Collecting Cancer Data: Bladder

NAACCR 2008-2009 Webinar Series

COLLECTING CANCER DATA: BLADDER

Agenda
• Introduction
• Bladder Overview
  • Quiz
• Multiple Primary Histology Rules
  • Quiz
• Break
• Collaborative Staging
  • Quiz
• Diagnostic, Staging and Treatment
  • Quiz

OVERVIEW OF THE BLADDER
Bladder Anatomy

Bladder Wall Involvement

- Mucosa = epithelium, transitional epithelium, urothelium, mucosal surface, transitional mucosa
  - No invasion of basement membrane is in situ
  - Invasion of basement membrane is invasive
- Lamina propria = submucosa, suburothelial connective tissue, subepithelial tissue, stroma, muscularis mucosa, transitional epithelium
  - Involvement is invasive
- Muscle = muscularis, muscularis propria, muscularis externa, smooth muscle
  - Involvement is invasive

Bladder Subsites

- Priority order for coding bladder subsites
  - Op report
  - Path report
  - Assign C67.9 when primary is multifocal in more than 1 bladder subsite
  - Code to bladder subsite with invasive tumor if invasive tumor in 1 subsite and in situ tumor in other subsites

Image source: SEER Training Website
Papillary vs. Flat Bladder Tumors

Types of Bladder Tumors

Regional Lymph Nodes for Bladder

Bladder
• Perivesical (A)
• Iliac, internal (hypogastric) (B)
• Obturator (C)
• Iliac, external (D)
• Sacral (E), presacral
• Pelvic, NOS (all nodes within shadowed area)

Distant Lymph Nodes
• Iliac, common (F)

Multifocal Bladder Cancer
• Field effect theory
  • Urothelium undergoes widespread change making it more sensitive to malignant transformation
• Implantation theory
  • Tumor cells lose attachments and float in the urine until they implant on another site
Bladder Cancer Histology

- Urothelial (transitional cell) carcinoma
  - May be papillary or non-papillary
  - 90% of bladder cancers in U.S.
- Squamous cell carcinoma
  - Up to 5% of bladder cancers in U.S.
- Adenocarcinoma
  - 1% to 2% of bladder cancers in U.S.

Bladder Cancer Grade

- Grade is a prognostic factor for bladder cancer
  - High grade tumors have a worse prognosis
  - Low grade noninvasive tumors in young patients have a better prognosis
- Grade may affect treatment choices
- Three-grade system may be used for bladder cancer

Bladder Cancer Grade

- Converting a grade to a code in a 3-grade system

<table>
<thead>
<tr>
<th>Term</th>
<th>Grade</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/3, 1/2</td>
<td>Low grade</td>
<td>2</td>
</tr>
<tr>
<td>2/3</td>
<td>Intermediate grade</td>
<td>3</td>
</tr>
<tr>
<td>3/3, 2/2</td>
<td>High grade</td>
<td>4</td>
</tr>
</tbody>
</table>
Diagnostic Procedures for Bladder Cancer

- Imaging
  - CT of abdomen & pelvis
  - CT Urogram
- Kidneys, ureter, bladder (KUB) x-ray
- Intravenous pyelogram (IVP)

Diagnostic Procedures for Bladder Cancer

- Cytology
- Cystoscopy with biopsy

2007 Rules

MULTIPLE PRIMARY AND HISTOLOGY
MP/H Rules

- A flat tumor is a non-papillary bladder tumor that lies flat against the bladder tissue.
- Flat tumors usually have a poor prognosis.
- Noninvasive flat TCC grows in the layer of cells closest to the inside of the bladder and appears as flat lesions on the inside surface of the bladder.

