Colorado's Unmet Demand for Specialty Care

And the System We Need to Meet It

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About the Colorado Health Institute

About the Colorado Health Institute: The Colorado Health Institute is a nonprofit and independent health policy research organization that is a trusted source of objective health policy information, data, and analysis for the state's health care leaders.

While playing with her toddler, 31-year-old Mya* fell on her shoulder. She thought she strained a muscle and that it would heal on its own. When the pain worsened, Mya went to her primary care provider who found she had a fractured clavicle. She would need to see an orthopedic surgeon.

Despite the best efforts of her primary care provider to get her an appointment, two offices turned down her insurance. She's a member of Health First Colorado, the state's Medicaid program, and the surgeons said they had reached their budgeted number of Medicaid patients for the year.

Now, Mya is on a waiting list to see an orthopedic surgeon at the local community hospital.

Mya is a real patient waiting for care in Boulder as of April 2019, and her experience is shared by hundreds of thousands of Coloradans annually who use Medicaid or have no coverage. These specialty care gaps persist despite Colorado's increasing insurance rates and commitment to primary care access.

The Colorado Health Institute (CHI) estimates that 634,000 visits go unmet annually in Colorado because of gaps in insurance coverage, lack of specialist capacity, and other barriers such as reluctance of some providers to accept patients who use Medicaid or who have no insurance. This report explains how CHI came up with that estimate and suggests several approaches to addressing the gap.

Colorado has employed many of the policy options available to states under the Affordable Care Act, from expanding Medicaid eligibility to building a state-based insurance exchange. Hundreds of thousands of Coloradans have benefited. Colorado has held on to its record-setting uninsured rate of 6.5 percent, according to the 2017 Colorado Health Access Survey (CHAS).[1] Colorado also has built strong primary care capacity — nearly 85 percent of Coloradans report that they have a usual source of care.

The story, however, is much different for specialty care, especially for low-income Coloradans. The median time that Coloradans wait for a general doctor appointment is two days, but it's more than nine days for specialist care. Some Coloradans report waiting up to a year. And Medicaid enrollees report waiting 1.4 times longer than commercially insured patients to get specialty care. Medicaid enrollees are nearly three times more likely than commercially insured patients to report they didn't get specialty care because they couldn't find a provider who took their insurance.[2]

Three Takeaways

- In Colorado, Medicaid enrollees and people without insurance use specialty care at far lower rates than Coloradans with commercial insurance — illustrating a gap in access to care.
- Medicaid patients forgo an estimated 486,000 specialty care visits annually; for uninsured patients it's 148,000 visits. On average, that's about 87 extra visits annually for each of the state's medical specialists.
- Addressing these gaps will require short-term and long-term solutions in the care safety net — from increased use of e-consults and telehealth to initiatives such as increased use of advanced practice providers and more primary care provider education to address specialty care needs without a visit to a specialist.

NOTE: This report uses the term "specialist" to include any licensed provider of specialty care — including MD-trained providers as well as advanced practice professionals such as nurse practitioners, physician assistants, and others.

**Name changed to protect patient privacy.*

Many low-income Coloradans do not see a specialist at all because it costs too much. This includes about 13 percent of Medicaid and Child Health Plan *Plus* (CHP+) enrollees and nearly 30 percent of uninsured Coloradans. That's compared with only 9 percent of commercially insured Coloradans.

The trend is the same when we compare the experiences of people of color versus their white counterparts. According to the CHAS, 13.6 percent of people of color skipped specialist care due to cost in 2017, compared with 10.3 percent of white, non-Hispanic/Latinx Coloradans.

We also know that specialty care access varies greatly by geography. Median wait times for specialty care range from 6.5 days in Douglas County to 13.2 days in some rural and frontier counties.

Colorado's Work So Far

Efforts are underway in Colorado to address these inequities.

For example, health care professionals are getting around long wait times, cost barriers, and workforce shortages using **e-consults** — digital communication between a general health care professional and a specialist to get specialty care advice without a face-to-face patient encounter. In other words, e-consults are generalist-to-specialist email systems.

E-consults are critical tools for addressing specialty care needs because they do not require a patient to schedule, get to, or pay for a face-to-face visit with a specialist. That's why this analysis focuses on e-consults as a potential solution to address Colorado's specialty care access gaps.

