Telemedicine & Telehealth Standards & Guidelines

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Practice Guidelines

• Supply health care professionals with needed support & information

• Improve health care quality & encourage more efficient use of limited health care resources
TELEMEDICINE COMES OF AGE

CURRENT TRENDS IN TELEHEALTH

- 67% of healthcare professionals either use some form of telemedicine now, or are planning to in the next few years.
- >70% of consumers would rather have an online video visit to obtain a prescription than travel to their doctor's office.
- 91% of health outcomes were as good or better via telehealth.

PROJECTIONS FOR THE FUTURE

The number of patients worldwide using telehealth services will rise from less than 350,000 in 2013 to 7,000,000 in 2018.

The global telemedicine market is projected to reach $36,300,000,000 by 2020.

Worldwide revenue for telehealth devices and services is expected to reach $4.5 billion in 2018, up from $440.6 million in 2013.
Guidelines

- ATA practice guidelines
- Professional societies
  - ACR, ASHA, APA, ADA
- Technical requirements (min) often included & standards available as well (HL7, DICOM, FDA)
- International guidelines (Europe & Canada)
- Standard guidelines & requirements for medical practice
- Common sense!
The practice of medicine is an integration of both the science and art of preventing, diagnosing, and treating diseases. Accordingly, it should be recognized that compliance with these guidelines will not guarantee accurate diagnoses or successful outcomes. The purpose of these standards is to assist practitioners in pursuing a sound course of action to provide effective and safe medical care that is founded on current information, available resources, and patient needs. The practice guidelines and technical standards recognize that safe and effective practices require specific training, skills, and techniques, as described in each document.
If circumstances warrant, a practitioner may responsibly pursue a course of action different from the guidelines when, in the reasonable judgment of the practitioner, such action is indicated by the condition of the patient, restrictions or limits on available resources, or advances in information or technology subsequent to publication of the guidelines. Nonetheless, a practitioner who uses an approach that is significantly different from these guidelines is strongly advised to provide documentation, in the patient record, that is adequate to explain the approach pursued.
• Guidelines for practice TM that are required whenever feasible & practical as determined by referring clinician practicing under local conditions identified by “shall”

• “Should” indicates an optimal recommended action, one that is particularly suitable, without mentioning or excluding others.

• Optional or permissible action are indicated by “may/attempt to” to indicate additional points that may be considered to further optimize the tele-consult process.
• Telehealth Practice Recommendations for DR
• Principles Delivering Telerehabilitation Services
• VC-based Telepresenting Expert Consensus Report
• Practice Guidelines VC-based Telemental Health
• Evidence-based Practice Telemental Health
• Practice Guidelines Teledermatology & Quick Guides
• Core Standards Telemedicine Operations
• Home Telehealth Clinical Guidelines
• Clinical Guidelines Telepathology
• Video-Based Online Mental Health Services
• TeleICU Operations
• TM Practice Live On-Demand Primary Care & Urgent Care
• Operating Procedures Pediatric TH
• Practice Guidelines Telestroke
• Practice Guidelines TMH with Children & Adolescents
• Practice Guidelines for Teleburn Care
• Quick Guide Teledermatology

Eye Contact

An American Telemedicine Association Human Factors SIG publication in collaboration with the Home Telehealth and Remote Monitoring SIG

This guide is a quick reference to the importance of eye contact—and the lack of it—in providing healthcare services. Some pointers relate specifically to the provision of remote services, but all are applicable to most healthcare encounters. For more information and details we refer you to the references at the end of the guide.

Why Is Eye Contact Important?

