg, MD

NOACS vs. Coumadin
Ralph Wessel, MD

How, When, and What to Do for STEMI, NSTEMI
John Ambrose, MD

Management of CAD Patients with Stage 4 Renal Dysfunction or on Dialysis
Sundararajan Srikanth, MD

Course Objectives:
At the conclusion of this activity, participants will be able to:
1. Better understand how to diagnose and treat chronic and acute coronary events to provide better patient care in both men and women.
2. Risk-assess patients with heart disease who are undergoing non-cardiac surgery.
3. Proficiently manage patients with severe renal dysfunction and heart disease.
4. Better manage patients requiring anticoagulation with Coumadin as well as the new anticoagulation drugs.

Target Audience:
Cardiologists, hospitalists, family and internal medicine physicians, physician assistants, nurse practitioners, and allied healthcare professionals with an interest in cardiology.

Disclaimers:
Presenters Drs. Teresa Daniele, Ryan Berg, Ralph Wessel, and Sundararajan Srikanth, Program Director Dr. John Ambrose, and Planners Renee Amavizca and Virginia Coningsby have no commercial disclosures to make. All potential conflicts of interest will be resolved prior to this event.

Accreditation:
Community Medical Centers is accredited by the Institute for Medical Quality/California Medical Association (IMQ/CMA) to provide continuing medical education for physicians. Community Medical Centers designates this live activity for a maximum of 5.0 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity. This credit may also be applied to the CMA Certification in Continuing Medical Education.

Pre-registration is required. Registration is on a first-come, first-served basis. Early registration is recommended, as seating is limited.

REGISTER ONLINE AT:
www.fresno.ucsf.edu/conferences/cardiology2015

For more information, call (559) 459-6299
CME Dinner Lecture

Treatment of Brain Aneurysms and Subarachnoid Hemorrhage

SPEAKER: Armen Choulakian, M.D.
Neurosurgeon
UCSF Neurosurgery Associates

DATE/TIME: May 19, 2015 - Tuesday
6:30 p.m. - 8:30 p.m.

ATTENDEES WILL:

1. Will know how to diagnose brain aneurysms and subarachnoid hemorrhage.

2. Will become aware of treatment options for brain aneurysms and subarachnoid hemorrhage and use that knowledge to more effectively communicate availability of these treatment options to patients, improving satisfaction, care and patient outcomes

LOCATION: Vintage Press
216 N. Willis St., Visalia, CA

CME 1.0

Dinner provided (Vegetarian options available)

TARGET AUDIENCE:
Primary Care Physicians, Family Practice Physicians, Internal Medicine, Emergency Medicine Physicians, Radiologists, Neurologists, Neurologic Surgeons, Critical Care Physicians, Physician Assistants, Nurse Practitioners, R.N.’s, and all Allied Health Professionals who work in primary care fields.

RSVP to Business Development Outreach Dept. Denise Jennings, Admin Sec. at
(559) 459-3136 E-mail: Djennings@communitymedical.org

Community Medical Centers is accredited by the Institute for Medical Quality/California Medical Association (IMQ/CMA) to provide continuing medical education for physicians.

Community Medical Centers designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This credit may also be applied to the CMA Certification in Continuing Medical Education.

Disclosures: Speaker Dr. Armen Choulakian and event planners Kimberly Goldring, Ric Morales and Louis Triana have no disclosures to make.
Perinatal M & M Presents:

“Resurgence of Congenital E-coli Sepsis”

Wednesday, May 20th, 2015 from 12:30pm – 1:30pm
**UCSF – Fresno, Room: 143 Auditorium **
155 N. Fresno Street, Fresno, CA  93701

Please Note: Lunch will be served on the UCSF Patio starting at 1200

Case Presentation
Obstetrics: Dr. Marian Pak
Neonatology: Dr. Anand Rajani

Principal Discussants
Obstetrics: Dr. Chris Downer
Neonatology: Dr. Anand Rajani

Target Audience
Any staff physician, resident physician, nurse, nurse practitioner, nurse midwife, physician assistant, or allied health professional working with the perinatal, neonatal, and/or pediatric population.

Objectives
At the end of the session, attendees will be able to:

1) Apply to practice, current clinical evidence and guidelines relating to congenital e-coli sepsis.
2) Gain insight into the potential problems related to congenital e-coli sepsis, thereby improving patient safety & outcomes.
3) Identify ethical concerns that apply to the clinical situation and anticipate barriers that may adversely impact outcomes if not addressed across a diverse population.

1 CME or CE will be offered
RSVP is not required
Lunch will be provided

Drs. M. Pak; A. Rajani; C. Downer and program Director Dr. K. Rajani; and Program Planner Bernadette Neve have no relevant commercial relationships to disclose.