Other health care providers are using **telehealth** to connect patients with specialists over live video. Patients can use telehealth services to get care when a local specialist is unavailable. That said, patients who use telehealth still need to get time with a specialist and pay for the services.

Many primary care providers are also partnering formally and informally with specialists to offer patients **in-person services** when needed.

To connect these efforts at a high level of leadership, CHI convened the Specialty Care Stewardship Council (SCSC), a group of C-suite health care leaders developing a statewide specialty care safety net. Read more about the SCSC on page 8.

How We Did It

CHI conducted this research for a first-ever quantification of the unmet demand for specialty care in Colorado.

We used a complex analysis overlaying several data sources in our research process:

1. **Identify the amount of specialty care Coloradans receive.** We used 2016 Medical Expenditure Panel Survey (MEPS) data to estimate specialty care utilization rates by insurance type.
2. **Identify how much specialty care Coloradans should receive.** We assumed that commercially insured rates of specialist visits — adjusted for different population health needs — were the "right" amount of specialty care patients should receive. We set these rates of use as the target to be met by Medicaid members and uninsured patients.
3. **Compare these two amounts to find gaps in services.** We compared the Medicaid and uninsured population specialty care utilization rates to the commercially insured utilization rates to identify gaps in care by specialty and insurance group.
4. **Identify tools and financing options that can address the gaps.** We reviewed the literature to find the number of specialty care visits that could be addressed using e-consults.

But these efforts have not closed the gaps, and each solution has limitations. For example, e-consults are not reimbursed by insurers. Telehealth services are, but broadband internet access is a barrier. And specialists earn more for treating commercially insured patients than Medicaid members or uninsured patients. In so doing, they avoid low Medicaid reimbursement and billing challenges and socioeconomic factors that make it harder for some patients to keep appointments and adhere to their care plan, such as lack of transportation and comorbidities such as substance use and mental illness.

With support from the Telligen Community Initiative, CHI set out to quantify the problem and find ways to solve it.

Our Questions and What We Found:

1. *What is the unmet demand for specialty care in Colorado?*

It would take 167,000 e-consults and 467,000 patient-provider visits to meet the unmet specialty care demand among Medicaid enrollees and uninsured Coloradans.

