

# Landscape of Business Models in Teledermatology

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## PRACTICE POINTS

- Teledermatology services may improve access to dermatology care but are limited by lack of reimbursement.
- Different business models have been successfully implemented for use of teledermatology in different care settings.
- As more legislation incentivizing telemedicine is enacted, the standard fee-for-service business model for teledermatology likely will expand.

*Effective business models for teledermatology must be implemented to make the practice a feasible option for dermatologists to deliver care. This study sought to detect and report types of teledermatology business models in practice. We interviewed 19 private and academic dermatologists who have been reimbursed for teledermatology services. Most respondents described teledermatology business models fitting 4 categories—standard fee-for-service reimbursement from insurance, capitated service contracts, per-case service contracts, and direct to consumer—which are described in this article. We also anticipate new teledermatology business models will be needed as technology and insurance reimbursements evolve.*

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**T**eledermatology remains relatively limited in practice despite strong evidence supporting its use.<sup>1</sup> A major impediment to its adoption

is nonreimbursement.<sup>2,3</sup> We sought to characterize business models that currently are in use for teledermatology through interviews with private and academic dermatologists.

## Methods

The institutional review board at the University of Pennsylvania (Philadelphia, Pennsylvania) exempted this study from review. We contacted the email lists of the American Academy of Dermatology's Telemedicine Task Force, the American Telemedicine Association's Teledermatology Special Interest Group, and the Association of Professors of Dermatology to identify dermatologists who have been reimbursed for teledermatology services. Inclusion criteria were dermatologists who were currently receiving payment for teledermatology services and members of teledermatology-related professional groups. Interviews were conducted by telephone and/or email using an interview guide, which included questions on teledermatology platforms and workflow models, reimbursement structures and amounts, and referrers. Individuals, institutions, and teledermatology platforms were anonymized to encourage candid disclosure of business practices.

## Results

Nineteen dermatologists participated in the study. Most participants described business models fitting into 4 categories: (1) standard fee-for-service reimbursement from insurance (n=4), (2) capitated service

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contracts (n=6), (3) per-case service contracts (n=3), and (4) direct to consumer (n=5)(Table). There were other business models reported at Veterans Affairs hospitals and accountable care organizations (n=4).

Standard fee-for-service (FFS) teledermatology business models were frequently represented among respondents at academic institutions. With this model, providers used live interactive or store-and-forward teledermatology platforms to conduct virtual clinic visits and bill patients' insurance companies directly. At some institutions, providers conducted live interactive teledermatology visits and also used store-and-forward teledermatology for initial screening before the patient encounter. Physician extenders at some referring sites (eg, physician assistants, nurse practitioners) were trained to photograph lesions, set up live interactive teledermatology equipment, and perform certain procedures such as skin biopsies. Referrers—often Federally Qualified Health centers, rural health clinics, or state facilities—contracted with the teledermatology site and sometimes paid a fee to join the referral network.

In another business model, teledermatology centers did not bill patients directly and instead received payment only from the centers' participating referrers

through service contracts. The subscribing institutions then could bill patients' insurance companies appropriately. Service contracts among respondents were structured either to be capitated or reimbursed on a per-case basis. Capitated service contracts typically required subscribing institutions to pay weekly stipends of several hundred dollars or a percentage of an individual dermatologist's salary (eg, 0.1 full-time equivalents) for consultations. Sometimes the number of consultations per time period was capped. In contrast, per-case service contracts involved per-case payments from referrers to dermatologists for teledermatology consultations. In one hybrid model, the subscribing institution paid an annual fee for a certain number of consultations per month with any additional consultations exceeding that number covered at a set fee per case.

Direct-to-consumer models, which were more common among private dermatologist respondents, used proprietary asynchronous teledermatology platforms to connect with patients. Patients generally paid out of pocket to participate, with fees ranging from \$30 to \$100 per case or less if the patient had participating insurance. One respondent contracted with a large private insurer to reimburse this service at a reduced fee.