Urothelial Carcinoma

<table>
<thead>
<tr>
<th>Urothelial/Transitional Cell Tumors</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>With squamous differentiation</td>
<td>8120</td>
</tr>
<tr>
<td>With glandular differentiation</td>
<td></td>
</tr>
<tr>
<td>With trophoblastic differentiation</td>
<td></td>
</tr>
<tr>
<td>Nested</td>
<td></td>
</tr>
<tr>
<td>Micropapillary</td>
<td></td>
</tr>
<tr>
<td>Transitional cell, NOS</td>
<td></td>
</tr>
</tbody>
</table>

Urothelial Carcinoma

<table>
<thead>
<tr>
<th>Type</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papillary carcinoma</td>
<td>8130</td>
</tr>
<tr>
<td>Papillary transitional cell</td>
<td></td>
</tr>
<tr>
<td>Micropapillary</td>
<td>8131</td>
</tr>
<tr>
<td>Lymphoepithelioma-like</td>
<td>8082</td>
</tr>
<tr>
<td>Plasmacytoid</td>
<td></td>
</tr>
<tr>
<td>Sarcomatoid</td>
<td>8122</td>
</tr>
<tr>
<td>Giant cell</td>
<td>8032</td>
</tr>
<tr>
<td>Undifferentiated</td>
<td>8020</td>
</tr>
</tbody>
</table>
Multiple Primary Rules

- Rule M1
  - When it is not possible to determine if there is a single tumor or multiple tumors, opt for a single tumor and abstract as a single primary.
- Rule M2
  - A single tumor is always a single primary.

Multiple Tumors

- Rule M3
  - When no other urinary sites are involved, tumor(s) in the right renal pelvis AND tumor(s) in the left renal pelvis are multiple primaries.
- Rule M4
  - When no other urinary sites are involved, tumor(s) in both the right ureter AND tumor(s) in the left ureter are multiple primaries

Multiple Tumors

- Rule M5
  - An invasive tumor following a non-invasive or in situ tumor more than 60 days after diagnosis is a multiple primary.
Multiple Tumors
- Rule M6
  - Bladder tumors with any combination of the following histologies are a single primary:
    - Papillary carcinoma (8050)
    - Transitional cell carcinoma (8120-8124)
    - Papillary transitional cell carcinoma (8130-8131)

Pop Quiz
- A patient with a history of recurrent papillary transitional cell carcinoma originally diagnosed in 1997 now presents for a TURB and is found to have new tumor.

Pop Quiz
- According to rule M6 the new tumor would be considered the same primary if the histology was:
  - Papillary transitional cell carcinoma
  - Papillary urothelial cell carcinoma
  - Transitional cell carcinoma
  - Transitional cell carcinoma with sarcomatoid features
  - Transitional cell carcinoma with squamous differentiation
  - Squamous cell carcinoma
Multiple Tumors

- Rule M7
  - Tumors diagnosed more than three (3) years apart are multiple primaries

Multiple Tumors

- Rule M8
  - Urothelial tumors in two or more of the following sites are a single primary
    - Renal pelvis (C659)
    - Ureter (C669)
    - Bladder (C670-C679)
    - Urethra/prostatic urethra (C680)

Pop Quiz

- A patient with a history of transitional cell carcinoma of the left ureter diagnosed in 2004 now presents for TURB and is found to have a papillary transitional cell carcinoma of the bladder wall.
**Pop Quiz**
- What rule would you use to determine the number of primaries?
- What if the first tumor had been diagnosed in 2006?

**Multiple Tumors**
- Rule M9
  - Tumors with ICD-O-3 histology codes that are different at the
    - first (Xxxx)
    - second (XXXx) or
    - third (XXxX)
  Number are multiple primaries.

**Multiple Tumors**
- Rule M10
  - Tumors in sites with ICD-O-3 topography codes with
    - Different second (CXxx) and/or
    - Third characters (CxxX) are multiple primaries
Multiple Tumors

- Rule M11
  - Tumors that do not meet any of the above criteria are a single primary.

Histology

MP/H

Single Tumor

- Rule H1
  - Code the histology documented by the physician when there is no pathology/cytology specimen or the pathology/cytology report is not available.
- Rule H2
  - Code the histology from the metastatic site when there is no pathology/cytology specimen from the primary site.
Single Tumor

- Rule H3
  - Code 8120 (transitional cell/urothelial carcinoma) when there is:
    - Pure transitional cell carcinoma
    - Flat (non-papillary) transitional cell carcinoma
    - Transitional cell carcinoma with squamous differentiation
    - Transitional cell carcinoma with glandular differentiation
    - Transitional cell carcinoma with trophoblastic differentiation
    - Nested transitional cell carcinoma
    - Microcystic transitional cell carcinoma

