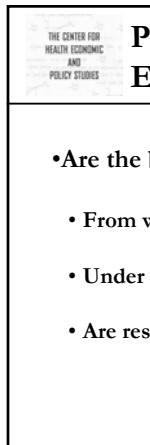
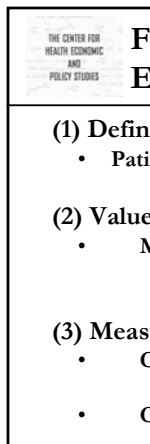
	<p style="text-align: center;">Telemedicine and Access to Health Care: Economic Considerations</p> <p style="text-align: center;">Jayani Jayawardhana, Ph.D. Richard C. Lindrooth, Ph.D. Center for Health Economic and Policy Studies Medical University of South Carolina</p>
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	<p style="text-align: center;">Peer-Reviewed Economic Evaluations of Telemedicine</p> <p>• Are the benefits of telemedicine worth the cost?</p> <ul style="list-style-type: none">• From whose perspective?• Under what circumstances?• Are results in the literature applicable to SC?
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	<p style="text-align: center;">Framework for Economic Evaluations</p> <p>(1) Define perspective</p> <ul style="list-style-type: none">• Patient, payer, provider, or society <p>(2) Value benefits based on perspective</p> <ul style="list-style-type: none">• Monetary and non-monetary benefits <p>(3) Measure incremental costs</p> <ul style="list-style-type: none">• Costs that otherwise would not be incurred• Consider opportunity costs
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THE CENTER FOR HEALTH ECONOMIC AND POLICY STUDIES **Peer-reviewed TM Literature: Benefits**

- **Reduced transportation costs**
 - Easiest to measure and value for the patient
 - Often transportation costs alone justify the program
- **Future medical cost offsets**
 - More difficult to measure
 - Initial increase leads to offsetting decrease
 - Often seen in telehealth studies

THE CENTER FOR HEALTH ECONOMIC AND POLICY STUDIES **Peer-reviewed TM Literature: Benefits**

- **Value of access**
 - Reduced unnecessary visits and hospitalizations
 - Better health outcomes
 - Easier to quantify with future medical cost offsets
- **Better health**
 - Leads to productive (and employable) workers
 - Increased quality of life
 - Not commonly measured in peer-reviewed literature

THE CENTER FOR HEALTH ECONOMIC AND POLICY STUDIES **Peer-Reviewed Literature: Costs**

- **Treatment Costs**
 - Hub and spoke
 - Should only include incremental cost
- **Equipment and Technology**
 - Internet access
 - Monitors
 - Optical devices
 - Incremental costs vary by specialty
- **Administrative and Overhead**
 - Maintenance, Power, Line Charges

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Peer-reviewed Literature: Caveats

- **Valuation of benefits depends on study**
- **Medical outcomes are often not measured**
 - Though very important
- **Technology costs are falling rapidly**
 - Older studies may overstate current costs
- **Definition of incremental costs inconsistent**
- **Results often depend on volume**
- **Perspective inconsistent or undefined**

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Peer-Reviewed TM Literature

- **Psychiatry**
 - Cost savings with equal patient satisfaction
- **Dermatology**
 - Cost generally offset by savings to patients.
- **Radiology**
 - Evidence of savings due to falls in unnecessary visits
- **Neurology**
 - Preliminary indications of feasibility (AZ and CA programs)
- **Cardiology:** Some evidence of savings for telehealth.
 - Literature is growing rapidly

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Would South Carolina benefit from more Telemedicine?

- **Key ingredient is unmet demand for services**
 - Is demand currently satisfied by local providers?
 - Depends on specialty and location
- **Given potential demand are the costs worthwhile?**

THE CENTER FOR HEALTH ECONOMIC AND POLICY STUDIES **Potential Benefits of TM in South Carolina**

- **Large Rural Population (~35%)**
 - 24% of rural population in poverty
- **Vehicle Ownership Low**
 - 33% of households have only one vehicle
 - 7% of households have no vehicles
- **Not only a matter of distance to provider**

THE CENTER FOR HEALTH ECONOMIC AND POLICY STUDIES **Potential Benefits of TM in South Carolina**

- **Evidence of health care needs**
 - High diabetes rates
 - High death rates related to heart disease and stroke
- **Access not solely a function of distance**
 - Moore School survey cited needs in:
 - Cardiology
 - Dermatology
 - Gastroenterology
 - Neurology
 - Psychiatry

THE CENTER FOR HEALTH ECONOMIC AND POLICY STUDIES **Potential Costs of TM in South Carolina**

- **Piggy-back ongoing efforts to connect rural providers**
 - TM a logical extension of EMR
 - Expertise for maintenance
 - Keeps incremental fixed costs and overhead low
- **Equipment costs are falling rapidly**
 - Quality-adjusted price of technology falling rapidly
 - Lowers fixed costs

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Medicaid Reimbursement of TM in South Carolina

- Medicaid reimburses for:
 - Live, real-time or two-way interactions; and
 - Take place through telecommunication system
- No Medicaid reimbursement for 'spoke'
 - All other states with Medicaid TM reimburse 'spokes'
- Medicaid does not reimburse for 'store and forward'
 - More efficient for some specialties (e.g. Dermatology)
 - Covered in AK, AZ, CA, IL and SD

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Private Reimbursement of TM in South Carolina

- Major private payers in South Carolina do not cover Telemedicine
- Private payers in 28 other states cover TM consults
- Reimbursement mandated in CA, LA, TX, OK and KY

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Adoption and Sustainability

- Reimbursement
 - 'Spokes' need to be reimbursed by Medicaid
 - Participation by private payers is crucial
 - Technology is scalable
 - Volume covers fixed costs
 - Marginal, incremental costs low relative to benefit
- Infrastructure
 - Some rural practices need basic infrastructure
 - Benefits of which go beyond TM

	<h2>Conclusions</h2>
<ul style="list-style-type: none">• Strong potential in South Carolina for TM to lead to:<ul style="list-style-type: none">• future medical cost offsets;• better health outcomes;• an improvement in employment outcomes, and• a higher quality of life.• Incremental costs are potentially low<ul style="list-style-type: none">• Reimbursement of 'spokes' needed for viability• Combine with other benefits of infrastructure (e.g. EMR)• Volume needed to cover fixed costs<ul style="list-style-type: none">• Private payer participation should be encouraged	