This is an activity offered by Community Medical Centers, a CMA-accredited provider.
Records of attendance are based on sign-in registration and are maintained only for Community Medical Centers staff members who are credentialed as an MD, DO, CNM, NP, or PA.

Community Medical Centers is accredited by the Institute for Medical Quality/California Medical Association (IMQ/CMA) to provide continuing medical education for physicians.

Community Medical Centers designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
This credit may also be applied to the CMA Certification in Continuing Medical Education.
A Different Global Health Experience

Reflections of a Visiting Professor in Taichung, Taiwan

Featured Speaker: Dr Serena Yang MD
UCSF Building Room 116
May 29 @ 4 pm

The UCSF Fresno Global Health Curriculum represents a group of dedicated providers associated with the UCSF Fresno Medical Education Program. Our events highlight local connections to international medical projects and overseas clinical opportunities. Attendance is open to healthcare staff and clinical providers from all departments and disciplines, including physicians, nurses, therapists, and staff. For information or to join our listserve, please email rvohra@fresno.ucsf.edu
ADVANCED FETAL MONITORING:
A MULTIDISCIPLINARY APPROACH

SPEAKER:
Lisa Miller, CNM, JD – Professional Education Center

DATE:
Friday, June 12, 2015
7:30 am - 11:30 am
Breakfast will be provided

LOCATION:
H. Marcus Radin Conference Center
The Palm Room

ATTENDEES WILL:
1. Apply standardized terminology and principles of interpretation to fetal heart rate tracings to improve patient outcomes.
2. Improve the ability to identify common areas of team failure related to electronic fetal monitoring to reach better outcomes and increase patient safety.
3. Learn to describe and discuss a standardized, evidence-based approach to intrapartum fetal heart rate tracing interpretation and management to apply in practice.

TARGET AUDIENCE:
All physicians, nurses and allied health professionals.

CME: 4.0

RSVP:
Jessica Lipsius at:
(559) 324-4002
jlipsius@communitymedical.org

Community Medical Centers is accredited by the Institute for Medical Quality/California Medical Association (IMQ/CMA) to provide continuing medical education for physicians. Community Medical Centers takes responsibility for the content, quality and scientific integrity of this CME activity. Community Medical Centers designates this live activity for a maximum of 4.0 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity. This credit may also be applied to the CMA Certification in Continuing Medical Education.

Disclosures: Speaker, Lisa Miller, CNM, JD has no relevant disclosures to make. Activities Director, Lura Reddington, MD has no Commercial Disclosures to make. Planner, Jessica Lipsius has no Commercial Disclosures to make.
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<td>Surgical Grand Rounds CRMC Sequoia West</td>
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CONTINUING MEDICAL EDUCATION
MAY 2015

Community Medical Centers is accredited by the Institute for Medical Quality/California Medical Association (IMQ/CMA) to provide continuing medical education for physicians. Community Medical Centers takes responsibility for the content, quality and scientific integrity of this CME activity.

Community Medical Centers designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This credit may also be applied to the CMA Certification in Continuing Medical Education. Email: lsmith@communitymedical.org P: 559-459-1777 F: 559-459-1999
**Tuesday, May 5, 2015**
12:30-1:30 p.m.
No lecture scheduled

**Thursday, May 7, 2015**
12:30-1:30 p.m.
“Approach to the Newborn”
James Prochazka, M.D.

**Tuesday, May 12, 2015**
12:30-1:30 p.m.
“Echo for the General Pediatrician”
Kenneth Rouillard, M.D.

**Thursday, May 14, 2015**
12:30-1:30 p.m.
“EKG”
Miguel Restrepo M.D.

**Tuesday, May 19, 2015**
12:30-3:30 p.m.
“Annual Research Symposium”
Various Presenters

**Thursday, May 21, 2015**
12:30-1:30 p.m.
“Arrhythmias”
Narakesari Heragu, M.D.

**Tuesday, May 26, 2015**
12:30-1:30 p.m.
“Palpitations”
John Caton, M.D.

**Thursday, May 28, 2015**
12:30-1:30 p.m.
“Cyanotic Heart Disease”
Valeriano Simbre, M.D.
Training to prepare you for key changes in Epic

The educational modules will highlight all of these key changes, and other key enhancements within the 2014 version, and are available through Community’s online learning tool, HealthStream Learning Center (HLC). The link can be found on the Forum homepage, and some computers may also have an icon on the desktop to take you straight to the training modules. If the HLC link from the forum does not work, look for this icon.

Click the link and follow the logon process

1. Log on using your CMC Network Log on credentials (same as Epic)
2. Click on the “My Learning” tab - there will be Epic 2014 modules to complete
3. Click on the first Epic 2014 module – Epic Overview to complete – required for everyone. Once you have successfully completed the module, you will be taken back to the “My Learning” tab to complete the other modules assigned to you by specialty.