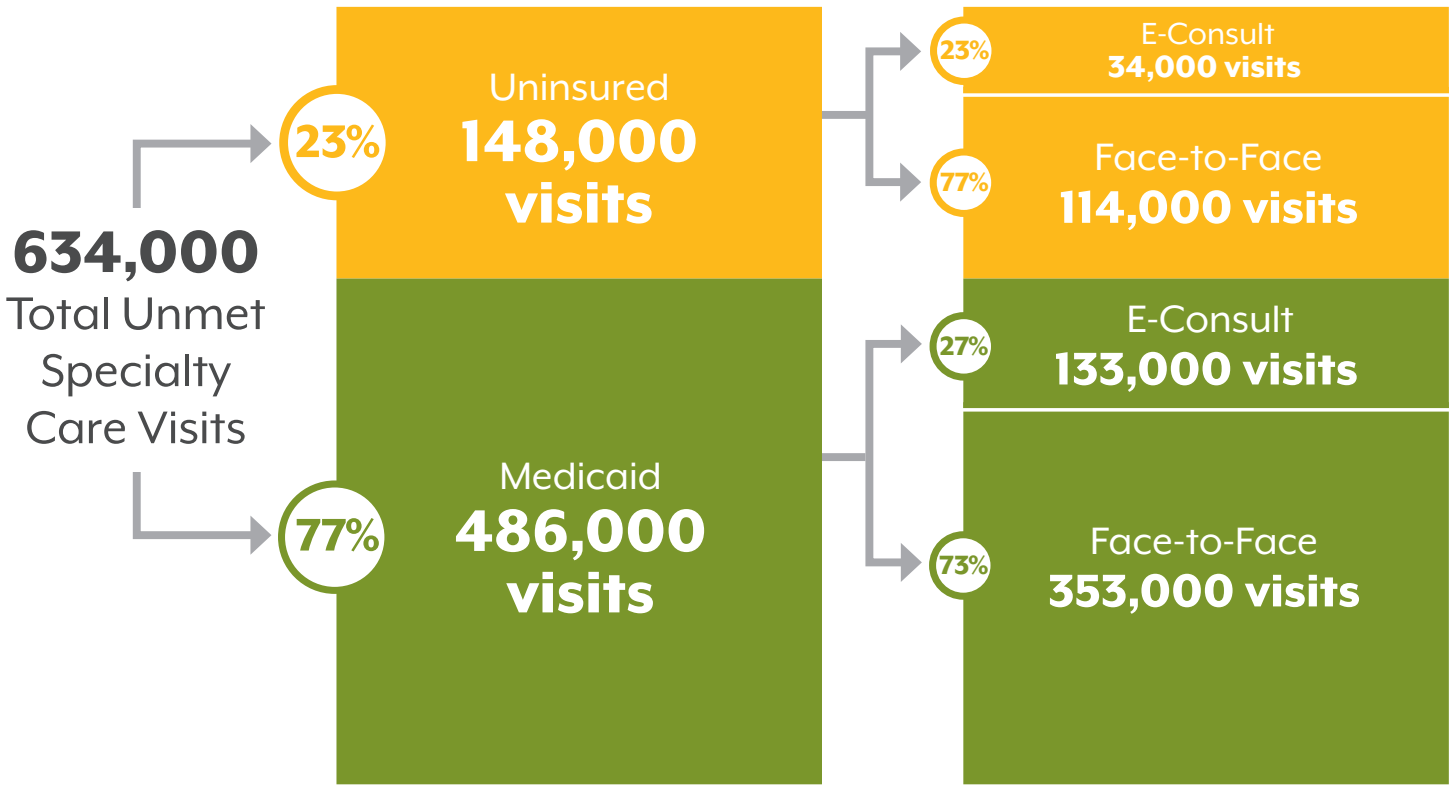
2. *What tools should Colorado's leaders use to address the gaps?*

Addressing the gaps will require multiple specialty care safety net solutions, including e-consults, in-person visits, and telehealth capabilities.

3. *What would it cost to address the need?*

It would cost about $93 million annually — or $47 million if we account for Medicaid reimbursement — to cover all of Colorado's unmet specialty care visits.

Figure 1. Unmet Demand for Specialty Care among Adults (19-64) Without Insurance and Those Enrolled in Medicaid, Colorado



Answering the Research Questions

This section provides answers to three questions that motivated this work.

1. What is the unmet demand for specialty care by specialty area?
2. What tools should Colorado's leaders use to address the gaps?
3. What would it cost to close the gaps in specialty care access in Colorado?

Question One: What is the unmet demand for specialty care by specialty area?

About 486,000 specialty care visits for Medicaid patients and 148,000 visits for uninsured Coloradans go unmet annually. That's about 83 extra visits annually for each of the state's more than 7,000 medical specialists (see Appendix 1).

Among specialties, the greatest disparity shared by Medicaid and uninsured Coloradans is in ophthalmology. Compared with their commercially insured counterparts, Medicaid enrollees are missing out on 99,000 ophthalmology visits, and uninsured Coloradans are forgoing 57,000 visits. Other recent analyses have identified ophthalmology as a growing area of specialty care demand.[3]

Otherwise, the gaps in care types differ for Medicaid and uninsured Coloradans, according to CHI's analysis. For example, Medicaid members are missing 91,000 visits with dermatology service providers and 29,000 visits with general surgeons. Uninsured Coloradans are getting significantly fewer visits for psychiatry (43,000 visits), geriatrics (18,000 visits), and endocrinology (12,000 visits).

Considerations

Gap size versus urgency. While some of these gaps are large — such as over 150,000 missing ophthalmology visits — others are important due to their apparent urgency or acuity. For example, uninsured Coloradans are missing almost 9,000 visits with oncology service providers.

Data capture. The MEPS data could make some gaps appear larger or smaller than they really are. Ophthalmology provides an example. Patients may report having an eye exam with an ophthalmologist — and the ophthalmologist confirms the visit — but those services were actually delivered by optometrists working under the supervision of the ophthalmologist. In the MEPS data, it might appear that commercially insured people are getting very high levels of specialty ophthalmologist care when really they are getting standard eye exams delivered by optometrists.