Single Tumor

- Rule H4 Code 8130 when there is:
  - Papillary carcinoma
  - Papillary transitional cell carcinoma
  - Papillary carcinoma and transitional cell carcinoma

Single Tumor

- Rule H5
  - Code the histology when only one histologic type is identified
    - Note: Only code squamous cell carcinoma (8070) when there are no other histologies present (pure squamous cell carcinoma).
- Rule H6
  - Code the invasive histologic type when a single tumor has invasive and in situ components.
Single Tumor

- Rule H7
  - Code the most specific histologic term
  - Example:
    Carcinoma NOS and transitional cell carcinoma
    Code: transitional cell carcinoma 8120

- Rule H8
  - Code the histology with the numerically higher ICD-O-3 code.

MULTIPLE TUMORS ABSTRACTED
AS A SINGLE PRIMARY

- Rule H9
  - Code the histology documented by the physician
    when there is no pathology/cytology specimen or the
    pathology/cytology report is not available

- Rule H10
  - Code the histology from the metastatic site when
    there is no pathology/cytology specimen from the
    primary site.

Multiple Tumors

- Rule H11
  - Code 8120 (transitional cell/urothelial carcinoma) (See
    Table 1)
- Rule H12
  - Code 8130 (papillary transitional cell carcinoma) (See
    table 2)
- Rule H13
  - Code the histology when only one histologic type is
    identified
Multiple Tumors

- Rule H14
  - Code the histology of the most invasive tumor.
  - If one tumor is in situ and one is invasive, code the histology from the invasive tumor.
  - If both/all histologies are invasive, code the histology of the most invasive tumor.

Pop Quiz

- A patient is found to have two bladder tumors diagnosed at the same time.
  - The first is a transitional cell carcinoma with squamous differentiation with invasion into the lamina propria.
  - The second is a papillary transitional cell carcinoma with invasion of the muscularis propria.

Pop Quiz

- What rule would we use to determine the histology?
  - H11
  - H12
  - H13
  - H14
  - H15
**Multiple Tumors**
- Rule H15
  - Code the histology with the numerically higher ICD-O-3 code.

**Multiplicity Counter**
- Counts number of tumors (multiplicity) abstracted as a single primary.
- The number of multiple tumors in Multiplicity Counter is only updated once, at the time of the first subsequent tumor. Do not update again.

**Pop Quiz**
- A patient was originally diagnosed with invasive ptcc on 1/2/07. She was found to have a new ptcc on 4/6/07 and another on 12/4/07.
  - How many times would the registrar have to update the multiplicity counter?
COLLABORATIVE STAGING DATA ITEMS FOR BLADDER

CS Tumor Size

<table>
<thead>
<tr>
<th>CODE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>No mass found</td>
</tr>
<tr>
<td>001-988</td>
<td>Exact size in mm</td>
</tr>
<tr>
<td>989</td>
<td>989 mm or larger</td>
</tr>
<tr>
<td>990</td>
<td>Microscopic focus or foci only</td>
</tr>
<tr>
<td>991</td>
<td>Less than 1 cm</td>
</tr>
<tr>
<td>992</td>
<td>Less than 2 cm OR greater than 1 cm OR between 1 cm and 2 cm</td>
</tr>
<tr>
<td>993</td>
<td>Less than 3 cm OR greater than 2 cm OR between 2 cm and 3 cm</td>
</tr>
<tr>
<td>994</td>
<td>Less than 4 cm OR greater than 3 cm OR between 3 cm and 4 cm</td>
</tr>
<tr>
<td>995</td>
<td>Less than 5 cm OR greater than 4 cm OR between 4 cm and 5 cm</td>
</tr>
<tr>
<td>999</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

Example

Urothelial carcinoma in 4 bladder tumors, 1.3 cm, 2.5 cm, 0.8 cm, and 2.1 cm in size

CS tumor size = 025
CS Extension Bladder Notes

1. Distinguishing noninvasive and invasive bladder cancer
2. Definite statements of non-invasion for papillary transitional cell carcinoma (extension code 01)
3. Inferred descriptions of non-invasion for papillary transitional cell carcinoma (extension code 03)
4. Terms lamina propria and submucosa are used interchangeably