### Surveyed Teledermatology Business Models

| Business Model              | No. of Respondents (N=19) <sup>a</sup> | Description                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard FFS                | 4                                      | In states where Medicaid, Medicare, or private insurers reimburse for teledermatology services, providers bill for a standard visit with a telemedicine modifier: GT for live interactive, GQ for asynchronous technology <sup>b</sup>                                                                                          |
| Capitated service contracts | 6                                      | Tertiary-care hospitals contract with regional hospitals or primary care sites to provide teledermatology consultations for a fixed amount of time and/or number of cases                                                                                                                                                       |
| Per-case service contracts  | 3                                      | Dermatologists contract with primary care sites to provide teledermatology services and charge a set fee per case                                                                                                                                                                                                               |
| Direct to consumer          | 5                                      | Patients self-refer via a proprietary teledermatology app; providers charge a set fee per case (often higher for out-of-pocket payers and lower for participating insurance companies)                                                                                                                                          |
| Other business models       | 4                                      | At 1 accountable care organization, teledermatology is reimbursed internally from central funds at a set amount per case; at VA hospitals, where teledermatology is covered by federal funds, veterans have the choice of being referred for teledermatology or live dermatology visits, with lower co-pays for teledermatology |

Abbreviations: FFS, fee for service; VA, Veterans Affairs.

<sup>a</sup>The total number of respondents across categories (N=22) is greater than the total number of survey respondents (N=19) because some respondents practice multiple business models.

<sup>b</sup>GT and GQ are *Current Procedural Terminology (CPT)* or *Healthcare Common Procedure Coding System (HCPCS)* modifiers.

## Comment

Our study was limited by a small sample size; however, our goal was to detect and report different types of tele dermatology business models that currently are in practice. The small number of respondents likely does not indicate poor participation; rather, it is probably reflective of our strict inclusion criteria. We sought to interview only dermatologists who were currently receiving payment for tele dermatology services and members of tele dermatology-related professional groups. Our strategy in this study was to cast a wide net to capture some of the few dermatologists who currently fit this requirement.

We anticipate that the standard FFS business model for tele dermatology will expand slightly as more legislation incentivizing telemedicine is enacted. Currently, Medicaid reimburses for live interactive tele dermatology in 47 states and for asynchronous consultations in 9 states, whereas Medicare nationally reimburses only for live interactive services in low-access areas.<sup>4</sup> Additionally, 29 states and the District of Columbia have private insurance parity laws mandating that private plans cover and reimburse for telemedicine comparable to in-person care. Seven of those states just passed their legislation in 2015, with 8 more states currently considering proposed parity laws.<sup>5</sup>

On the other hand, the FFS model in general may actually limit the rate of adoption of tele dermatology. Several of our study's respondents pointed to dermatologists' opportunity costs under the FFS reimbursement environment as a barrier to widespread adoption of tele dermatology; providers may prefer in-person visits to tele dermatology because they can perform procedures, which are more highly reimbursed. For that reason, a major driver of tele dermatology adoption in the future may be the emergence of new, quality-based practice models, such as accountable care organizations.<sup>6</sup>

Because most states require that providers hold a medical license in the jurisdiction where their patient is physically located, physicians providing tele dermatology services across state lines could face additional licensure requirements. However, these requirements would not be a barrier for physicians providing tele dermatology services within the context of an in-state referral network. Licensure requirements generally do not restrict physician-to-physician consultations.<sup>7</sup>

## Conclusion

As reimbursement models across medicine evolve and telemedicine continues to enhance delivery of care, we anticipate that quality-based reimbursement ultimately will drive successful utilization of

tele dermatology services. Telemedicine has been noted to be a cost-effective tool for coordinating care, maintaining quality, and improving patient satisfaction.<sup>8</sup> Although none of the tele dermatology business models surveyed currently incorporate incentives for faster case turnaround or higher patient satisfaction, we expect models to adjust as quality measures become more prevalent in the reimbursement landscape. Effective business models must be implemented to make tele dermatology a feasible option for dermatologists to deliver care and patients to access care.

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