Local system data mismatch. We were unable to use local hospital referral rates to check how our analysis stacked up in the "real world." That's because hospital system data are not collected with the purpose of estimating unmet demand for specialty care. For example, we were unable to use hospital referral rates to estimate the demand for certain specialty care types. That's because a provider might not make a referral for a cardiologist, for example, every time that patient needs cardiology care. The provider might only make that referral in certain cases, like when a specialist is available, or if the patient specifically wants to receive that care. This approach underestimates the demand for specialty care. Policymakers should consider this limitation when it comes to structuring data systems to answer critical questions.

Table 1. Top Five Specialties by Most Unmet Visits, Medicaid and Uninsured, 2017

Medicaid

Specialty	Unmet Visits	Percentage Met by E-consults
1. Ophthalmology	99,000	18%
2. Dermatology	91,000	40%
3. Other Specialty	62,000	28%
4. Gynecology/Obstetrics - Pregnancy-Related	54,000	33%
5. General Surgery	29,000	18%

Uninsured

Specialty	Unmet Visits	Percentage Met by E-consults
1. Ophthalmology	57,000	18%
2. Psychiatry	43,000	18%
3. Geriatrics	18,000	30%
4. Endocrinology	12,000	41%
5. Oncology	9,000	48%

Next Steps

The Specialty Care Stewardship Council recommended conducting a "deep dive" into the largest gaps, such as unmet ophthalmology visits. Questions could include:

- How many of these visits require services from ophthalmologists — such as cataract surgery or medical care for issues like glaucoma?
- How many of these visits could be addressed by optometrists — such as eye exams?
- How many of these visits — if any — could be handled through telehealth?

Question Two:
What tools should Colorado's leaders use to address the gaps?

CHI estimates that about 26 percent of Colorado's unmet demand for specialty care could be addressed using an e-consult, though this varies by specialty (see Appendix 1).

Some specialty areas lend themselves to e-consults better than others. For example, the literature suggests that almost half of neurology visits can be addressed with an online or phone consultation between primary care provider and specialist.

Considerations

The literature varies. We reviewed the literature to identify 15 studies that demonstrate "avoided specialty care visits" as a result of an e-consult. For example, this analysis includes information captured in the Los Angeles Safety Net eConsult program and the Rubicon MD eConsult pilot with Colorado's Doctors Care. The literature varies in how "avoided specialty care" is defined and analyzed. In looking at gastroenterology, for example, three different studies found that anywhere between 20 and 52 percent of face-to-face visits could be avoided with an e-consult between a primary care provider and a gastroenterologist.

Question Three:
What would it cost to close the gaps in specialty care access in Colorado?

CHI estimates it would cost about $93 million annually to pay for all the unmet specialty care visits in Colorado at the average rate of private insurance reimbursement. That's about $150 per visit.

This estimate assumes a new funder such as a foundation — as opposed to an increase in reimbursement from the state Medicaid program, for example — would pay the full cost of all unmet specialty care visits, including visits that otherwise would be covered by Medicaid at a lower reimbursement rate than private insurance.

This estimate also assumes that the average use of specialty care and reimbursement rates in private coverage is appropriate. In fact, the literature shows an over-use of specialty care in private settings. Those additional services, tests, and procedures may inflate the cost unnecessarily.

The price tag drops to $47 million annually to cover all unmet specialty care visits when we account for Medicaid reimbursement of some of these missing visits and potential overutilization of care in the commercially insured population.

Table 2. Which Specialties Would Have the Biggest Reduction in Unmet Demand If E-Consults Are Used?

Specialty	Unmet Visits	Portion of Visits Potentially Avoided by E-Consults	Number of Visits Potentially Avoided by E-Consults
Dermatology	91,000	40%	37,000
Ophthalmology	156,000	18%	28,000
Gynecology/Obstetrics - Pregnancy-Related	54,000	33%	17,000
Other Specialty	62,000	28%	17,000
Geriatrics	37,000	30%	11,000

The Specialty Care Stewardship Council and Other Innovations

ASCENT Cohort, April 2019 in Longmont.