- One of the most important aspects of human (provider-patient) interaction
- One of many non-verbal cues that take time to process remotely
- Fundamental to the REDE (Relationship, Establishment, Development, Engagement) model of patient provider interaction for optimizing provider-patient relationships
- Important to clinical encounters and used as part of medical skill set checklists
- Impacts patient’s sense of dignity
- Helps establish rapport; trust (keeps participants focused on each other, encourages interaction, facilitates memory, influences likeability & attractiveness; affects perceived emotion, creates sense of inclusion when present & sense of isolation when not)
- Allows for the use of non-verbal cues in communication

Eye Contact Etiquette

- "Rules" of direct versus indirect eye contact can differ by culture
- It is important to be aware of possible cultural heuristics
  - Arabs, Latin Americans & Southern Europeans make more eye contact during conversation than Asians & Northern Europeans
  - Japanese may consider eye contact rude & people are taught to look at a person's Adam's apple instead of the eyes: eye contact with superiors is avoided
  - Women generally make more eye contact than men
- Eye contact changes with age
  - Increases from age 4-9
  - Decreases from 10-12
  - Increases again into adulthood
- Certain mental health, medical, and vision conditions impact the ability or willingness of some patients to make and/or maintain eye contact

Tips for Telemedicine Camera Positions & Viewing Screens

- Locate camera above the face for accurate estimation of gaze
- Preferably 7 degrees (or viewing angle) or less above from transmitter’s position (refer to Figure below)
- Initial viewing distance (introductions) should be close enough for "passport" view (head & top of shoulders)
- Avoid placing camera too close to yourself

- Close placement can make the viewer feel as though their "personal space" is invaded from a distance
- Afterwards, can move the viewing distance out for better view of the body & non-verbal cues
  - Recommend 1080p (or 720p) monitor with aspect ratio 16:9, start out with the following viewing distances (may differ for 3D screens)
    - Desktops, tablets, and phones—common sense
    - 42" monitor: 1.5m / 4.11'
    - 52" monitor: 2.0m / 6.6'
    - 65" monitor: 2.5m / 8.2'
- Avoid the parallax problem or the inclination to look at face on screen rather than into camera
  - Replicate real eye contact patterns by looking into the camera frequently
  - If the viewing distance is correct, you will see the patient on the monitor and the camera simultaneously
- Higher resolution cameras & monitors are preferred
  - Produce sharper images making it easier to see & follow eye gaze
  - Sharper images are less tiring to look at if you are providing remote services for long periods.
- Use camera zoom features to adjust your apparent distance (your image size) from the camera as necessary
  - For proper sizing in the viewing frame without changing suitable physical distance and good camera angle (See diagrams below)
    - This applies to the patient as well if there is either remote zoom or the patient can adjust their camera
- Some legacy or low-end systems may have image quality issues
  - Verify the image quality prior to clinical use

![Camera Position Diagram](image)

![Cone of Gaze Diagram](image)
Endorsed S&G

- ACR Standard *Teleradiology*
- AAD Position Statement *Telemedicine*
- APA Statement on Services by *Telephone*
- AMA Guidelines Physician-Patient *Electronic Communications*
- Medem’s eRisk Guidelines Physician-Patient *Online Communications*
- Guidelines *Surgical Practice Telemedicine*
- ACR Electronic Medical Information *Privacy & Security*
- FDA *Telemedicine* Guidance
Developing ATA S&G

- Burn & Wound Care
- Remote Monitoring Data Management
- Pediatrics
- Telestroke
- Update dermatology

