The Features of Primary Care: First Contact, Person-focused over Time, Comprehensiveness, and Coordination

Barbara Starfield, MD, MPH

Primary Care Course
(Based on Cape Town, South Africa, 2007; and Barcelona, Spain, 2009)
Primary care is characterized by four essential functions. This presentation summarizes evidence for the utility of each of these functions.
First Contact
The Health Services System

The Health Services System: First Contact Components

- **CAPACITY**
  - Provision of care

- **PERFORMANCE**
  - Receipt of care

- **HEALTH STATUS**
  - (outcome)

Accessibility is a structural feature of services that makes it possible for people to reach care in time and place.

Access is the ability of people to reach services when and where they need them.

Use of services is the actual reaching of services. It should distinguish both the place and the type of services reached.

Benefits of First Contact Care

- Lower costs
- More efficient use of specialists
- Better outcomes of care for primary care problems
First contact care (in primary care) is associated with lower costs and better outcomes.

First Contact Care and Health Spending

Adapted by CTLT from Forrest & Starfield, J Fam Pract 1996; 43:40-8.
Starfield 08/02, FC 5922 n.
Family Physicians, General Internists, and Pediatricians

A nationally representative study showed that adults and children with a family physician (rather than a general internist, pediatrician, or sub-specialist) as their regular source of care had lower annual cost of care, made fewer visits, had 25% fewer prescriptions, and reported less difficulty in accessing care, even after controlling for case-mix, demographic characteristics (age, gender, income, race, region, and self-reported health status). Half of the excess is in hospital and ER spending; one-fifth is in physician payments; and one-third is for medications.

Health Care Expenditures and Mortality 5 Year Followup: United States, 1987-92

- Adults (age 25 and older) with a primary care physician rather than a specialist as their personal physician
  - had 33% lower cost of care
  - were 19% less likely to die (after controlling for age, gender, income, insurance, smoking, perceived health (SF-36) and 11 major health conditions)

Children who were referred to an otolaryngologist for possible T & A – rather than going directly there – are more likely to have

- Appropriate indicators for T & A
- Better outcomes at one year

Scores for Average Total Primary Care, Primary Care (Clinical), Primary Health Care (Systems), and First Contact

<table>
<thead>
<tr>
<th></th>
<th>Average total primary care</th>
<th>Primary care (clinical)</th>
<th>Primary health care (systems)</th>
<th>First Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE, FR, GE, US</td>
<td>0.4</td>
<td>0.1</td>
<td>0.6</td>
<td>0.3</td>
</tr>
<tr>
<td>AU, CA, JP, SW</td>
<td>1.0</td>
<td>0.9</td>
<td>1.1</td>
<td>1.3</td>
</tr>
<tr>
<td>DE, FI, NE, SP, UK</td>
<td>1.6</td>
<td>1.5</td>
<td>1.7</td>
<td>1.8</td>
</tr>
</tbody>
</table>
Continuity
Definitions of Continuity That Are Amenable to Measurement

- Having the same provider
- Stability of patient-caregiver relationships
- Strong interpersonal relationships
- Educating the patient; communicating the patient’s needs
- Common management strategy/plan
Definitions of Continuity NOT Amenable to Measurement

- Orderly, uninterrupted movement of patients
- Team approach
- Even flow of care
- Care that is regularly handed off
- Improving communication methods
- Too many practitioners (as few providers as possible)
- Trust (??)
Continuity = Uninterrupted Succession
“Uninterrupted Succession”

Bridging discrete events

Events are part of time.
The Essence of Continuity Is Information Flow

- Between events (management)
- Over time (relational)

Continuity: Issues

Disease versus person focus

Episode of care versus continuum of care (duration)
Do we need a different term for each?