Since 2016, CHI has convened the Specialty Care Stewardship Council (SCSC), a group of C-suite health care leaders developing a statewide specialty care safety net.

It includes stakeholders from the governor's office, delivery systems, Medicaid, insurers, providers, public health agencies, and medical schools. The SCSC's achievements to date include informing CHI's estimates of specialty care demand and generating potential statewide solutions to address the demand.

CHI has also convened a cohort of five programs increasing access to specialty care as part of the Kaiser Permanente Colorado-funded effort known as ASCENT (Access to Specialty Care Engagement Network).

Colorado's health care leaders take access to specialty care seriously. Innovative work is happening to increase access to specialty care across safety net clinics, large health care systems, Medicaid, health alliances, and other groups. Examples include:

- The State Innovation Model (SIM) is a governor's office initiative helping primary care practices integrate specialty services such as behavioral health care into primary care.
- Aurora Health Access convenes the Specialty Care Interest Group to better understand barriers to specialty care access and to identify strategies to address those barriers in Aurora.
- Mile High Health Alliance's Specialty Care Network connects primary and specialists to meet needs among Medicaid patients in Denver.
- The Boulder County Health Improvement Collaborative is piloting a referral database with primary and specialty care providers.
- Kaiser Permanente Colorado's safety net specialty care program connects uninsured patients in Colorado safety net clinics with e-consults and face-to-face visits delivered by Kaiser specialists.

Considerations

Uninsured Coloradans would benefit ... maybe. The $47 million annual price tag would cover missing specialty care visits for Colorado's uninsured population. Those visits make up about a fifth of the total unmet visits but half the price tag. That's because no one is paying for these visits today — Medicaid or otherwise.

The challenge is less related to the price tag and more related to getting a payment structure in place. For example, giving uninsured Coloradans access to even partially subsidized specialty care services would not make sense without providing primary care as well.

This is only one definition of cost. Pinpointing costs is a complicated exercise that raises an important question — whose costs? Payers? A foundation? The state? Out of pocket patient costs? Hospitals? $47 million is a relatively small increase in the Medicaid budget but a large annual grant from a foundation. Future investigations should assign a potential "buyer" to help refine this estimate.

Assumptions abound. Doctors often provide more care than a patient needs. This is known as doctor-induced demand. This analysis assumes that we can reduce doctor-induced demand, even though there is no system in place to do so.

The analysis also does not account for provider shortages. Even if there is a way to pay for visits, it will not matter if Colorado lacks enough providers.

