Supplemental materials for:

Magill MK, Ehrenberger D, Scammon DLet al. The cost of sustaining a patient-centered medical home: experience from 2 states. *Ann Fam Med*. 2015;13(5):429-435.

Medical Home Cost Dimension Tool- I-COST

Part I: Cost Dimension Questions

Practice: _____

Interviewees: _____

Please answer the questions in the spaces provided below. The questionnaire is designed to provide easy and quantitative responses for determining the cost of maintaining a PCMH ongoing/long-term. If you have an additional explanation to your answers that will assist in understanding how your practice complies with these requirements or in estimating your practice's costs of complying with these requirements, please feel free to use this tool to free text additional information, if necessary.

Element/ Factor	Medical Home Cost Dimension Questions	Y/N	Position(s)	**Expanded Role *or* Unique Competency?** ("X") Exp Role	Unique Compet	Hrs/ mo	Other positions/Costs/Misc.	Budgeted-- **not implemented** ("X")	Qualitative Observations
1A	1. Regarding enhanced access and continuity:								
1A	a. Does the practice provide same day appointments?								
1A	i. How much extra time, daily, does it take to handle same-day appointments over routine appointments, if any?								
1A	b. What position(s) advises patients via telephone and electronically? (Please list all.)								
1A	i. Did you add staff (position or hours) to meet medical home requirements for telephone or electronic patient advice?								
1A	ii. If so, how many hours are spent monthly communicating with patients via telephone and electronically and documenting these responses in the medical record and monitor timeliness.								
1A	a. During regular business hours?								
1A	b. During after-hours?								

1A	c. What, if any, position(s) monitors the timeliness of response to patients via telephone or electronically?							
	i. How many hours is this done per month?							
1B	d. Does practice provide access to routine and urgent care appointments after regular business hours?							
1B	i. If so, please list individual staff positions that fill after/extended hour roles.							
1B	ii. How many hours does each position work? (please specify by individual)							
1B	e. Through what means are patient medical records and other relevant information accessed by providers when the practice is closed? (For example, e-faxing medical records to ED.)							
	i. Are there any additional costs required for this access? If so, what are they?							
1B	f. What position(s) handles any required communication ("on-call duties," including documentation of clinical advise in EMR) with patients when the office is closed?							
1B	i. Through what media is this handled, by what positions and how many hours per month (avg)? Enter N.A. as appropriate.							
1B	1. Telephone							
1B	2. Email							
1B	3. Patient portal							
	4. In person encounter							
1B	5. Other (describe)							
1C	g. What position(s) fills a patient request for an "electronic copy" of their medical record?							
1C	i. What are there extra costs involved with delivery of record to patient, if any? (Examples: secure web site, patient portal, secure email.)							
1C	h. What electronic means are available in the practice for two-way communication with patients regarding refills, test results, referrals etc.? (Examples: patient portal, secure email)							

	1C	i. Are there extra costs to the practice for this service (such as extra EMR fees/month) and if so, how much per month?							
	1D	i. Does the practice have a systematic process for patients to select a personal clinician, document their selection in the EMR and monitor compliance with this process?							
	1D	i. Are there extra costs to the practice for this service (such as extra staff time) and if so, how much per month?							
5B	1E	2. Please indicate whether practice utilize a **Care Coordinator** to navigate/facilitate its patients' need navigating various care options with other providers and facilities such as:							
5C	1E	a. Contacting patients/families for follow-up care following hospitalization or an ED visit?							
	1E	b. Coordinate referrals to specialty care, imaging and other community services?							
	1E	c. Tracking these referrals (b.) to completion?							
	1E	d. Is the practice's Care Coordinator:							
	1E	i. Employed by practice?							
	1E	ii. Service provided to practice by hospital, IPA etc.?							
	1E	e. How many hours per month does the practice utilize the Care Coordinator?							
	1E	f. If these Care Coordinator services are provided by Hospital, IPA etc., what are the costs per month for these services?							
	1G	3. Are there on-going training needs for the practice's team of clinical and non-clinical staff? If so, please specify which positions, training hours, program/consultant fees per position per month?							
	1G	a. Coordination of care?							
	1G	b. Education and self-management of care by patients?							
	1G	c. Quality improvement?							
	1G	d. Population management?							
	1G	e. Management of vulnerable populations?							
	1G	f. Patient surveys?							
	1G	g. Communication skills?							