1. For measurement purposes

2. For assignment of responsibility
The common unifying theme between person-focused and disease-focused continuity is the structural features of

INFORMATION TRANSFER

The behavioral feature differs in

• use of services: consistency of place over time (person-focus)
• recognition of information across visits (illness-focus)
Measurement of “Continuity”: Information Transfer

Mechanisms of information transfer:
- By person
- By records
- By computers
- By patients

Recognition of information
Measurement of “Continuity”*:
Management

Same provider (SECON index)
Care coordinator (? primary care)
Common problem lists

*? Coordination
Measurement of “Continuity”*: Relational

Affiliation: PCAT measure of extent of relationship

Provider-patient relationship: PCAT measure of interpersonal relationships

Duration

Consistency: UPC, COC

*? Longitudinality
Conclusion

There are two types of “continuity”:

- Relational (person-focused), longitudinal
- Management (disease-focused), coordinating

The common underlying theme is information transfer.

Primary care requires relational continuity, i.e., longitudinality. Both primary care and specialty care require management continuity, i.e., coordination.
Longitudinality
IOM Formulation:

“Sustained partnership in which the patient is treated as a whole person whose values and performance are taken into account”
The Health Services System: Longitudinality

CAPACITY

PERFORMANCE

HEALTH STATUS (Outcome)

Provision of care

Receipt of care

Eligible population

People/practitioner interface

Utilization

Benefits of Longitudinality (Person-centered over Time), Based on Evidence from the Literature

<table>
<thead>
<tr>
<th>Identification with a Person</th>
<th>Identification with a Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better problem/needs recognition</td>
<td>++</td>
</tr>
<tr>
<td>More accurate/earlier diagnosis</td>
<td>++</td>
</tr>
<tr>
<td>Better concordance</td>
<td>++</td>
</tr>
<tr>
<td>Appointment keeping</td>
<td>++</td>
</tr>
<tr>
<td>Treatment advice</td>
<td>++</td>
</tr>
<tr>
<td>Less ER use</td>
<td>++</td>
</tr>
<tr>
<td>Fewer hospitalizations</td>
<td>++</td>
</tr>
<tr>
<td>Lower costs</td>
<td>++</td>
</tr>
<tr>
<td>Better overall prevention</td>
<td>++</td>
</tr>
<tr>
<td>Better monitoring</td>
<td>+</td>
</tr>
<tr>
<td>Fewer drug prescriptions</td>
<td>+</td>
</tr>
<tr>
<td>Less unmet needs</td>
<td>++</td>
</tr>
<tr>
<td>Increased satisfaction</td>
<td>++</td>
</tr>
</tbody>
</table>

++Evidence good
*Evidence moderate

In British Columbia, every additional 1% increase in continuity of care is associated with a saving of about $81 per year per person with diabetes. A 5% increase would save about 85 million dollars in the care of people with high burdens of morbidity with their diabetes or congestive heart failure. The benefit of continuity of primary care is especially great for people with complex morbidity patterns.

Having a general internist as the PCP is associated with more different specialists seen. Controlling for differences in the degree of morbidity, receiving care from multiple specialists is associated with higher costs, more procedures, and more medications, independent of the number of visits and age of the patient.

Benefits of Longitudinality: Identification with a Place

• Better preventive care
• Better appointment-keeping
• Fewer and shorter hospitalizations
• Less preventable illness/better birth weight
• Lower cost of care

Benefits of Longitudinality: Identification with a Person

- Better concordance
- Better problem/needs recognition
- More accurate diagnoses
- Fewer hospitalizations
- Lower costs
- Better overall prevention
- (Increased satisfaction)

Note: Durations of at least 3 years are required to achieve benefits.

Likely Mechanisms of Benefit from Longitudinality: Person

• Focused on patients, not diseases
• Better knowledge of patient, therefore better appreciation/recognition of problems
  – more efficient care
  – less inappropriate diagnostic testing
  – more appropriate interventions
  – better concordance
  – better preventive care (some types)
• Better agreement between patient and practitioner on the nature of the problem
  – better outcomes

Likely Mechanisms of Benefit from Longitudinality: Place

- Greater likelihood of seeing same practitioner
- Better information due to common records
  - better knowledge about preventive care needs

Likely Mechanisms of Benefit from Longitudinality: Person Versus Place

- Place is better than no place.
- Particular practitioner is better than place for certain key aspects of care.