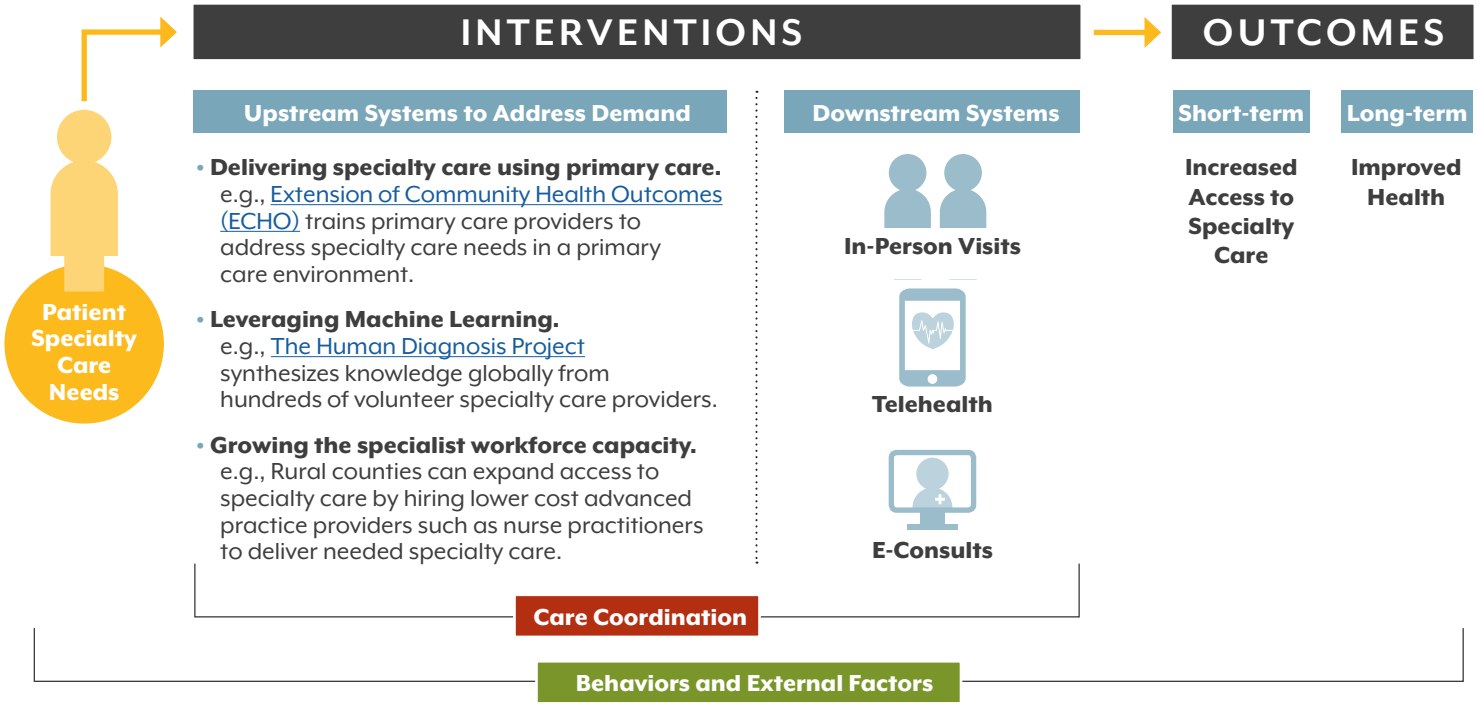
Finally, the estimate does not account for the potentially slow adoption of e-consults. Many of the savings in this analysis come from e-consults, and the annual price jumps to $62M if doctors don't use e-consults.

How We Did It

CHI used Medical Group Management Association (MGMA) price data to estimate specialty care visit costs. We found overutilization in commercially insured population, and that overutilization was attributed to the cost per visit, not to the total number of visits. We estimated that specialists deliver about a fifth more care per visit than patients need, so we reduced the price per visit by 21 percent to account for overutilization. We did not assume that overutilization applied to e-consults.

We also did not assume any cost difference between commercially insured and Health First Colorado populations for e-consults.

Figure 2. A Statewide Model For Increasing Access to Specialty Care



Imagining a Statewide Specialty Care System – And How to Finance It

The statewide specialty care system that we envision will include e-consults, telehealth, and in-person visits. But the model will also invest in systems transformation to fundamentally change the way people access care, including:

- Provider education to promote specialty care access in primary care and non-traditional environments;
- Increased use of advanced practice providers such as nurse practitioners and physician assistants; and
- Emerging innovations such as machine learning that can increase access to specialty care.

This model is illustrated in Figure 2. It was produced through partnerships between CHI and Colorado's health care leaders.

Colorado will need short-term financing options to launch this model and long-term options to sustain it.

CHI conducted a series of key informant interviews and literature reviews to identify four options for policymakers to explore:

Short-term:

- Create social impact bonds
- Leverage hospital community benefit

Long-term:

- Change Medicaid reimbursement policy
- Expand loan repayment initiatives

Figure 3. Statewide Specialty Care Safety Net System Financing Options

SHORT-TERM

Create Social Impact Bonds

Funders provide capital and the state pays them back when program outcomes are achieved.

Example in Colorado: Colorado's Coalition for the Homeless' Social Impact Bond Initiative

Policy Questions: Who could provide start-up funding? How do we measure the investment's success?

Leverage Health System Community Benefit

Spending that promotes community health helps health systems retain their tax exemptions.

Example in Colorado: Kaiser Permanente Colorado Safety Net Specialty Care Program

Policy Questions: Do community benefit rules incentivize meaningful investments in critical issues such as specialty care access? How will these incentives change over time?

LONG-TERM

Change Medicaid Reimbursement Policy

Colorado's Medicaid program would reimburse for e-consults — specialty care consultations delivered via electronic messaging.

