

Are we ready for Telegenetics? Surveying the current landscape among ACMG members

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Introduction

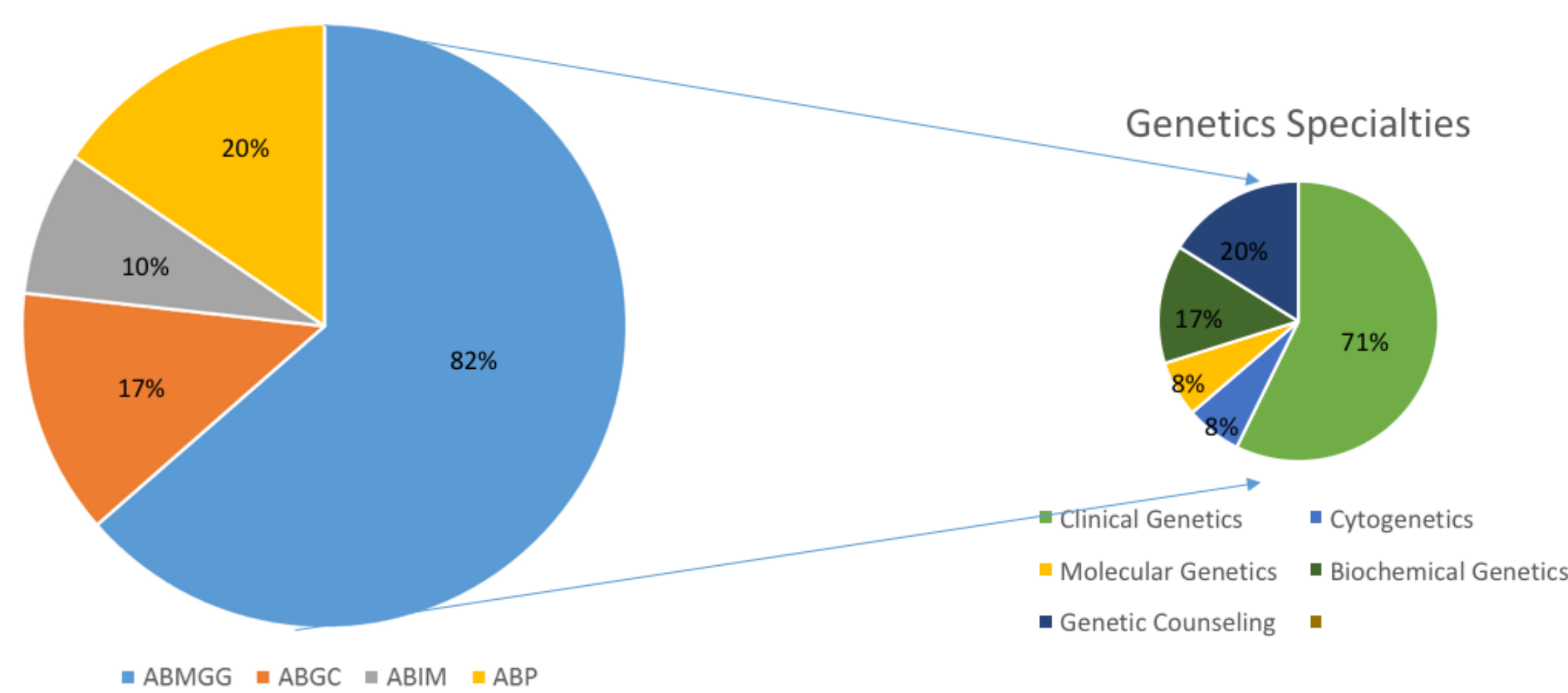
Telemedicine is defined as remote health care to exchange medical information from one site to another via electronic communication to improve a patient's health.¹ It has been widely used in various medical disciplines such as dermatology, cardiology, radiology, psychiatry and others including clinical genetics, which we refer to as "telegenetics". Telegenetics involves electronic communication between patient and provider as well as between providers and this relatively new concept of health care delivery promises to improve accessibility to genetic care. Different modalities of delivery include video conferencing, telephone and electronic consultations. In spite of its perceived advantages, telegenetics implementation in practice is still rather limited.^{2,3} Through this study, we aim to explore the current usage of telegenetics amongst our ACMG providers and what they perceive as barriers to implementation. Given the relatively small numbers of providers in clinical genetics, we also queried if providers had the capacity to expand into telegenetics, even if it were easily available.