Average Scores for Primary Care, Characteristics Related to Primary Care, and Longitudinality, 11 Western Industrialized Nations, Early 1990s
Scores for Average Total Primary Care, Primary Care (Clinical), Primary Health Care (Systems), and Longitudinality

<table>
<thead>
<tr>
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<th>Average total primary care</th>
<th>Primary care (clinical)</th>
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<tr>
<td>BE, FR, GE, US</td>
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Recognizing Patients’ Problems
Patient-Centeredness - Definitions

- American College of Physicians: “… provides continuous access to a personal primary or principal care physician who accepts responsibility for treating and managing care for the whole patient through an advanced medical home”.

- Goodman 2006 (Health Affairs symposium on consumer-directed care): opportunity for patients to make choices and manage their health care dollars

- Institute of Medicine (2001): “… health care that establishes a partnership … to ensure that decisions respect patients’ wants, needs, and preferences.”

- International Association of Patients Organizations: “… is designed and delivered to address the healthcare-needs and preferences of patients so that healthcare is appropriate and cost-effective”.

Ill health is not the same as disease. It is the purpose of health systems to deal with ill health, not only with disease. In contrast, building the evidence-base for quality of care is disease-oriented.
Neither providing access or opportunities for care nor respecting patients’ wants, needs, and preferences is the same as recognizing patients’ needs or problems. It is not possible to respect patients’ needs if one does not know what they are.

No quality assessment/assurance/payment for performance system includes recognition of patients’ needs as a criterion for adequate care.

The few studies that have addressed recognition of patients’ problems as an appropriate subject of inquiry have shown that when patients and practitioners agree on what the patient’s problem is, both the patient and the practitioner are more likely to subsequently judge the patient problem as improved.

Patient-Centeredness

• “… is designed and delivered to address the healthcare needs and preferences of patients so that healthcare is appropriate and cost-effective”¹

• is responsiveness to patients’ needs in the context of the whole person rather than with regard to interventions for specific diseases. Rather than blind faith, trust in one’s physician(s) is manifested by comfort in asking questions and challenging when there is lack of understanding or agreement.

Where does patient-centeredness (relationship-based care over time; “longitudinality”) fit with regard to important structures and processes of health services?
The several studies that have addressed the subject of recognition of patients’ problems of a wide variety of types are consistent in showing that it is associated with a greater likelihood of improvement on follow-up, whether judged by the patient or the practitioner.

The most salient correlate of poor symptom alleviation, after compromised satisfaction with the visit, is unmet expectations for the visit.

The underlying characteristic of “agreement” is the forging of common ground, which requires the patient and practitioner to mutually define the problem; establish the goals of treatment/management; and identify the roles to be assumed by each. When patients perceive the relationship to be patient-oriented, outcomes are better, and there are fewer referrals and laboratory tests.

Improving patient focus in primary care would be enhanced by attention to:

- Use of a coding system (e.g., ICPC) for patients’ problems
- Clinical guidelines that include responsiveness to patients’ problems
- Understanding the relationship between achievement of disease-oriented guidelines and improvement in patients’ health, using generic measures
- Complement process-oriented clinical guidelines with degree of overall improvement in patients’ symptoms
- Use of multimorbidity measures in records and data systems
Patient-centeredness (or patient-orientation) is an essential hallmark of primary care.

Along with comprehensiveness and coordination of care, it distinguishes primary care from all other types of care delivered in health systems.
Comprehensiveness
The Health Services System: Comprehensiveness

Comprehensiveness is a critical feature of primary care because it is responsible for avoiding referrals for common needs in the population and hence for saving unnecessary expenditures.