For any questions regarding logging in please contact the Help Desk – 459-6560 / ext. 56560

Epic Upgrade 2014 Physician Training –

• Chart Search – Epic 2014 now makes it possible to search a patient’s chart for any word, phrase, or test using one search field.
• Collapsible Notes and Smart links – Minimize note bloat by collapsing information that has been copied from other parts of the chart.
• Orders Not Requiring Reconciliation – Certain types of orders can now be excluded from Order Reconciliation, saving time and minimized errors.
• User Version Order Sets – With 2014, you are now able to save multiple versions of an order set, tailored to individual groups of patients.

Emergency Medicine (ASAP) – Orders Quick List – Improve ordering efficiency by rapidly placing complaint driven order panels.

Ob/Gyn (Stork) – Enhanced OB history documentation: To make documentation more consistent with the deliver summary and more user friendly

Anesthesia –

• Enhanced procedure documentation – Improved documentation of procedure performed outside of the operating room.
• Vitals at a glance – Abnormal vital signs will now be highlighted to draw attention to them, and will align better for trend comparison


This material is now available, and is required and needs to be completed by May 22, 2015. If not completed within the timeframe outlined, you will not have access to the Epic system.
<table>
<thead>
<tr>
<th>Date</th>
<th>Monday</th>
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<th>Wednesday</th>
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<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>12:30pm CRMC DOCS&lt;br&gt;CRMC Lab Conference Room</td>
<td>8:00am CCMC Emergency Medicine&lt;br&gt;CCMC Outpatient Conference Room</td>
<td>12:30pm CRMC GI Subsection&lt;br&gt;CCMC Outpatient Conference Room</td>
<td>7:00am CRMC Anesthesia Subcommittee&lt;br&gt;TCCB Surgery Conference Room</td>
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<tr>
<td></td>
<td>5:30pm CCMC Medicine/Family Medicine&lt;br&gt;CCMC Outpatient Conference Room</td>
<td>12:00pm Peds/Neo CFPRC&lt;br&gt;CRMC 4 West NICU Conference Room</td>
<td>12:30pm CCMC Medicine&lt;br&gt;CRMC Sequoia East Room</td>
<td>7:00am CRMC Facility Executive Committee&lt;br&gt;CRMC Sequoia West Room</td>
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<td>5:30pm CRMC Robotic Steering Committee&lt;br&gt;TCCB Surgery Conference Room</td>
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<td>11</td>
<td>12:30pm CRMC Ob-Gyn&lt;br&gt;CRMC Sequoia East Room</td>
<td>7:30am CRMC Family Medicine&lt;br&gt;UCSF Fresno 329</td>
<td>12:30pm CRMC Pediatrics&lt;br&gt;CRMC Sequoia West Room</td>
<td>4:45pm Quality Council&lt;br&gt;CRMC Sequoia East Room</td>
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<td>12:30pm Credentials Committee&lt;br&gt;CRMC Lab Conference Room</td>
<td>6:00pm CRMC Surgery&lt;br&gt;CRMC Sequoia West Room</td>
<td>6:00pm Medical Executive Committee&lt;br&gt;CRMC Sequoia West Room</td>
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<td>6:00pm CCMC Surgery&lt;br&gt;CCMC Outpatient Conference Room</td>
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<td>18</td>
<td>12:30pm CRMC Cardiology&lt;br&gt;CRMC Sequoia East Room&lt;br&gt;2:00pm CRMC Utilization Review&lt;br&gt;CRMC Sequoia East Room</td>
<td>9:00am Formulary Subcommittee&lt;br&gt;CRMC Sequoia West Room</td>
<td>6:00pm Well Being Committee&lt;br&gt;CRMC Sequoia East Room</td>
<td>2:00pm CRMC Quality Patient Safety&lt;br&gt;UCSF Fresno Auditorium</td>
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<td>6:00pm CCMC Multispecialty Peer Review&lt;br&gt;CCMC Outpatient Conference Room</td>
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<td>25</td>
<td>9:00am CRMC Emergency Medicine&lt;br&gt;UCSF Fresno 116</td>
<td>12:30pm CRMC EKG Review&lt;br&gt;CRMC Sequoia West Room</td>
<td>12:00pm CCMC Quality Patient Safety&lt;br&gt;MRCC Palm Room</td>
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<td>12:30pm Ethics Committee&lt;br&gt;CRMC Sequoia East Room</td>
<td>2:00pm Pharmacy &amp; Therapeutics&lt;br&gt;CRMC Sequoia West Room</td>
<td>6:00pm CCMC Facility Executive Committee&lt;br&gt;MRCC Palm Room</td>
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<td>6:00pm Well Being Committee&lt;br&gt;CRMC 10 West Conference Room</td>
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As of 4/21/15