Methods

- ❑ Members of ACMG were surveyed on their views and experience with telegenetics
- ❑ Survey questions were developed by members of the ACMG Adult Genetics Special Interest Group (SIG) and validated via distribution to a group of genetics professionals at the ACMG annual meeting
- ❑ The survey was then emailed to all ACMG members via the ACMG newsletter
- ❑ Responses were collected over a 2 month duration (n=69)

Survey responders

Board certified specialty distribution



Percentages are more than a 100 as some responders may be double-boarded

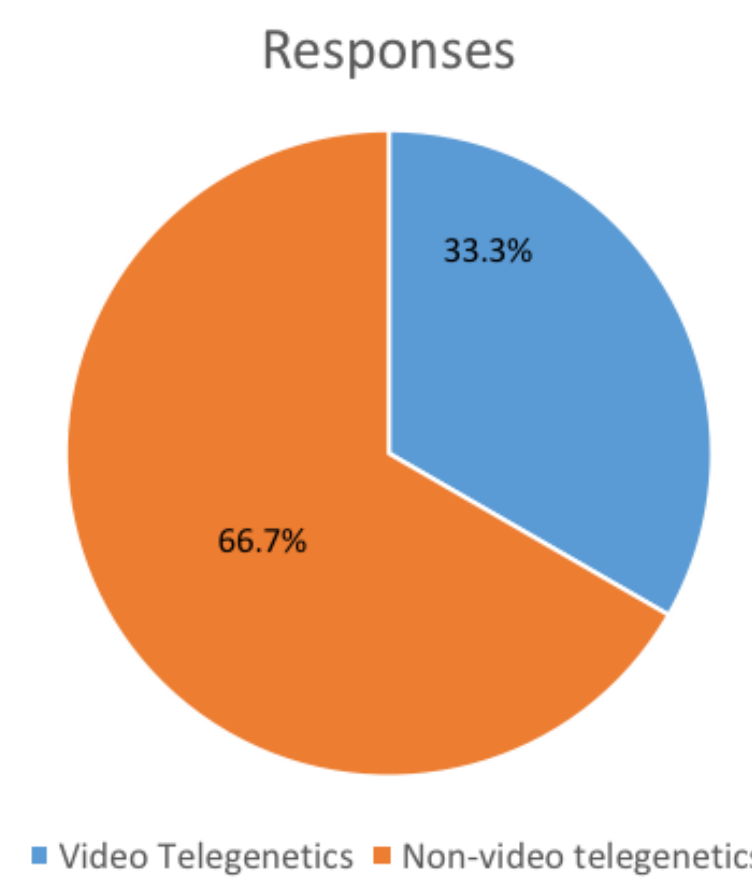
Results

The survey received 69 responses from those board certified by the ABMGG (82%), ABGC (17%), ABIM (10%) and ABP (20%). Greater than 50% of respondents reported spending 50-100% of their time in direct patient care, of which 27% reported spending >75%. Among ACMG members, 33.3% indicated they currently deliver telegenetics via video and 40% indicated having seen between 1 and 100 patients via telegenetics over the past 12 months (3 clinicians each saw >100 patients using telegenetics). Telegenetics reimbursement by insurance was achieved by 19%, and 34% received some form of reimbursement/compensation. There are similarities and differences in perceived obstacles to delivery of telegenetic care amongst those who have provided video telegenetics vs those who have not. The greatest obstacle seen was reimbursement for telegenetics, followed by logistical support for telegenetics delivery, patient access to technology and lack of institutional support, among others. Up to 21% of ACMG respondents indicated that they have time/resources for additional patient care, over 60% indicated telegenetics would improve their ability to expand their current practice.