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
<th>Definition</th>
<th>Measurement</th>
<th>Considerations</th>
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<tr>
<td>2.1.1</td>
<td>Patient satisfaction</td>
<td>Patient’s subjective satisfaction and experience with the TMHI service provided</td>
<td>The perception of the patient’s satisfaction during the TMHI visit with usability of the technology, patient-provider communication, and convenience of receiving care via this approach. Does the patient believe that the service met her/his health needs? Would patient do this again? Would patient refer others to this service?</td>
<td>There may be overlap with other constructs such as “Satisfaction with Usability of Technology.” Satisfaction does not necessarily require in-person comparison. It could be compared to no care (i.e., non-inferiority testing). Use of validated measures of TMHI satisfaction because measures exist. Measure satisfaction with experience as well as with technology.</td>
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<td>2.1.2</td>
<td>Provider Satisfaction</td>
<td>The extent to which the provider values telehealth when interacting with patients.</td>
<td>The following metrics may serve as surrogate markers: retention and recruitment of providers, ease of transition in technical competency, ease of integration into clinical workflow, perceived value of better diagnosis, treatment and disease management.</td>
<td>Satisfaction metric must be considered longitudinally. Include both referring PCMs and consulting provider satisfaction surveys.</td>
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<td>2.1.3</td>
<td>Coordination of care</td>
<td>Care coordination is the development and implementation of a shared plan to support patient wellness.</td>
<td>Care coordination measurement consists of both the number of telehealth encounters and the number of different participants involved in the shared plan (e.g., consultant-primary care provider, consultant-teacher, etc.) and the type of telehealth interaction (asynchronous and synchronous).</td>
<td>The nature of the communication, external technologies such as electronic health records and quality of encounters can all impact care coordination.</td>
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<td>2.1.3</td>
<td>Integration of care</td>
<td>Integration of care is the efficient assimilation of multiple components within a health system in order to decrease redundancy, delay, and cost.</td>
<td>Measurement of the integration of care includes the type of the telehealth interactions assessed on standardized questionnaires of care coordination or other measures of communication (i.e., participant A to participant B).</td>
<td>The nature of the communication, external technologies such as electronic health records and quality of encounters can all impact integration of care.</td>
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<td>2.1.4</td>
<td>Usability</td>
<td>1) The ease (preference, comfort, fit, readiness) of patients to communicate digitally with their providers. 2) Includes technology availability, simplicity of use, service availability, technology native vs. non-native.</td>
<td>Measurement should include: provider retention rate, patient drop out and rationale, support staff required, technology ease of use, technology down time, and subjective ratings of comfort.</td>
<td>Subjective and objective measurements from both the patient and provider perspective. Part of the evaluation should include how “seamless” the interaction was between people-technology, to include latency and failure of technology. This can be used as both a process/acceptability and an access measure, but definition should remain the same. Patient/provider preferences should also be included.</td>
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<td>2.1.5</td>
<td>Rapport</td>
<td>When two or more people feel</td>
<td>Self-reported level of direct and/or indirect relationship between two or more people.</td>
<td>Transcends cultural, racial, ethnic, religious, gender, age.</td>
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<td>Section</td>
<td>Description</td>
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<td>2.1.6 Stigma</td>
<td>Preconceived, often negative, association with an illness, diagnosis, therapy, technique etc. that may interfere with the provision and/or acceptance of care. Measures should evaluate stigma among health care providers/staff, patients, and social networks and include, at minimum, the following concepts: Stereotyping/discrimination such as beliefs about mental illness, mental health treatment, TMH, and the use of technology to deliver care. Labeling/disclosure such as acceptance of diagnosis, willingness to diagnose appropriately, help seeking and delivering behaviors, willingness to use or conduct TMH sessions. Perceived stigma should not simply focus on the recipient of care but the providers of care and those giving support. Concerns about stigma should focus on both mental illnesses in general and on the type of delivery (e.g., TMH). From a research and programmatic perspective this is best evaluated pre/post introduction of a TMH service. This can be related to both general access to care and readiness.</td>
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<td>2.1.7 Motivational readiness</td>
<td>Assessment of an individual's or organization's willingness to change and adopt TMH services. This is different from preparedness, which is an assessment of individual and organizational ability to adopt TMH services. Includes: stage of change for individuals and organizations, situational self-efficacy (confidence), trans theoretical model-based measures (pros &amp; cons of change, processes/strategies for change, situational self-efficacy). Defining criteria for moving into the action stage. Relationship between individuals and institutional readiness and motivation. How interrelated are individuals and institutional motivation? Self-report can be inaccurate, but necessary.</td>
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<td>2.2.1 No shows</td>
<td>A patient or clinician who does not attend session, or is more than 15 minutes late. Percent of no shows as compared to a disease-state specific comparisons in-person group. No shows defined as 15 minutes late or more to appointment. No shows need to be identified as either clinically related or a systems issue (scheduling, time zones, etc.). Determine cause of no show, i.e., was it lack of transportation, lack of ability to maintain a schedule, did they show up late and have to reschedule, dissatisfaction with treatment. Examine the reasons for the no shows i.e. technology failed or could not be used, the use of technology (vs. travel) made it easier to keep the appointment, etc.</td>
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<td>2.2.2 Accuracy of assessment</td>
<td>How well the modality of TMH impacts the reliability and validity of the assessment when compared with the traditional behavioral health care standards for the construct in question. Comparison of standard measures of assessment (reliability, validity) of TMH vs. in-person (national standard) vs. other telehealth modalities. Measurement should also include session time and number of sessions needed for specific assessments comparing TMH with in-person services at patient site. Proxy measures to track providers comfort with reliability of assessment through tracking utilization of tests and consults comparing TMH with in-person services at patient site.</td>
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| 2.2.3 Symptom outcomes | Change in identified clinical symptoms over time. Use of measures of symptom change that are appropriate and psychometrically sound (validity, reliability data published in the literature). Need to be appropriate for the population being treated/assessed How is this information documented so it is meaningful? Include measure used, cutoff criteria, inclusion/exclusion, what they are comparing outcome to, effect size of intervention. Symptom outcomes are part of a larger universe of outcome metrics that need to be considered. Consider adding
| 2.2.4 Completion of Treatment | Degree to which appoint- ments, treatments and comple- tion of treatment plans oc- curred within the prescribed time frame. | Average number of visits according to treatment plan, average number of visits in given time period, duration of treat- ment, number percentage of modules completed, percentage of patients who completed treatment, pre-post functional measures. | Intervention/treatment outcomes with symptom outcomes as a subset as well as other outcomes such as Quality of Life, work attendance/absenteeism, compliance/adherence or psy- chosocial measures (unit cohesion, social isolation). Third party payers use Axis 5 (Global Assessment of Functioning) to evaluate progress and completion, although this will evolve with the conversion to DSM-V criteria. |

