Models of Inpatient Consultative Dermatology

Daniela Kroshinsky, M.D. M.P.H.
Associate Professor of Dermatology
Director of Inpatient Dermatology
Director of Pediatric Dermatology
October 8, 2016
I have no relevant financial disclosures
Overview

• Inpatient and Hospitalist Dermatology

• Consult survey data

• Current and future directions
Inpatient Care

• Shift to managed care, loss of dedicated specialty units

• Increased acuity of admissions, hospitalizations and complications
Inpatient Care

• 2008 workforce data: fewer than half of all practicing US dermatologists see patients in the hospital setting
  – 14% spend more than one hour per week

• Barriers to dermatologist care in the inpatient setting:
  – Lack of proximity to a hospital or availability during the workday
  – Difficulty obtaining informative consultation requests
  – Lack of or difficulty with hospital credentialing
  – Concern about sustainability once care is provided for a particular institution in the absence of additional dermatologist support to cover “call”

Models of Inpatient Dermatology

- Structure
- Payment
Structure

- Time
- Number of faculty
- Continuity
- Association with call
Structure

• Call/consult overlap vs unassociated

• Split among faculty as departmental obligation vs self-identified volunteers

• Hospitalist model (single provider vs small group)
Structure

• Split by day (M/W/F), week, month

• Full-time availability

• Part-time availability

• Early end to clinic

• Resident run, remote staffing or tele-staffing
Payment

• Self-funded ("fee-for-service")
  – Based on billing +/- teaching stipend

• Salaried
  – Departmental, other departmental, hospital funding

• Combination
Coverage

• 81.5% inpatient coverage is not associated with overnight/weekend call
  – Majority cover 8am-5pm, 7am-4pm

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>44%</td>
<td>41-52 weeks</td>
</tr>
<tr>
<td>26%</td>
<td>21-30 weeks</td>
</tr>
<tr>
<td>15%</td>
<td>11-20 weeks</td>
</tr>
<tr>
<td>11%</td>
<td>1-10 weeks</td>
</tr>
<tr>
<td>4%</td>
<td>31-40 weeks</td>
</tr>
</tbody>
</table>
**MGH Inpatient Data**

![Bar chart showing the number of new consults, follow-ups, biopsies, and ED visits from 2006 to 2016.]

- **Mean new:** 886 (77% incr)
- **Mean follow-up:** 366 (480% incr)
Teaching & Training

- Continuity of care
- Evaluation of disease course
- Monitoring response to therapies, side effects
- Continuity of expectations
- Increased ability to evaluate and provide feedback, assessment of ACGME competencies/milestones
Teaching & Training

• Biopsy planning and site selection: location, size, depth, technique

• Biopsy review sessions
  • Integration of clinical scenarios for dermatopathology fellows

• Survey data:
  – 40% supervise all procedures
  – 52% supervise some procedures
  – 8% do not supervise procedures
Teaching & Training

• Resident graduated responsibility
  – Teaching of medical students, medicine & pediatric residents, dermatopathology fellows
  – Departmental end of rotation CPCs
  – Exposure and experience

• Medicine and Pediatric Departments: clinical exposure, specialty exposure
  – Departmental curriculum, specific case review sessions
Inpatient Education

• Dermatologic training often “absent or inadequate” in the curriculum of medical students, internal medicine residents – 1/3 of internal medicine residents surveyed felt insufficiently trained in diagnosis and management of bacterial and fungal skin infections

• Dermatology hospitalists available to perform dermatologic teaching at the bedside or through hospital lectures

• Improved diagnostic accuracy by the primary teams from exposure to regular dermatology teaching

Inpatient Curriculum

• Standardized learning topics

• Key articles

• Live interactive case-based modules
Association of Dermatology Consultation With Accuracy of Cutaneous Disorder Diagnoses in Hospitalized Patients

A Multicenter Analysis

Daniela Kroshinsky, MD, MPH¹; Jonathan Cotlier, MD²; Lauren C. Hughey, MD³; Kanade Shinkai, MD, PhD⁴; Lindy P. Fox, MD⁴

[+] Author Affiliations

JAMA Dermatol. Published online January 13, 2016. doi:10.1001/jamadermatol.2015.5098
Association of dermatology consultation with accuracy of cutaneous disorder diagnoses in hospitalized patients: a multicenter analysis

- 23% of patients admitted for skin issue
- 39% acute issue (<7 days), 20% 7-30 days
- 71% misdiagnosis rate (as high as 78% prior)
- 70% managed with 0-1 follow-up visits