Current delivery of telegenetics services

Modes of delivery of telegenetic care

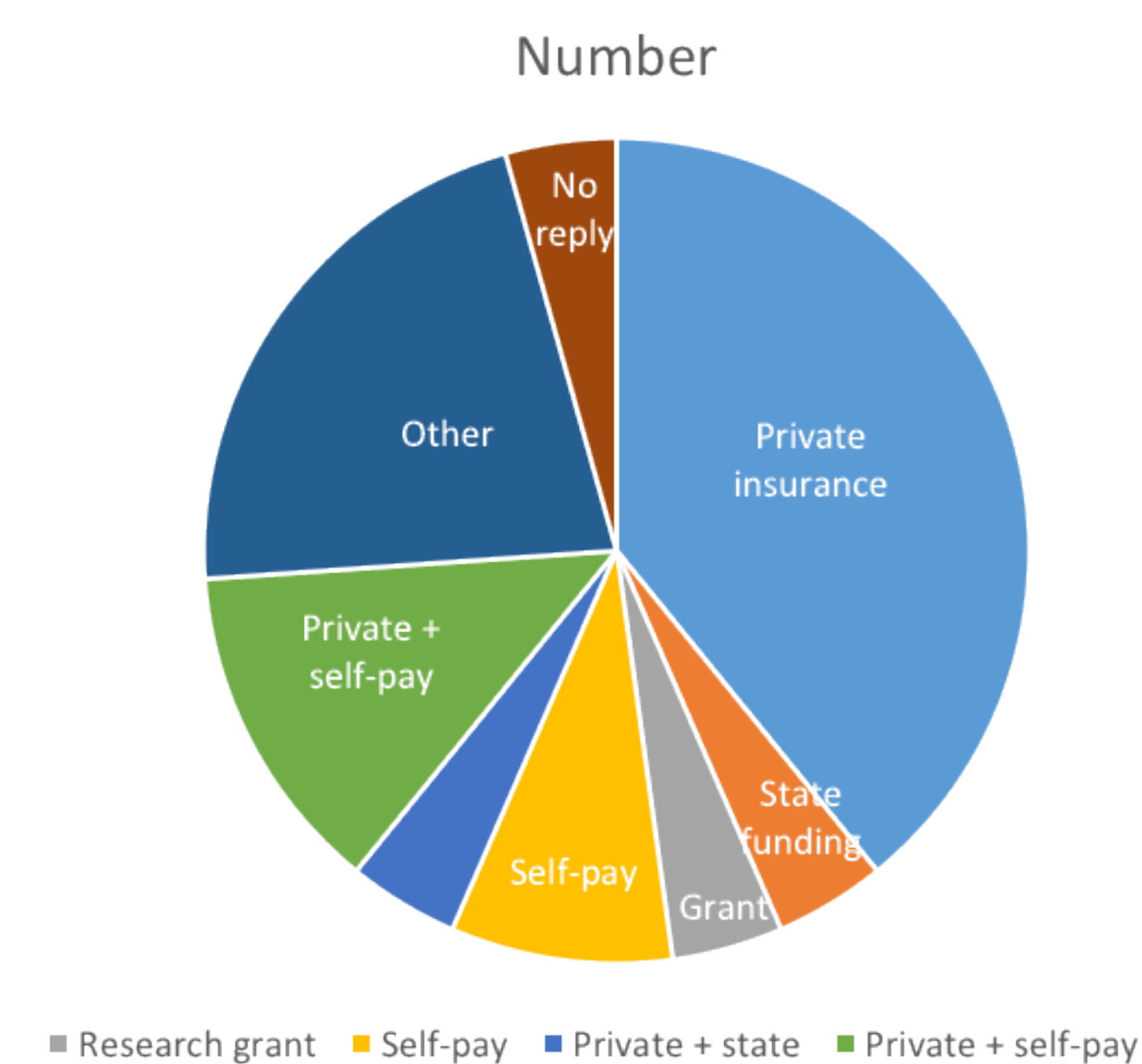
- Video telegenetics
1. **Video conferencing:** Patient and provider use audiovisual telecommunication at their respective sites to converse with each other.
- Non-video telegenetics
1. **Telephone consultation:** Patient and provider use only audio communication.
 2. **Electronic consultation:** Electronic exchange of medical information between providers to discuss genetic care of a patient