Comprehensiveness is measured by the availability in primary care of a wide range of services to meet common needs, and by demonstrating that care is, indeed, provided for a broad range of problems and needs.
Scores for Average Total Primary Care, Primary Care (Clinical), Primary Health Care (Systems), and Comprehensiveness

<table>
<thead>
<tr>
<th></th>
<th>Average total primary care</th>
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<th>Primary health care (systems)</th>
<th>Comprehensiveness</th>
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<td>1.7</td>
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</tr>
</tbody>
</table>
Criteria for Comprehensiveness

In US studies: universal provision of extensive and uniform benefits for children, the elderly, women, and other adults; routine OB care; mental health needs addressed; minor surgery; generic preventive care

In European studies: treatment and follow-up of diseases (e.g., hypothyroidism, acute CVA, ulcerative colitis, work-related stress, n=17); technical procedures (e.g., wart removal, IUD insertion; removal of corneal rusty spot; joint injections); taking cervical smears; group health education; family planning and contraception

Assessment of Comprehensiveness

- Assess the range of services available in primary care: diagnosis and management of all common problems in the population, mental health problems, minor surgery, indicated screening for disease, common minor procedures, common follow-up needs. (Normative measure)
- Determine the cumulative percentage contributed by visits for the most common problems. The higher the percentage, the greater the breadth of services provided. (Empirical measure)

## Breadth of Family Medicine

<table>
<thead>
<tr>
<th>Specialty</th>
<th># of presenting problems accounting for 50% of all visits</th>
<th>Percentage of all visits accounted for by the 50 most frequent presenting problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family/GP</td>
<td>26</td>
<td>64</td>
</tr>
<tr>
<td>Internal med</td>
<td>22</td>
<td>67</td>
</tr>
<tr>
<td>Peds</td>
<td>7</td>
<td>85</td>
</tr>
<tr>
<td>Cardiology</td>
<td>9</td>
<td>88</td>
</tr>
<tr>
<td>Derm</td>
<td>6</td>
<td>94</td>
</tr>
<tr>
<td>General surg</td>
<td>18</td>
<td>72</td>
</tr>
<tr>
<td>OB/gyn</td>
<td>3</td>
<td>90</td>
</tr>
<tr>
<td>Optho</td>
<td>5</td>
<td>97</td>
</tr>
<tr>
<td>Ortho</td>
<td>11</td>
<td>87</td>
</tr>
<tr>
<td>Urology</td>
<td>11</td>
<td>91</td>
</tr>
<tr>
<td>Psych</td>
<td>2</td>
<td>98</td>
</tr>
<tr>
<td>Neuro</td>
<td>9</td>
<td>88</td>
</tr>
</tbody>
</table>

Higher comprehensiveness scores in primary care* are associated with better coordination between primary care and other specialists.

*number of medical procedures performed; presence of occupational and physical therapists

More Comprehensive Health Centres Have Better Vaccination Coverage\textsuperscript{a, b}


\textsuperscript{a} Total 1227 health centres, covering a population of 16 million people.

\textsuperscript{b} Vaccination coverage was not included in the assessment of overall health-centre performance across a range of services.

\textsuperscript{c} Includes vaccination of children not belonging to target population.
In New Zealand, Australia, and the US, an average of 1.4 problems (excluding visits for prevention) were managed in each visit. However, primary care physicians in the US managed a narrower range: 46 problems accounted for 75% of problems managed in primary care, as compared with 52 in Australia and 57 in New Zealand.