CS Extension Bladder Notes

5. Definitions for invasion of mucosa grade 1 or grade 2 vary by pathologist
6. Extension Behavior
   01-06 2
   10 2 or 3
   15 or greater 3

CS Extension Bladder Notes

7. Statements meaning confined to mucosa, NOS (code 10)
   a. Confined to mucosal surface
   b. Limited to mucosa, no invasion of submucosa and muscularis
   c. No infiltration/invasion of fibromuscular and muscular stroma
   d. Superficial, NOS
CS Extension Bladder Notes

8. Extension 01 or 03 Description Confined to mucosa AND papillary

10 Confined to mucosa

9. Extension 40 Description Periureteral – portion of ureter intramural to bladder

60 All other periureteral involvement

CS extension code derives Ta or Tis

CS Extension Bladder

- Code 01
  - Papillary transitional cell carcinoma stated to be noninvasive
  - Derived Ta

- Code 03
  - Papillary transitional cell carcinoma with inferred description of non-invasion
  - Derived Ta
**CS Extension Bladder**

- **Code 06**
  - Sessile carcinoma in situ
  - Derived Tis

- **Code 10**
  - Confined to mucosa, NOS
  - Derived Tis

**CS Extension Bladder**

- **Code 15**
  - Invasive tumor confined to subepithelial connective tissue
  - Extension into Von Brunn's nest (within lamina propria)
  - Derived T1

- **Code 30**
  - Localized, NOS
  - Derived T1

**CS Extension Bladder**

- **Code 20**
  - Muscle invaded, NOS
  - Derived T2NOS

- **Code 21**
  - Muscle invaded: superficial muscle, inner half
  - Derived T2a

- **Code 22**
  - Muscle invaded: deep muscle, outer half
  - Derived T2b
**CS Extension Bladder**

- Code 23
  - Extension through full thickness of bladder wall
  - Derived T3a
- Code 40
  - Adventitia; extension to/through serosa; peritoneum; periureteral fat/tissue; perivesical fat/tissue, NOS
  - Derived T3NOS
- Code 41
  - Extension to perivesical fat (microscopic)
  - Derived T3a
- Code 42
  - Extension to perivesical fat (macroscopic); extravesical mass
  - Derived T3b

**CS Extension Bladder**

- Code 45
  - Stated as T4, NOS
  - Derived T4NOS
- Code 60
  - Prostate; ureter; urethra, including prostatic urethra
  - Derived T4a

**CS Extension Bladder**

- Code 65
  - Parametrium; rectovesical/Deonvilliers' fascia; Vas deferens, seminal vesicle
  - Derived T4a
- Code 67
  - Uterus; vagina
  - Derived T4a
### CS Extension Bladder

- **Code 70**
  - Bladder is FIXED
    - Derived T4b
- **Code 75**
  - Abdominal wall; pelvic wall
    - Derived T4b
- **Code 80**
  - Further contiguous extension including: pubic bone; rectum, male; sigmoid
    - Derived T4b

### CS Extension Bladder

- **Code 95**
  - No evidence of primary tumor
    - Derived T0
- **Code 99**
  - Unknown extension; primary tumor cannot be assessed; not documented in patient record
    - Derived Tx

### CS Tumor Size/Ext Eval

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Clinical only</td>
</tr>
<tr>
<td>1</td>
<td>Invasive techniques</td>
</tr>
<tr>
<td>2</td>
<td>Autopsy (known or suspected dx)</td>
</tr>
<tr>
<td>3</td>
<td>Pathology</td>
</tr>
<tr>
<td>5</td>
<td>Pre-op tx; clinical eval</td>
</tr>
<tr>
<td>6</td>
<td>Pre-op tx; pathologic eval</td>
</tr>
<tr>
<td>8</td>
<td>Autopsy (tumor unsuspected)</td>
</tr>
<tr>
<td>9</td>
<td>Unknown</td>
</tr>
</tbody>
</table>
**CS Lymph Nodes Bladder**

Regional Lymph Nodes
- Perivesical (A)
- Iliac, internal (hypogastric) (B)
- Obturator (C)
- Iliac, external (D)
- Sacral (E), presacral
- Pelvic, NOS (all nodes within shadowed area)