2C	4. Does practice have systems in place that routinely screen patients for behaviors affecting health, mental health/substance abuse (including screening family history), developmental stages (pediatrics), and depression?							
2C	a. If so, list the staff positions performing this screening, and the number of hours per month required per position.							
2D	5. Regarding three preventive measures:							
2D	a. What position(s) generates the list of patients used to remind patients when gaps in care are identified (patients not recently seen or missing recommended prevention, screening, annual exams, etc)?							
2D	i. How many hours are involved in ***generating this list*** on a monthly basis?							
2D	ii. What position(s) uses these registries, identifies gaps and reaches out to remind patients regarding needed care and how many hours per month per position?							
2D	6. Regarding three chronic measures:							
2D	a. What position(s) generates the list of patients used to remind patients of services when gaps in care are identified and/or patients are not recently seen?							
2D	i. How many hours are involved in ***generating this list*** on a monthly basis?							
2D	ii. What position(s) uses these registries, identifies gaps and reaches out to remind patients regarding needed care and how many hours per month per position?							
2D	7. Regarding proactively reaching out to patients to alert them of potential medication concerns:							
2D	a. Does the practice have systems in place to generate the list of patients used to alert patients of potential harmful drug effects/interactions, information on generic alternatives, drug recalls, etc.?							
2D	i. If so, what staff positions are involved and how many hours are spent monthly generating these lists, communicating with patients via telephone and electronically and documenting these responses in the medical record?							
3A	8. With regard to the practice's implementation of clinical based guidelines for 2 chronic or recurring conditions and one unhealthy behavior condition:							
3A	a. What position is responsible for researching the evidence based guidelines and incorporating them into patient care? And, how many hours per month does this require?							

	3A	b. How many hours are spent on a monthly basis, creating flow sheets and/or templates (paper or EMR) for clinical use on the identified conditions?							
	3B	9. Regarding the practice's process for identifying high-risk or complex patients:							
	3B	a. What position(s) in your practice are charged with this task?							
	3B	b. How many hours are spent, on a monthly basis, tracking/monitoring/reviewing this data?							
1G	3C	10. Does the practice have routine staff meetings for pre-patient-visit planning/care/treatment (such as daily care team huddles) for the purposes of discussing patient load, identified issues and concerns with the scheduled patients, special needs, medication concerns etc.?							
	3C	a. If so, please describe:							
	3C	i. How many times per day and for how long? Please enter total hrs/month also.							
	3C	ii. Are the meetings held during regularly scheduled appointment times?							
	3C	1. If so, if it were not for the meeting, would the providers/clinic be seeing patients instead?							
	3C	iii. Do these meetings occur outside of regular scheduled appointment times?							
	3C	v. What staff positions attend?							
	3C	b. What position(s) meets with a patient for purposes of identifying barriers to care and helping patients/family address these barriers (regarding caring for their illness-condition, new prescriptions, drug interactions, healthy lifestyle and behavioral changes, etc.)?							
	3C	i. How many hours/month does this typically take to perform per position above?							
	3C	c. Does your practice have a process for identifying and reminding patients regarding appointment and care needs?							
	3C	i. What position(s) in your practice performs tracking of needed appointments?							
	3C	a. How much time is spent on this monthly for each reminder activity below?							
	3C	I. Missed appointments							
	3C	II. Future appointments							

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5C	3C	III. Post-hospitalization or ED visit follow-up care coordination											
	3C	IV. Preventive and chronic care gap follow-up											
1E	3C	d. What position(s) develops a patient's written care plan (at the conclusion of office visit)?											
1E	3C	i. What position(s) discusses the care/treatment plan with the patient?											
	3C	ii. How much additional time (extra hrs) per month is required to develop and present this care plan to the patient beyond normal routine operations?											
	3D	e. Regarding review, reconciliation and management of medications, what position does the following work and how much time does it take to do the following?											
	3D	i. Review and reconciliation of medications?											
	3D	ii. Provide information about new medications?											
	3D	III. Assess patient/family understanding of medications?											
	3D	iv. Assess patient response to medications and barriers to adherence?											
	3D	v. Document OTC medications, herbal and supplements?											
	4A	f. Regarding self-management support, what position(s) and how much time is required to do the following?											
	4A	i. Provides education resources or referrals to assist in self-management?											
	4A	ii. Assists patients with self-management tools to develop and document plans and goals, identify barriers and document self-management abilities?											
	4A	iii. Counsel patients/families to adopt healthy behaviors?											
3A	4B	11. What position in the practice handles maintenance of a current resource list for community services (such as: smoking cessation, weight loss, parenting, fall prevention, meal support, mental health and substance abuse, etc.) and arranges referrals or provide treatment as necessary?											
	4B	a. How many hours/month are spent maintaining these resource lists?											
	4B	b. What position(s) tracks referrals to patients for these community service resources tracked?											
	4B	i. How many hours are spent performing this task on a monthly											