| 2.2.5 Quality of Care | Quality of care represents the process of delivering services and includes both the technical and interpersonal aspects of treatment. Technical quality includes concordance with treatment guidelines, fidelity to evidence based protocols, and system performance measures (e.g., HEDIS). Interpersonal quality includes patient rapport, therapeutic alliance, and cultural competence. | Performance measures (e.g., timely outpatient visit follow hospital discharge) can sometimes be measured from administrative data. Concordance with treatment guidelines and fidelity to evidence based protocols can be measured from chart review. Interpersonal quality should be measured from patient self-report (e.g., therapeutic alliance can be measured using the working alliance inventory). | Quality is defined as the process rather than the outcome of care, because clinical outcomes are measured using other metrics and because high quality care does not necessarily lead to good outcomes. Quality of TMH services should be measured against benchmarks rather than the quality of in-person services which is often sub-optimal. When TMH services are compared to in-person services, it will be critical to choose a similar clinical setting and patient population. |

| 2.2.6 Treatment Utilization | Use of TMH services compared with all other health services related to specific disease processes. | Measurements on number of TMH and non-TMH visits within a health care system to include data on visit duration, frequency, and problem addressed. Measurements on system resources (labs, medications, system funded travel, devices, consultation, number of referrals made and utilized) of TMH vs. non- TMH. Utilization should be correlated with symptom reduction of specific disease processes. | Comparison of digital contacts (mobile phone, e-mail, Web) and its impact on service utilization in non-telemental healthcare. Recommend healthcare systems systematize data on digital contacts. Collect data on both internal utilizations within a system but as possible external service utilizations from outside agencies and providers. As possible during implementation of TMH services collect compare data on pre and post implementation service utilization data. |

| 2.3.1 Number of Services | Degree of access to additional services which are derived from enrollment in telehealth. | The number of clinical care options and auxiliary services offered (e.g., medication management, social services, labs, cardiac care, group therapy); frequency in the use of clinical care options and auxiliary services. | Used for program evaluation, ROI for program expansion, quality, patient-provider satisfaction. |