Example in Colorado: Colorado's Medicaid 2016 rheumatology e-consult pilot program

Policy Questions: How much would it cost to reimburse primary care providers for the time they spend on e-consults? How much would it cost to incentivize specialists to offer e-consults?

Expand Loan Repayment Initiatives

Providers commit to practicing at a high-need site in return for loan repayment.

Example in Colorado: Colorado Health Service Corps Loan Repayment Program

Policy Questions: Will this option sustainably increase the number of specialists — especially those who serve uninsured and publicly insured Coloradans?

Policy Implications and Remaining Questions

CHI's research reveals that addressing unmet specialty care demand will require multiple approaches. For example, any solution should include a mix of improved care coordination, education for primary care providers to address specialty care needs without a specialist, as well as face-to-face visits with specialists.

E-consults could provide a place to start. There is a mountain of evidence documenting their effectiveness increasing access to specialty care.[4, 5, 6] That said, expanding the use of e-consults raises multiple policy questions:

- What models exist for reimbursing e-consults? Should payment be limited to specialists or include primary care providers as well?
- Which types of visits, procedures, or services are more amenable to e-consults than others? Where could policymakers start?
- How long would it take for the state to realize a return on its investment in e-consults?
- What are the unique needs of rural areas? For example, to what extent are rural clinics equipped with broadband internet to support e-consults or telehealth? Is the specialty care provider workforce sufficient in rural areas to provide in-person referrals?
- What are the implications for licensure rules?
- What would it take for more providers to serve Medicaid members?

Conclusion

Analyzing Colorado's unmet specialty care needs has illuminated the broad stakeholder interest in expanding access to specialty care for people who lack insurance or are enrolled in Medicaid. Challenging work is ahead — from selecting a model and implementing it, to making sustainable changes in the way Coloradans access specialty care via e-consult, telehealth, advanced practice provider, and other approaches. This analysis moves Colorado one step closer to expanding access to specialty care for everyone who needs it.

Endnotes

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Appendix 1: Data Tables

Table 3. Total Unmet Demand for Specialty Care in Colorado, 2017.

Specialty Type	Medicaid	Uninsured	Total Unmet Visits	Unmet Visits Per Colorado Specialist
Allergy / Immunology Visits	20,727	711	21,438	*
Anesthesiology Visits	1,007	-	1,007	2
Cardiology Visits	2,301	-	2,301	18
Dermatology Visits	91,442	-	91,442	687
Endocrinology / Metabolism (Diabetes, Thyroid) Visits	-	11,514	11,514	634
Gastroenterology Visits	26,503	-	26,503	590
General Surgery Visits	29,399	7,287	36,686	94
Geriatrics Visits	18,641	18,230	36,871	*
Gynecology / Obstetrics Visits - Pregnancy-Related (Including Prenatal Care & Delivery)	53,554	-	53,554	165
Hematology Visits	1,417	1,065	2,482	
Nephrology Visits	-	-	-	-
Neurology Visits	-	-	-	-
Oncology Visits	565	8,601	9,166	111
Ophthalmology Visits	98,706	57,427	156,133	1,283
Orthopedics Visits	19,904	-	19,904	72
Other Specialty Visits	62,294	-	62,294	*
Otorhinolaryngology (Ear, Nose, Throat) Visits	10,137	-	10,137	134
Pathology Visits	-	-	-	-
Physical Medicine / Rehab Visits	1,933	-	1,933	31
Plastic Surgery Visits	13,658	326	13,983	405
Proctology Visits	-	-	-	
Psychiatry / Psychiatrist Visits	-	42,603	42,603	116
Pulmonary Visits	-	-	-	-
Radiology Visits	29,250	-	29,250	50
Rheumatology Visits	-	-	-	-
Thoracic Surgery Visits	-	-	-	
Urology Visits	4,930	-	4,930	85
Total	**486,367**	**147,765**	**634,131**	**83**

* Licensure data are insufficient for analysis.

Table 4. Tools to Meet the Unmet Demand for Specialty Care — Potential Impact of E-Consults.