### Comprehensiveness in Primary Care*

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wart removal</td>
<td>IUD insertion</td>
</tr>
<tr>
<td></td>
<td>IUD removal</td>
</tr>
<tr>
<td></td>
<td>Pap smear</td>
</tr>
<tr>
<td>Suturing lacerations</td>
<td>Hearing screening</td>
</tr>
<tr>
<td>Removal of cysts</td>
<td>Vision screening</td>
</tr>
<tr>
<td>Joint aspiration/injection</td>
<td>Age-appropriate surveillance</td>
</tr>
<tr>
<td>Foreign body removal (ear, nose)</td>
<td>Family planning</td>
</tr>
<tr>
<td>Sprained ankle splint</td>
<td>Immunizations</td>
</tr>
<tr>
<td></td>
<td>Smoking counseling</td>
</tr>
<tr>
<td>Remove ingrowing toenail</td>
<td>Home visits as needed</td>
</tr>
<tr>
<td>Behavior/MH counseling</td>
<td>Nutrition counseling</td>
</tr>
<tr>
<td>Electrocardiography</td>
<td>OTHERS?</td>
</tr>
<tr>
<td>Examination for dental status</td>
<td></td>
</tr>
</tbody>
</table>

*Unanimous agreement in a survey of family physician experts in ten countries (2008)
The greater the comprehensiveness of services in primary care, the greater the coordination of care between primary care physicians and other specialists.

Ranks for Rates of Technology use in 7 Countries, by Strength of Primary Care System

*The higher the rank the lower the rates of performance

Assessment of Comprehensiveness May Differ from Place to Place

Comprehensiveness means that primary care meets all health-related needs of the population except those that are too uncommon to maintain competence. This will differ from place to place.
## Percentage of People Seeing at Least One Specialist in a Year

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>40% of total population; 54% of patients (users)</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>31% of population (68% at ages 65 and over)</td>
<td>(Ontario)</td>
</tr>
<tr>
<td>UK</td>
<td>about 15% of patients (at ages under 65)</td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>30% of population; 40% of patients (users)</td>
<td></td>
</tr>
</tbody>
</table>

In primary care, who refers and for what?
Increase in Percentage of Visits in Which Patients Were Referred Elsewhere: United States

<table>
<thead>
<tr>
<th>Specialty</th>
<th>1994</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family medicine</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Internal medicine</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Other specialties</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Valderas, 2009 NAMC analyses
## Percentage of Visits by Type of Visit and Specialty, US, 2004

<table>
<thead>
<tr>
<th>Specialty</th>
<th>New problem</th>
<th>Routine visit/ followup</th>
<th>New patient</th>
<th>Recurrence of known problem</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family physician</td>
<td>46</td>
<td>38</td>
<td>7</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>General internal medicine</td>
<td>34</td>
<td>50</td>
<td>7</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>57</td>
<td>36</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Valderas, 2009 NAMC analyses
**Distribution of Reasons for Referral: Badalona, Spain**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
<th>Specialty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>24.4%</td>
<td>(ophthalmology)</td>
</tr>
<tr>
<td>Local inflammation/mass</td>
<td>16.5%</td>
<td>(dermatology)</td>
</tr>
<tr>
<td>Molluscum contagiosum</td>
<td>13.0%</td>
<td>(dermatology)</td>
</tr>
<tr>
<td>Visual signs and symptoms</td>
<td>11.5%</td>
<td>(ophthalmology)</td>
</tr>
<tr>
<td>Lipoma</td>
<td>11.4%</td>
<td>(general surgery)</td>
</tr>
<tr>
<td>Benign/undefined skin neoplasia</td>
<td>10.8%</td>
<td>(dermatology)</td>
</tr>
<tr>
<td>Auditory signs and symptoms</td>
<td>10.5%</td>
<td>(ENT)</td>
</tr>
</tbody>
</table>

**Notes:**
1. More than one reason is common.
2. Although orthopedic referrals are the most common specialist referrals, the percentage of reasons for any one is low.
### Conditions with Variability in Specialist Referral to:

<table>
<thead>
<tr>
<th>Condition</th>
<th># specialist types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benign neoplasm</td>
<td>5</td>
</tr>
<tr>
<td>Low back pain</td>
<td>4</td>
</tr>
<tr>
<td>Musculoskeletal signs/symptoms</td>
<td>3</td>
</tr>
<tr>
<td>Diabetes</td>
<td>3</td>
</tr>
<tr>
<td>Depression/anxiety</td>
<td>3</td>
</tr>
<tr>
<td>Bursitis, synovitis</td>
<td>3</td>
</tr>
<tr>
<td>Neuropathy, neuritis</td>
<td>2</td>
</tr>
<tr>
<td>Hearing loss</td>
<td>2</td>
</tr>
<tr>
<td>Sprains/strains</td>
<td>2</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>2</td>
</tr>
</tbody>
</table>

Referral from Primary Care

Source: R. Reid
Challenges of Coordination

1. Self-referral (direct access)
2. Administrative (indirect referral)
3-5. Referral for consultation/management
   3. for diagnostic assistance (advice on diagnostic assessment)
   4. for assistance with therapy (advice on therapeutic intervention)
   5. for ongoing management
6-9. Return to primary care
   6. for better specification of problem
   7. for diagnostic work-up
   8. for therapy
   9. for ongoing management
10. Cross-referral
11. Primary care involvement in decisions about cross referral


Starfield 1997 RC 5069 n
Top 5 Predictors of Referrals, US Collaborative Practice Network, 1997-99

<table>
<thead>
<tr>
<th>All referrals</th>
<th>Discretionary referrals†</th>
</tr>
</thead>
<tbody>
<tr>
<td>High comorbidity burden</td>
<td>Patient ages 0-17*</td>
</tr>
<tr>
<td>Uncommon primary diagnosis</td>
<td>Nurse referrals permitted</td>
</tr>
<tr>
<td>Moderate morbidity burden</td>
<td>Northeast region</td>
</tr>
<tr>
<td>Surgical diagnoses</td>
<td>Physician is an internist</td>
</tr>
<tr>
<td>Gatekeeping</td>
<td>Gatekeeping with capitation**</td>
</tr>
</tbody>
</table>

NOTE:
* No pediatricians included in study
** Specialists not in capitation plan
†Common conditions + high certainty for diagnosis and treatment + low urgency + only cognitive assistance requested. Constituted 17% of referrals.

Profiling Using Age-Sex and ACG Adjustment: Identification of Low and High Referrers

Frequency Distribution of GPs by the Number and Specialists Seen by Their “Core” Practice Panel, British Columbia, 2001

Source: Reid R, 01/03.
Comprehensiveness of services is key to achieving patient-oriented care.
Comprehensiveness in primary care is necessary in order to avoid unnecessary referrals to specialists, especially in people with comorbidity.
Coordination of Care
Coordination: Definition

... the combining of diverse parts to make a unit; skillful and balanced movements of different parts

Coordination

Coordination requires transfer of information (a structural element) and the recognition of that information in the ongoing care of a patient (a process element).

Modes of transfer are multiple: conventional medical records, patient-held records; smart cards; electronic medical records; multidisciplinary teams with specified complementary, supplementary, and substitutive functions of each team member.

These different types have not been compared with regard to effectiveness and efficiency, but developing countries (in particular) are exploring the potential of community workers in assuming explicit responsibility for a variety of primary care tasks in conjunction with personnel in health centers where they exist.

The Health Services System: Coordination

CAPACITY

PERFORMANCE

HEALTH STATUS
(outcome)

Provision of care

Receipt of care

Information transfer (Continuity)

Problem recognition

People/practitioner interface

Scores for Average Total Primary Care, Primary Care (Clinical), Primary Health Care (Systems), and Coordination

<table>
<thead>
<tr>
<th>Country</th>
<th>Average total primary care</th>
<th>Primary care (clinical)</th>
<th>Primary health care (systems)</th>
<th>Coordination</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE, FR, GE, US</td>
<td>0.4</td>
<td>0.1</td>
<td>0.6</td>
<td>0.0</td>
</tr>
<tr>
<td>AU, CA, JP, SW</td>
<td>1.0</td>
<td>0.9</td>
<td>1.1</td>
<td>0.4</td>
</tr>
<tr>
<td>DE, FI, NE, SP, UK</td>
<td>1.6</td>
<td>1.5</td>
<td>1.7</td>
<td>0.8</td>
</tr>
</tbody>
</table>
Challenges of Coordination