<p>| 2.3.2 Numbers Served (also referred to as) | The workload credit given for the TMH encounter that is | Types of services; complexity of services, time spent with patients, number of | Coding accuracy. Coding training and follow up to ensure coding is being done correctly, i.e., no under or over coding. |</p>
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<tr>
<th>RVUs, relative value units</th>
<th>related to the complexity of services provided and the time spent with patients which equates to the level of financial reimbursement.</th>
<th>patients seen.</th>
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<tr>
<td>2.3.3 Wait Times</td>
<td>Wait time is a temporal dimension of access that represents the delay between when the patient wants to receive services and when they can actually receive services.</td>
<td>Operationally, time to next available appointment, when scheduling, and when the patient actually presents for care. For TMH requiring a referral, wait time could be measured as the difference in the referral date and the date the patient was seen. May want to measure wait time separately to see the preferred provider versus any provider.</td>
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<td>2.3.4 Length of session</td>
<td>How much time the patient spends receiving care. This could include time spent with the provider.</td>
<td>Average/total clinical encounter time, average/total administrative time (set-up time, cost-of-session contact such as email, text, phone, letters).</td>
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<td>2.3.5 Distance to Service</td>
<td>Geographic separation or functional barriers between patients and providers.</td>
<td>Distance, time zones, time to appointment.</td>
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<td>2.3.6 Likelihood to access vs. traditional care</td>
<td>Likelihood to use TMH</td>
<td>Measurement should include the following concepts: familiarity (past use), acceptability (cultural and technical), associations with stigma, willingness, and perceived benefit. Measurement should not focus on satisfaction but rather broad willingness to use.</td>
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<tr>
<td>2.3.8 Cultural access</td>
<td>Access to healthcare services that align with cultural expectations.</td>
<td>The degree to which an individual perceives the mode of delivery and related processes to align with cultural beliefs and expectations.</td>
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<td>2.4.1 Economic evaluation that incorporates standard economic models</td>
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<td>2.4.2 Value proposition</td>
<td>Comparison of clinical and other health service outcomes by overall resources allocated.</td>
<td>Standardized and reported taxonomy of resources allocated and outcomes measured.</td>
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<td>2.4.3 Travel direct</td>
<td>Direct cost associated with provider and/or patient travel to care site</td>
<td>All direct costs should be identified, operationalized, and reported for comparison.</td>
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<tr>
<td>2.4.4 Travel indirect</td>
<td>Indirect costs associated with provider and/or patient travel to care site</td>
<td>All indirect costs should be identified, operationalized, and reported for comparison.</td>
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<tr>
<td>2.4.5 Technology direct</td>
<td>Direct patient and provider costs associated with the technology utilized to deliver telehealth services.</td>
<td>All direct costs should be identified, operationalized, and reported for comparison.</td>
</tr>
<tr>
<td>2.4.6 Technology indirect</td>
<td>Indirect patient and provider costs associated with the technology utilized to deliver telehealth services.</td>
<td>Indirect costs include expenses incurred as a result of technology downtimes, specialized licenses, and administration.</td>
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<tr>
<td>2.4.7 Public vs. private</td>
<td>Payor Perspective.</td>
<td>Whether a project, program, or system utilizes public or private funding.</td>
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<td>2.4.8 Cost avoidance</td>
<td>Current or future direct costs avoided due to a specific intervention or program.</td>
<td>There are currently no industry standards for cost avoidance measures.</td>
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<td>2.4.9 Missed obligations</td>
<td>Indirect Cost: Missed obligations</td>
<td>Should be measured as part of overall indirect costs.</td>
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<td>2.4.10 Burden on social network</td>
<td>Societal resources associated with either the provision of or inadequate access to TMH services.</td>
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<td>2.4.11 Personnel (administrative, provider, provider extender, presenter)</td>
<td>Personnel costs associated with the provision of TMH services.</td>
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<tr>
<td>2.4.12 Supplies</td>
<td>Direct cost of auxiliary supplies required for TMH services.</td>
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<tr>
<td>2.4.1 3</td>
<td>Training</td>
<td>Process by which an individual attains the knowledge and skills required to demonstrate predetermined competencies.</td>
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<tr>
<td>2.4.1 4</td>
<td>Facilities and maintenance</td>
<td>Direct costs associated with the facilities and maintenance necessary to support tele-health technologies.</td>
</tr>
<tr>
<td>2.4.1 5</td>
<td>Broad resource utilization</td>
<td>Resource utilization is the total allotment of resources necessary to provide tele-health services.</td>
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<tr>
<td>Patient safety</td>
<td>Patient safety</td>
<td>Safety of patients and others during the course of treatment (i.e. during sessions and after).</td>
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Following Guidelines