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug rash, drug hypersensitivity syndromes, acute generalized exanthematos pustulosis</td>
<td>292 (17.6)</td>
</tr>
<tr>
<td>Psoriasis, eczema, lichen simplex chronicus, seborrheic dermatitis, pityriasis rubra pilaris, keratosis pilaris</td>
<td>170 (10.2)</td>
</tr>
<tr>
<td>Benign neoplasm of the skin</td>
<td>168 (10.1)</td>
</tr>
<tr>
<td>Herpes simplex virus, varicella virus, viral exanthema, verruca</td>
<td>114 (6.9)</td>
</tr>
<tr>
<td>Vasculitis, vasculopathy</td>
<td>97 (5.8)</td>
</tr>
<tr>
<td>Superficial or deep fungal infection</td>
<td>76 (4.6)</td>
</tr>
<tr>
<td>Stasis dermatitis, lymphedema, edema bullae</td>
<td>70 (4.2)</td>
</tr>
<tr>
<td>Contact dermatitis</td>
<td>66 (4.0)</td>
</tr>
<tr>
<td>Cellulitis, abscess</td>
<td>60 (3.6)</td>
</tr>
<tr>
<td>Skin cancer/precancer</td>
<td>54 (3.3)</td>
</tr>
<tr>
<td>Bacterial folliculitis, impetigo</td>
<td>52 (3.1)</td>
</tr>
<tr>
<td>Skin ulcer, pressure necrosis</td>
<td>43 (2.6)</td>
</tr>
<tr>
<td>Connective tissue disease</td>
<td>41 (2.5)</td>
</tr>
<tr>
<td>Autoimmune blistering disorder</td>
<td>35 (2.1)</td>
</tr>
<tr>
<td>Vascular lesion</td>
<td>30 (1.8)</td>
</tr>
<tr>
<td>Pruritus, trauma, burn</td>
<td>30 (1.8)</td>
</tr>
<tr>
<td>Neutrophilic diagnosis</td>
<td>21 (1.3)</td>
</tr>
<tr>
<td>Stevens-Johnson syndrome</td>
<td>20 (1.2)</td>
</tr>
<tr>
<td>Urticaria, angioedema, flushing, hypersensitivity reaction</td>
<td>20 (1.2)</td>
</tr>
</tbody>
</table>

- 210/635 referrals for lower limb cellulitis (33%) had other diagnoses which did not require admission.

- 96% true cellulitis pts managed entirely as outpatients, many at home.

- 28% patients with cellulitis had an underlying skin disease identified and treated → reduced the risk of recurrent cellulitis, leg ulceration and lymphedema.

- 18/635 patients referred with lower limb cellulitis required hospital admission for conventional treatment (3%).
Cellulitis at MGH: #15 Admission, #1 Readmission
Hospitalist Movement

• NEJM 1996: hospital-based medicine specialists


• Over 30,000 in 70% of US hospitals
  • Up from 20,000 in 2006


• Internal Medicine, Pediatrics, Neurology, Surgery, Obstetrics, Psychiatry
Proposed Advantages

• Improved ED coverage, logistical efficiency

• Improved hospital-specific medical education

• Reduced length of hospitalization, improved patient outcomes, collaborative relationships
Proposed Advantages

• Not primary revenue generators- decrease hospital costs by reducing length of stay

• Allows department’s office-based members to concentrate on providing uninterrupted outpatient services/ perform procedures

• Experience in acute care, ability to navigate inpatient resources and identify/ implement quality measures
Society of Dermatology Hospitalists

“Delivering the highest standard of care for hospitalized patients with skin disease by promoting clinical expertise, fostering research, and furthering education”

• 5 members 2007, 90 members 2016
Society for Dermatology Hospitalists Expert Resource Group Digest for Wednesday October 5, 2016

American Academy of Dermatology
Thursday, October 6, 2016 at 2:23 AM
To: Krohinsky, Daniela M.D., M.P.H.
Specialty Hospitalists
Analyzing an Emerging Phenomenon

JAMA April 25, 2012–Vol 207, No. 16

Increases in the New Hospital-Focused Specialty Practice Models

As with generalist hospitalists in the 1990s, no single organization is overseeing the expansion of these new hospital-based specialties. Rather, it is being driven by local needs and stakeholder decisions. An organization for obstetrician-gynecologist hospitalists, the Society of OBGYN Hospitalists lists 150 practices with an estimate of 693 practicing obstetrician-gynecologist hospitalists (“laborists”). In one published survey, 15% of practicing obstetricians described themselves as obstetrician-gynecologist hospitalists. Two The Neurohospitalist, the journal of the neurohospitalist society, began publication in 2011. Delphi Health Partners, a physician staffing company, reports that it employs more than 100 orthopedic hospitalists. There is even a Society for Dermatology Hospitalists.
SDH Research

• Zoster
• SJS/TEN
• DRESS
• Pyoderma Gangrenosum
• Calciphylaxis
• Inpatient education
Case 2-2016 — An 84-Year-Old Woman with Chest Pain, Dyspnea, and a Rash

Ellen K. Roh, M.D., Mohammed Ali, M.D., Michael T. Lu, M.D., and Scott H. Bradshaw, M.D.

Figure. Number of dermatology cases and dermatologists featured as discussants in the Case Records of the MGH by year. * indicates the closing of the inpatient dermatology unit at MGH. ‡ indicates the establishment of a dedicated inpatient consultative dermatology service at MGH.
Conclusions

• Niche of acute, severe, recalcitrant disease

• Availability and continuity

• Familiarity with novel and complex therapeutics

• Education and research

• Specialty visibility, interdisciplinary relationships