To understand need for contributions of specialist care

- Assistance with diagnosis
- Advice on treatment
- Definitive treatment

1. Short-term
2. Long-term (ongoing management)
   a. Shared responsibility
   b. Transferred responsibility
Research on coordination of care has been hampered by cross-disciplinary differences in conceptualization. Research in primary care indicates that continuity of type of practitioner, especially specific practitioner, as well as problem lists in medical records, enhances the recognition of patients’ problems from one visit to the next.

The importance of coordination has only recently been recognized as a major issue in primary care.

When patients’ visits to specialists are based on a primary care physician referral, patients report much better coordination of care, i.e., better informed primary care physician, better primary care physician follow-up, than is the case when patients self-refer or are referred by some other source.

The addition of problem lists or computerized summaries of information on problems, tests, and therapies improves recognition of important patient information from one visit to another, especially if the inter-visit duration is long and the practitioner changes from one visit to the other.

The more common the condition in primary care visits, the less the likelihood of referral, even after controlling for a variety of patient and disease characteristics.

When comorbidity is very high, referral is more likely, even in the presence of common problems.

IS THIS APPROPRIATE? IS SEEING A MULTIPlicity OF SPECIALISTS THE APPROPRIATE STRATEGY FOR PEOPLE WITH HIGH COMORBIDITY?

Expected Type of Consultation/Referral by Type of Specialist (Percentage of Referrals from Family Practice)

- Allergy
- Cardiology
- Dermatology
- Gastroenterology
- Neurology
- Pulmonology
- Otolaryngology
- General Surgery
- Ophthalmology
- Orthopedic Surgery
- Urology
- OB/Gyn
- Psychology
- Psychiatry
- Non-Physician

Percent of referrals

- Short term consult (0-12 mths)
- Short term referral (0-12 mths)
- Long term referral/consult (>12 mths)

Adapted by CTLT from Starfield et al, J Am Board Fam Pract 2002; 15:473-80. ASPN data.
Types and Expectations of “Referral” by Specialty*: Selected US Pediatricians, Mid-1990s

More than 50% for consultation:

Cardiology, allergy, gastroenterology

More than 25% for shared management:

Psychiatry, psychology, neurology, gastroenterology, otolaryngology, allergy, cardiology, orthopedics, dermatology

More than 25% for transferred management:

General surgery, ophthalmology, urology, dermatology

*in order of declining percentage

Coordination between Primary Care Physicians and Specialists: Selected US Practices, Mid-1990s

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Family practice</td>
<td>Pediatrics</td>
<td></td>
</tr>
<tr>
<td><strong>Referral</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referring physician</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled appointment</td>
<td>69</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>Sent information</td>
<td>85</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>No communication</td>
<td>9</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td><strong>Follow-up (3 months)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referring physician</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aware of visit</td>
<td>43</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Received feedback</td>
<td>81</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Included a letter</td>
<td>77</td>
<td>51</td>
<td></td>
</tr>
</tbody>
</table>

Expectation of “Referral” by Specialty:
US Family Physicians, Mid-1990s

More than 25% for shared management
All specialties except general surgery, urology, ob/gyn

More than 50% for consultation
Cardiology, dermatology, gastroenterology, neurology, pulmonology, otolaryngology, general surgery, ophthalmology, orthopedic surgery, urology, ob/gyn

More than 25% for transferred management
None

## Types of “Referral”: Volunteer US Practices, Mid-1990s

<table>
<thead>
<tr>
<th>Family Practice</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatrics</td>
<td></td>
</tr>
<tr>
<td>Consultations (no transfer of responsibility)</td>
<td>56</td>
</tr>
<tr>
<td>Referral with shared management</td>
<td>29</td>
</tr>
<tr>
<td>Referral with transferred management</td>
<td>15</td>
</tr>
</tbody>
</table>