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**CS Lymph Nodes Bladder**

- Code 00: derived N0
  - No regional node involvement
- Code 10: derived N1
  - Single regional lymph node less than or equal to 2 cm
- Code 20: derived N2
  - Single regional lymph node greater than 2 cm and less than or equal to 5 cm
  - Multiple regional nodes, none greater than 5 cm
- Code 30: derived N3
  - Regional lymph node(s), at least one greater than 5 cm

---

**CS Lymph Nodes Bladder**

- Code 50: derived N1
  - Regional nodes, NOS (size and/or number not stated)
- Code 80: derived N1
  - Lymph nodes, NOS
- Code 99: derived Nx
  - Unknown
**CS Mets at DX Bladder**

- Code 00
  - No; none
- Code 10
  - Distant lymph nodes: common iliac
- Code 11
  - Distant lymph nodes, NOS; Specified distant lymph nodes other than code 10
- Code 40
  - Distant metastases except distant lymph nodes
- Code 50
  - (40) • any of [(10) or (11)]
- Code 99
  - Unknown

---

**CS Mets at DX Bladder**

Code 10: Distant lymph nodes – common iliac

---

**Pop Quiz**

- Path report for bladder cancer patient stated: grade III/IV invasive transitional cell carcinoma; no smooth muscle invasion. The physician documented Ta on staging form. What is the code for CS extension?
Pop Quiz

- Patient is diagnosed with poorly differentiated urothelial carcinoma with focal extension into the fat surrounding the ureteral orifice. What is the code for CS extension?
  - Code 40: Periureteral fat/tissue
  - Code 60: Ureter

BLADDER CANCER TREATMENT AND HOW TO CODE IT

Surgery

FORDS
Appendix B
Page 286
**Surgical Procedure of Primary Site: Bladder**

- Code 00: None
  - Record 'random bladder biopsies' as no surgery
- Code 10: Local tumor destruction, NOS
  - Code 11: Photodynamic therapy (PDT)
  - Code 12: Electrocautery; fulguration
  - Code 13: Cryosurgery
  - Code 14: Laser

**Codes 10-16:** no specimen sent to pathology

---

**Surgical Procedure of Primary Site: Bladder**

- Code 10: Local tumor destruction, NOS
  - Code 15: Intravesical therapy
    - Record instillation of chemotherapy into the bladder in surgical procedure of primary site and the chemotherapy data items
  - Code 16: Bacillus Calmette-Guerin (BCG) or other immunotherapy
    - Record instillation of BCG or other immunotherapy into the bladder in surgical procedure of primary site and immunotherapy data items

**Codes 10-16:** no specimen sent to pathology

---

**Surgical Procedure of Primary Site: Bladder**

- Code 20: Local tumor excision, NOS
  - Code 26: Polypectomy
  - Code 27: Excisional biopsy
    - Includes TURB or TURBT

Specimen sent to path from events 20-27
Surgical Procedure of Primary Site: Bladder

Combination of 20 or 26-27 WITH
- Code 21: Photodynamic therapy (PDT)
- Code 22: Electrocautery
- Record TURB and fulguration using this code
- Code 23: Cryosurgery
- Code 24: Laser Ablation
- Code 25: Laser excision

Specimen sent to path from events 20-27

Surgical Procedure of Primary Site: Bladder

- Code 30: Partial cystectomy
  - Record segmental cystectomy using this code
- Code 50: Simple/total/complete cystectomy

Surgical Procedure of Primary Site: Bladder

- Code 60: Radical cystectomy (male only)
  - Includes removal of bladder, prostate, seminal vesicles, lower ureters
  - Record removal of lymph nodes in Scope of Regional Lymph Node Surgery Data Item
- Code 61: Radical cystectomy PLUS ileal conduit
- Code 62: Radical cystectomy PLUS continent reservoir or pouch, NOS
Surgical Procedure of Primary Site: Bladder

- Code 63: Radical cystectomy PLUS abdominal pouch (cutaneous)
  - Indiana pouch; Mainz pouch
- Code 64: Radical cystectomy PLUS in situ pouch (orthotopic)
  - Studer neobladder; Kock neobladder