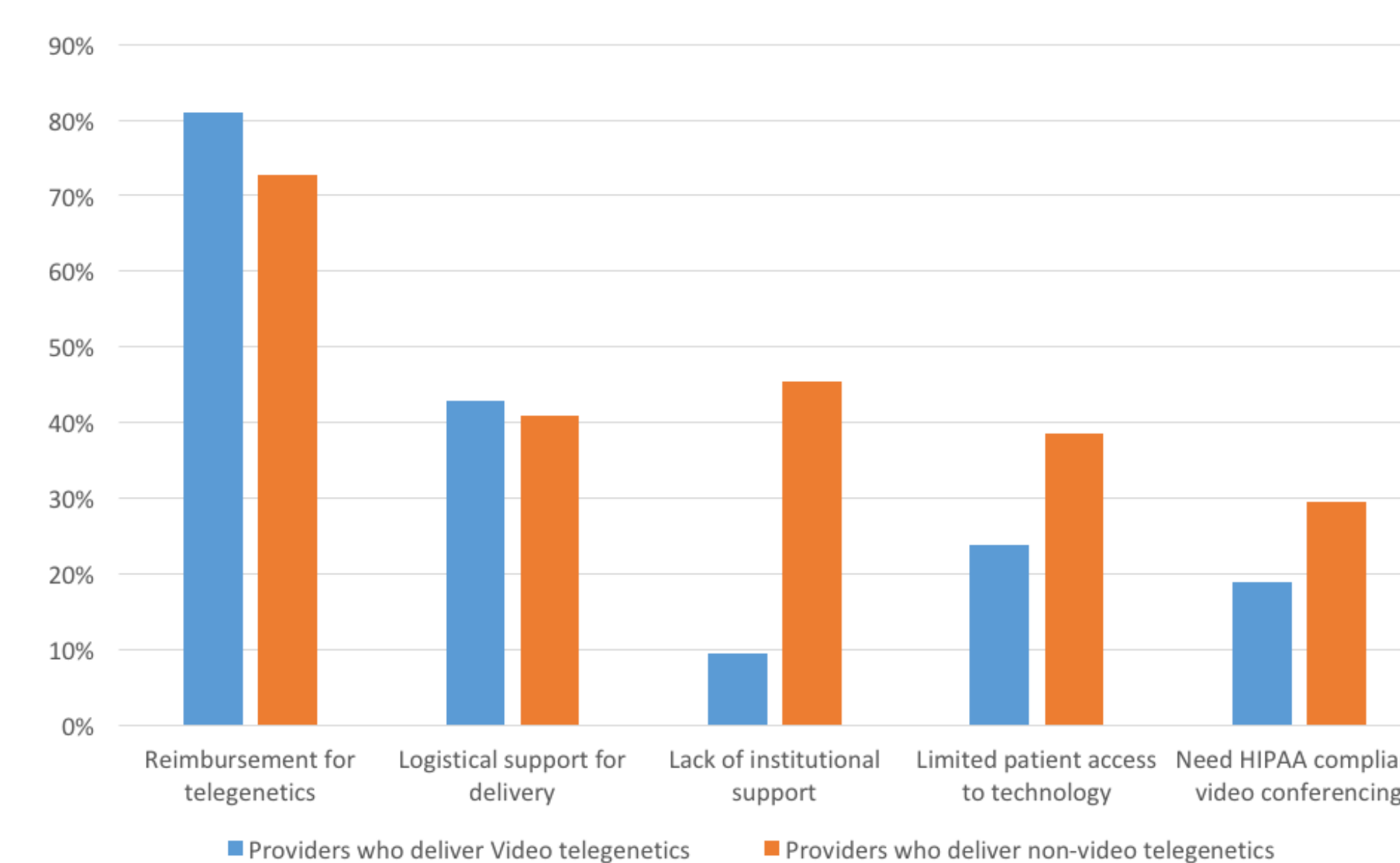
Telegenetics will improve accessibility to patients

	Agree/Strongly Agree	Neither Agree/Disagree	Disagree-N/A	No response
Providers who deliver video telegenetics	78.3%	0%	13.0%	8.7%
Providers who deliver non-video telegenetics	60.9%	4.3%	32.6%	2.2%

Reimbursement for telegenetic services



Perceived obstacles to delivery of telegenetic services



Ability to expand into telegenetics

	Agree/Strongly Agree	Neither Agree/Disagree	Disagree/Strongly Disagree	N/A
Providers who deliver video telegenetics	61.9%	0%	9.3%	14.3%
Providers who deliver non-video telegenetics	63.6%	9.1%	25%	11.4%

Discussion

- ❑ Only a minority of ACMG members currently provide telegenetic services
- ❑ Majority agreed that telegenetics will help expand their practice of genetic care but only a subset of responders have the existing capacity to expand
- ❑ Barriers to delivery of telegenetics are comparable to other published reports.^{4,5} Major limitation is uncertainty over reimbursement of services. Providers who deliver video telegenetics have likely overcome some of the perceived obstacles such as institutional support and technological limitations.
- ❑ Telegenetics does have great potential for implementation and patient satisfaction surveys have shown it to be equally accepted by patients and providers.⁶
- ❑ Need to develop international collaborations and develop standard guidelines to allow a wider application of telegenetics.

References

1. <http://www.amercantelemed.org/>
2. Cohen SA, Marvin ML, et al. J Genet Couns 22:411-421, 2013.
3. Vreear I, Hristovski D, Peterlin B. J Med Syst 41:21, 2017.
4. Saliba V, Legido-Quigley H, et al. Int J Med Inform 81:793-809, 2012.
5. Otten E, Birnie E, et al. Eur J Hum Genet 10:1038, 2015.
6. Buchanan AH, Datta SK et al. J Genet Counsel 24(6):961-970, 2015.

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