Percent of Visits Made by Patients Who Were Referred*: US, 1994

<table>
<thead>
<tr>
<th></th>
<th>All ages</th>
<th>Children under age 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>All physicians</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Family practice</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Internal medicine</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Other specialties</td>
<td>24</td>
<td>35</td>
</tr>
</tbody>
</table>

*for this visit

Percent of Visits in Which Patient Was Referred Elsewhere: US, 1994

<table>
<thead>
<tr>
<th></th>
<th>All ages</th>
<th>Children under age 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>All physicians</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Family practice</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Internal medicine</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Other specialties</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

## Characteristics of Referrals: Volunteer US Practices, Mid-1990s

<table>
<thead>
<tr>
<th>Reasons (not mutually exclusive)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advice on diagnosis</td>
<td>Family Practice: 44</td>
</tr>
<tr>
<td>Advice on treatment</td>
<td>Family Practice: 48</td>
</tr>
<tr>
<td>Surgery</td>
<td>Family Practice: 36</td>
</tr>
<tr>
<td>Non-surgical procedure and/or medical treatment</td>
<td>Family Practice: 29</td>
</tr>
<tr>
<td>Mental health counseling</td>
<td></td>
</tr>
<tr>
<td>Patient request</td>
<td>Family Practice: 31</td>
</tr>
<tr>
<td>Failed treatment</td>
<td></td>
</tr>
<tr>
<td>Multidisciplinary care</td>
<td></td>
</tr>
<tr>
<td>Expected duration of referral</td>
<td>Family Practice: 60</td>
</tr>
<tr>
<td>less than 3 months</td>
<td></td>
</tr>
</tbody>
</table>

The characteristics of referrals and expectations from them in the 15 years since these previous studies were done are largely unknown, as the studies have not been repeated.
In the United States, about half of all referrals are intended to be for short-term consultation. For the remaining half, the overwhelming expectation is for shared care rather than transferred care.
Differences in expected length and type of referral

(short-term consult, short-term referral, long-term consult/referral)

Only found for:

Benign neoplasm, musculoskeletal signs/symptoms, diabetes

Differences in expectation of specialist (advice, procedure, shared responsibility, assume total responsibility)

Only found for: sprains/strains, diabetes

There were no statistically significant differences in expectation for the referral for any of the other 10 broad categories of types of conditions referred, e.g., benign neoplasms, mental health problems, abdominal pain, low back pain.
Imperatives for Research in Primary Care/Specialty Care

• The impact of comorbidity on development of clinical and preventive care guidelines
• New strategies to better plan for relationships between primary care physicians and specialists.
• Cross-country and cross-area variations in referral rates and variations in care-seeking from primary care physicians and specialists demands a new approach to designing more appropriate roles of the two types of physicians.
Challenges of Coordination

To understand need for contributions of specialist care

• Assistance with diagnosis
• Advice on treatment
• Definitive treatment

1. Short-term
2. Long-term (ongoing management)
   a. Shared responsibility
   b. Transferred responsibility
A major function of primary care is to assure that specialty care is more appropriate and, therefore, more effective.
The US Needs More Experience with Alternative Modes of Primary Care/ Specialist Interaction

• Direct consultation rather than through the patient
• Specialist outreach through primary care
• In-service training in primary care subspecialization?
What We Already Know

1. Inappropriate referral to specialists leads to greater frequency of tests than appropriate referrals to specialists.
2. Inappropriate referrals to specialists leads to poorer outcomes than appropriate referrals.
3. The socially advantaged have higher rates of visits to specialists than the socially disadvantaged.
Specialists and Generalists: the Imperative for Shared Care

The reasons:
- Costs
- Comorbidity
- Effectiveness of care

Challenges and alternatives:
- Payment mechanisms
- Global capitation (fund-holding)
- Episode payment (not feasible)
Primary Care Scores by Data Source, PSF Clinics