• Practice *medicine (not tele!)* integration science & art preventing, diagnosing, treating diseases

• Compliance alone will not guarantee accurate diagnoses/successful outcomes

• Circumstances warrant may responsibly pursue alternate course action

• Divergence indicated when, in reasonable judgment practitioner, condition patient, restrictions/limits on available resources, advances info/tech occur

• If use approach sig different strongly advised document it
Educating & Informing

• Structure & timing services, records, scheduling, privacy, security, potential risks, confidentiality, billing, VTC info, emergency plan, potential technical failure, coordination care others; contact between visits, conditions termination & refer in-person care

• Provided language easily understood

• Provided orally or in writing

• Set appropriate expectations
  • Prescribing, scope services, follow-up
Providers Shall

• Conduct care consistent jurisdictional regulatory, licensing, credentialing & privileging, malpractice & insurance, rules profession jurisdiction practicing

• Ensure compliance required by appropriate regulatory & accrediting agencies

• Be cognizant provider-patient relationship

• Have necessary ed, training, orientation, licensure, etc.

• Ensure workspaces secure, private, reasonably soundproof, lockable door

• Ensure privacy & make patient aware other persons & agree to presence
Verifications

• Provider & patient identity
• To patient setting without immediately available health professional (e.g., home) provider shall qualifications, licensure information, when applicable, registration #
• Provide location for verifying info
• Patients shall provide full name, DOB, contact info
• Cases existing established relationship process may be omitted
Provider Awareness

• Local in-person health resources & travel requirements
• Exercise clinical judgment in referring additional health services
• Know preferred healthcare system patient’s insurance to avoid unnecessary financial strain for patient
• Know emergency procedures & may request contact information family etc. to call for emergency support

TAKE CARE AND BE AWARE
Provider Awareness

- Meds side effects, elevation symptoms, issues related med noncompliance should be familiar with patient’s prescription & med dispensation options
- When prescribing should be aware availability specific meds patient location
- Should be familiar with whom patient is receiving other medical services
Cultural Awareness

• Shall be culturally competent to deliver services to populations serve

• Factors include: client’s language, ethnicity, race, age, gender, sexual orientation, geographical location, socioeconomic, cultural backgrounds

• Learn about patient community including any recent significant events & cultural mores community
Future Trends

• More direct to patient care
• More health “kiosks”
• More remote monitoring – what to do with data??
• Return to emphasis on prevention & primary care
• Expanded use of ancillary providers
• Increased reimbursement & integration TH into healthcare enterprise
• Research dedicated to outcomes – clinical, cost, QoL
THANK YOU!

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