	basis?							
4B	c. Does the practice provide health education classes for its patients?							
	i. If so, what staff positions are involved and how many hours are spent monthly conducting health education classes?							
4B	ii. And, what costs are involved with this? (Such as meeting room fees, audio/visual fees, speaker fees, food/snacks, handout materials, staff overtime to keep office open, staff time to greet patients attending meeting, staff time to coordinate and schedule the classes, etc.)							
5A	12. What of the following position(s) tracks results, flags abnormal reports, and notifies patients/families of normal and abnormal results on the following and how many hours/month does this take?							
5A	a. Lab							
5A	b. Imaging							
5A	c. Newborn screening							
5C	13. What position(s) is responsible for sharing clinical information with admitting hospitals and EDs, and how many hours/month are required?							
5C	14. What position(s) is responsible for consistently obtaining patient discharge summaries from hospitals and other facilities and how many hours/month are required?							
6A	19. Regarding data management in support of performance improvement initiatives (defining measures, mining data from EMR/patient records, formating and creating reports at provider/practice levels, validating and analyzing data):							
6A	a. What position(s) within the practice is responsible for data management activities and how much time (hrs/month) is required for this work?							
6A	b. What are the costs/month required for data mining, analytics, warehousing (above the costs of maintaining and supporting the EMR), if any? (Such as vendor services for a data warehouse, business intelligence and analytics.)							
6B	20. Does the practice conducts periodic patient experience surveys? If so, please answer:							
	a. How often is this survey performed?							
6B	b. Does the practice use PCMH CAHPS-GS survey tool?							

	6B	i. What are the costs associated with this service?							
	6B	c. If the practice conducts its own survey regarding access, communication, coordination and whole person care), which positions and how much time is required (hrs/month) for:							
	6B	i. Survey development?							
	6B	ii. Survey distribution (during office visits, by mail, by Survey Monkey etc.)?							
	6B	iii. What position(s) receives, validates and compiles results?							
6A 6D	6C	21. Pertaining to the practice's process for quality improvement (setting goals, analyzing performance reports, conducting and assessing effects tests of change, tracking results over time etc.) to improve performance for measures of preventive, acute/chronic care, utilization, patient experience, vulnerable population care etc.:							
	6C	a. Does the practice have a formal performance improvement team that meets regularly?							
	6C	b. How many and which staff positions attend this meeting?							
	6C	c. How often does this meeting occur and what is its duration? Please enter total hrs/month.							
	6C	d. Outside of this quality improvement team meeting, how much time is spent monthly and by which positions on measuring performance and practice quality improvement activities?							
	6E	e. Are there general staff and/or provider meetings conducted on a regular basis to present and discuss the practice's performance improvement activities and results? If so:							
	6E	i. What staff members and how many of each attend?							
	6E	ii. How often are these quality-focused staff meetings and what are their duration? Please enter total hours per month.							

6E	iii. Are these meetings conducted during regularly schedule patient care hours?							
6E	iv. If they are conducted outside of regularly scheduled patient care hours, which staff receive extra compensation?							
6F	22. Does the practice report performance and other data externally? If so:							
6F	a. What position(s) generates the" ambulatory clinical quality measures to CMS", if done?							
6F	i. How many hours per month does it typically take to generate this report?							
6F	b. What position(s) generates the "ambulatory clinical quality measures to external entities," if done?							
6F	i. How many hours per month does it typically take to generate this report?							
6F	c. What position(s) generates and transmits "data to immunization registries," such as to state agencies, if any?							
6F	i. How many hours per month does it typically take to generate this report?							
6F	ii. What are costs associated with transmission/interfacing required for this report, if any?							
6F	d. What position(s) generates the "syndrome surveillance data" for public health agencies, if done?							
6F	i. How many hours per month does it typically take to generate this report?							
6F	ii. What are costs associated with transmission of this data, if any?							
6G	23. Does your practice conduct an IT security assessment of its Electronic Medical Record system, hosting environment, wi-fi configuration, laptops and other IT hardware, etc?							
6G	b. If so, how often is it performed?							
6G	c. What is the cost of the assessment?							
6G	i. Is an outside consulting firm utilized for the assessment?							
6G	1. If so, what is the cost of the assessment?							
6G	ii. Who in the practice assists with and/or performs the security assessment?							