Specialty Type	Total Unmet Visits	Portion That Could Potentially Be Met by E-consult	Visits Potentially Addressed by E-Consult	Remaining Unmet Visits
Allergy / Immunology Visits	21,438	18%	3,859	17,579
Anesthesiology Visits	1,007	30%	298	708
Cardiology Visits	2,301	51%	1,162	1,139
Dermatology Visits	91,442	40%	36,577	54,865
Endocrinology / Metabolism (Diabetes, Thyroid) Visits	11,514	41%	4,721	6,793
Gastroenterology Visits	26,503	34%	9,099	17,404
General Surgery Visits	36,686	18%	6,603	30,082
Geriatrics Visits	36,871	30%	10,933	25,939
Gynecology / Obstetrics Visits - Pregnancy-Related (Including Prenatal Care & Delivery)	53,554	33%	17,405	36,149
Hematology Visits	2,482	33%	819	1,663
Nephrology Visits	-	27%	-	-
Neurology Visits	-	50%	-	-
Oncology Visits	9,166	48%	4,400	4,766
Ophthalmology Visits	156,133	18%	28,104	128,029
Orthopedics Visits	19,904	18%	3,583	16,322
Other Specialty Visits	62,294	28%	17,209	45,085
Otorhinolaryngology (Ear, Nose, Throat) Visits	10,137	18%	1,825	8,312
Pathology Visits	-	30%	-	-
Physical Medicine / Rehab Visits	1,933	30%	573	1,360
Plastic Surgery Visits	13,983	18%	2,517	11,466
Proctology Visits	-	30%	-	-
Psychiatry / Psychiatrist Visits	42,603	18%	7,669	34,935
Pulmonary Visits	-	18%	-	-
Radiology Visits	29,250	30%	8,673	20,577
Rheumatology Visits	-	24%	-	-
Thoracic Surgery Visits	-	30%	-	-
Urology Visits	4,930	30%	1,479	3,451
Total	**634,131**	**26%**	**167,507**	**466,625**

Appendix 2: Methods

This entire study is limited to people ages 19-64.

It used MEPS office-based medical provider visit data file that includes only MDs and excludes optometrists, psychologists, podiatrists, and chiropractors.

Specialties excluded in CHI analysis:

- Dental care
- General, non-pregnancy-related OB/GYN visits
- Pediatric visits
- Internal medicine
- General practice
- Family medicine

Measuring unmet demand

CHI used data from the 2017 CHAS to estimate the population of Coloradans covered by commercial insurance or Medicaid and those who are uninsured. The CHAS is the premier source of data on health insurance for Coloradans.

We used data from the 2016 MEPS and 2016 Behavioral Risk Factor Surveillance System (BRFSS) to identify current rates of utilization by payer. MEPS data have rates of utilization by specialty and payer, but are only available at the multistate level. BRFSS data on the overall rate of health care utilization helped us see how Colorado differed from surrounding states and to adjust these estimates accordingly.

Analysis of this data provided estimates for current annual use by payer and specialist.

We then assumed that commercially insured rates of specialist visits were appropriate, and we set these rates of use as the target to be met by Medicaid members and uninsured patients.

However, we also wanted to account for the fact that acuity levels, and therefore specialist demand, varied by payer population. In other words, different payers may serve populations that have very different specialty care needs. So, we adjusted commercially insured demand by specialist to account for these differences. The adjustment factor was based on data from Denver Health, which provided information on the rate of referrals by specialist — whether or not those specialty referrals resulted in a visit.

Allocating to e-consults versus patient-provider visits

We conducted a literature review to identify the portion of unmet visits that could be addressed by e-consults. When no literature was available, we used an average of the available portions of unmet visits that could be addressed by e-consults.

Measuring costs

We used data from Medical Group Management Association (MGMA) to identify private costs by payer.

MGMA price data were leveraged to estimate the total cost of paying for the specialty care safety net.

This analysis did not have data for each discrete specialty, except for cardiology, gastroenterology, general surgery, hematology, nephrology, neurology, oncology, and urology. For all other specialists, the overall average specialty care rate was used.

We based e-consult costs on May 2017 mean provider hourly pay as reported by the Colorado Bureau of Labor Statistics.

We also wanted to see how costs would change if we took into account evidence that privately insured patients are given 21 percent too much care. So we reduced costs by 21 percent for patient-provider visits.

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