Surgical Procedure of Primary Site: Bladder

- Code 70: Pelvic exenteration, NOS
  - Code 71: Radical cystectomy (female only); anterior exenteration
  - Code 72: Posterior exenteration
  - Code 73: Total exenteration
  - Record removal of pelvic lymph nodes in Scope of Regional Lymph Node Surgery data item
- Code 74: Extended exenteration

Surgical Procedure of Primary Site: Bladder

- Code 80: Cystectomy, NOS
- Code 90: Surgery, NOS
- Code 99: Unknown
Pop Quiz

- A bladder cancer patient was treated with TURB and BCG as 1st course treatment. What is the code for the data item, surgical procedure of primary site? Is the treatment coded in the immunotherapy data item?

Radiation

- Regional treatment modality
  - External beam (EBRT)
    - Codes 20-32 (based on specific modality of EBRT)
  - Treatment option for Stage IV bladder cancer
  - Radiosensitizing chemotherapy
    - Cisplatin alone or in combination with 5-fu
    - Mitomycin-C in combination with 5-fu
  - Interstitial implantation of radioisotopes
    - Code 50: Brachytherapy, NOS
  - Treatment option for Stage I bladder cancer

Radiation Therapy for Bladder Cancer

- Regional treatment modality
  - External beam (EBRT)
    - Codes 20-32 (based on specific modality of EBRT)
  - Treatment option for Stage IV bladder cancer
  - Radiosensitizing chemotherapy
    - Cisplatin alone or in combination with 5-fu
    - Mitomycin-C in combination with 5-fu
  - Interstitial implantation of radioisotopes
    - Code 50: Brachytherapy, NOS
  - Treatment option for Stage I bladder cancer
Radiation Therapy for Bladder Cancer

- Determine if one modality is regional and one is boost when bladder cancer patient receives both EBRT and interstitial implant as 1st course treatment
- Interstitial implantation of radioisotopes before or after EBRT for stage II bladder cancer
- EBRT with interstitial implantation of radioisotopes for stage III bladder cancer
- Record the dominant modality if both are regional treatment

Chemotherapy

Intravesical Chemotherapy

- Urinary catheter is used to place anticancer drugs directly into the bladder
- Medications reach cancer cells near the bladder lining
  - Typically used for Tₐ or Tₛ tumors
  - Mitomycin-C and thiotepa are drugs used most often for this procedure
- Often administered immediately after TURB, but in some cases may be administered 3-4 weeks after TURB
Chemotherapy
- Code 02: Single-agent chemotherapy
  - Intravesical mitomycin-C OR intravesical thiotepa
  - Record as chemotherapy and surgical procedure of primary site
  - Systemic cisplatin

Chemotherapy
- Code 03: Multi-agent chemotherapy
  - Systemic
    - GemCIS
      - Gemcitabine and cisplatin
    - M-VAC
      - Cisplatin, methotrexate, vinplastine, doxorubicin
    - MCV
      - Cisplatin, vinplastine, methotrexate

Treatment Options with Adjuvant Chemotherapy
- Stage 0 and I
  - TURB with fulguration followed by intravesical chemotherapy
- Stage II and III
  - Neoadjuvant platinum-based combination chemotherapy followed by radical cystectomy
  - EBRT with concurrent chemotherapy
- Stage IV
  - Chemotherapy as an adjunct to local treatment
**Immunotherapy**

- Intravesical BCG or other immunotherapy (e.g., interferon alpha or gamma)
  - Often follows TURB with fulguration
  - Standard treatment option for stages 0 and I bladder cancer
  - Code in both immunotherapy data item (code 01) and surgical procedure of primary site data item

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**Thank you for participating in today's webinar!**

- The next webinar is scheduled for 11/6/08, and the topic is 'Coding Pitfalls'.
- If you have something you'd like included, please forward to us.
- Forward questions from today's webinar to us. Per request of CoC, we will forward questions to them.
- Contact us at
  - Shannon Vann – svann@naaccr.org; 217-698-0800 X9
  - Jim Hofferkamp – jhofferkamp@naaccr.org; 217-698-0800 X5