6G	1. How much time does the individual(s) spend on this security assessment (averaged over a year, per month)?							

Part II: Practice Staff Survey

Practice:	
Interviewees:	
Surveyor Name:	

Survey Date:

	Position Title	Hourly Rate/Salary	Exempt (Y/N)	Full Time (Y/N)	Average Hours Per Week	Has a Written Job Description (Y/N)	Receives ongoing Training (Y/N)	Cost of Training Per Position/per Year	**Annual Benefit Costs** Additional costs to practice, beyond salary or hourly wage, for health, dental, vision, disability and/or life insurance, 401k/PSP contributions, mileage or other reimbursements, continuing education, membership fees, license fees, and/or other benefits.	**Roll-up Costs per FTE Staff Position** (Practice average per unique job description) Yearly	Hourly
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											

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Part III: Practice Functional Assessment (PCMH Content Expert Survey)

Practice:		NCQA PCMH Recognition (Y/N)?	
Interviewees:		Standard and Guidelines Tool? (2008, 2011, 2014)	
CCE Name:		Recognition Yr/Mo:	
Survey Date:		Total Points:	
		Level:	

Elements/Factors requiring additional costs to practice (23):

		PCMH CCE Assessment			PCMH Recognition	
Element/ Factor	Description	Factor P/F	Functional %		Possible Points	Recognition Points
1A	**Access During Office Hours****				4	
1	Providing same day appointments CRITICAL FACTOR					
2	Provide timely advice by telephone					
3	Timely advice by electronic					
4	Document clinical advice					
1B	**Access After Office Hours****				4	
1	Provide access to routine and urgent-care outside business hours					
2	Provide continuity of medical record information for care and advice when office is closed.					
3	Provide timely advice by phone when office is closed CRITICAL FACTOR					
4	Provide timely advice using interactive electronic system when office is closed					
5	Document after hours advice					
1C	**Electronic Access**				2	
1	Electronic copy of health information within 3 days to more than 50% of patients who					

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	request it +				
2	Electronic access to current health information within 4 days to at least 10% of patients ++				
3	Clinical summaries provided for more than 50% of office visits within 3 days +				
4	Two-way communication				
5	Request for appointments or prescription refills				
6	Request for referrals or test results				
1D	**Continuity**			2	
1	Expecting patients to select a personal clinician				
2	Documenting the choice of clinician				
3	Monitoring percent of patient visits with clinician				
1E	**Medical Home Responsibilities**			2	
1	Practice responsible for coordinating patient care				
2	How to obtain care/ advice during / after office hours				
3	Patients provide complete medical history and information on care obtained outside practice				
4	Care team gives patient access to evidence-based care and self-management support.				
1G	**Practice Team**			4	
1	Defining roles for clinical/non clinical team members				
2	Holding regular team meetings CRITICAL FACTOR				
3	Using standing orders				
4	Training and assigning care team to coordinate care				
5	Training on self-management, self efficacy and behavior change				

6	Training on patient population management				
7	Training on communication skills				
8	Care team involvement in performance evaluation and QI				
2C	**Comprehensive Health Assessment**			4	
1	Age and gender appropriate immunizations/screenings				
2	Family/ social/ cultural characteristics				
3	Communication needs				
4	Medical history of patient and family				
5	Advance care planning (NA for pediatrics)				
6	Behaviors affecting health				
7	Patient and family mental health/ substance abuse				
8	Developmental screening using standardized tool (NA for adult only practices)				
9	Depression screening for teens/ adults using standardized tool				
2D	**Use Data for Population Management**			5	
1	At least three different preventive care services ++				
2	At least three different chronic care services				
3	Patients not recently seen by the practice				
4	Specific medications				
3A	**Implement Evidence-Based Guidelines**			4	
1	The first important condition +				
2	The second important condition				
3	The third condition, related to unhealthy behaviors or mental health or substance abuse				
3B	**Identify High Risk Patients**			3	
1	Established criteria and a process to identify high-risk or complex patients				
2	Determines the percentage of high risk patients in the population				

3C	**Care Management**			4	
1	Conducts pre-visit preparations				
2	Collaborates with patient to develop care plan, including treatment goals				
3	Gives patient written care plan				
4	Assesses and addresses barriers to treatment goals				
5	Gives patient clinical summary at relevant visits				
6	Identifies patients who need more care management support				
7	Follows up with patient who have not kept important appointments				
3D	**Medication Management**			3	
1	Review and reconciles medications for more than 50% of care transitions CRITICAL FACTOR ++				
2	Reviews and reconciles medications for more than 80% of care transitions				
3	Provides information about new prescriptions to more than 80% of patients				
4	Assess patient understanding of medication for more than 50% of patients				
5	Assesses patient response to medication and barriers to adherence for more than 50% of patients				
6	Document OTCs, herbal/supplements, for more than 50% of patients, with date of update				
4A	**Support Self Care Process**			6	
1	Provides education resources or refers at least 50% of patients to educational resources				
2	Uses EHR to identify education resources and provide them to 10% of patients ++				
3	Collaborates with at least 50% of patients to develop and document self management plans and goals CRITICAL FACTOR				

4	Documents self management abilities for at least 50% of patients				
5	Provides self management result recording tools to at least 50% of patients				
6	Counsels at least 50% of patients on adopting health lifestyles				
4B	**Provide Referrals to Community Resources**			3	
1	Maintains current resource list covering five (5) community service areas (e.g. smoking cessation, weight loss, parenting, dental, transportation, fall prevention, meal support).				
2	Tracks referrals provided to patients				
3	Arranges for or provides treatment for mental health/ substance abuse disorders				
4	Offers opportunities for health education and peer support				
5A	**Test Tracking and Follow -up**			6	
1	Tracks lab tests and flags and follow-up on overdue results CRITICAL FACTOR				
2	Tracks imaging tests and flags and follows-up on overdue results CRITICAL FACTOR				
3	Flags abnormal lab results				
4	Flags abnormal imaging results				
5	Notifies patients of normal and abnormal lab/imaging results				
6	Follows up on newborn screening				
7	Electronically order and retrieve lab tests and results				
8	Electronically order and retrieve imaging tests and results				
9	Electronically incorporates at east 40% of lab results in records ++				
10	Electronically incorporate imaging test results into records				
5B	**Referral Tracking and Follow up**			6	
1	Provides specialist with reason and key information for the referral				

2	Tracks referral status				
3	Follows up to obtain specialist reports				
4	Has agreements with specialist documented in the record				
5	Asks patients about self-referrals and requests specialist reports				
6	Demonstrates electronic exchange of key clinical information +				
7	Provides electronic summary of care for more than 50% of referrals ++				
5C	**Coordinate with Facilities and Care Transitions**			6	
1	Process to identify patients with hospital admissions or ED visits				
2	Process to share clinical information with hospital/ ED				
3	Process to obtain patient discharge summaries				
4	Process to contact patients for follow-up care after discharge				
5	Process to exchange patient information with hospital				
6	Collaborates with patient to develop written care plan for transitions from pediatric to adult care				
7	Electronic exchange of key clinical information with facilities				
8	Provides electronic summary of care for more than 50% of transitions of care ++				
6A	**Measure Performance**			4	
1	Three (3) preventive care measures				
2	Three (3) chronic or acute care measures				
3	Two (2) Utilization Measures				
4	Vulnerable population data				
6B	**Measure Patient/ Family Experience**			4	
1	Practice conducts survey measuring experience on at least three (3) of the following: access, communication,				

	coordination, whole person care				
2	Practice uses PCMH CAHPS-CG survey tool				
3	Practice obtains feedback from vulnerable population				
4	Practice obtains feedback through qualitative means				
6C	**Implement Continuous Quality Improvement**			4	
1	Set goals and act to improve performance on three (3) measures for Element 6A				
2	Set goals and act to improve performance on one (1) measure for Element 6B				
3	Set goals and address at least one (1) identified disparity in care for vulnerable population				
4	Involve patient in QI teams or on the practices' advisory council				
6D	**Demonstrate Continuous Quality Improvement**			3	
1	Tracks results over time				
2	Assesses effect of its actions				
3	Achieves improved performance on one measure				
4	Achieves improved performance on a second measure				
6E	**Report Performance**			3	
1	Individual clinician results within the practice				
2	Practice results within the practice				
3	Individual clinician or practice results to patients or public				
6F	**Report Data Externally**			2	
1	Ambulatory clinical quality measures to CMS +				
2	Ambulatory clinical quality measures to other external entities				
3	Data to immunization registries or systems ++				

4	Syndrome surveillance data to public health agencies ++				
6G	**Use of a certified electronic medical record**			0	
1	The practice uses an EHR system that has been certified and has a Certified HIT Products List (CHPL) Number(s) under the ONC HIT certification program +				
2	The proctice attests to conducting a security risk analysis of its electronic health recored system and implementing security update as necessary and correcting identified security deficiencies +				

Factors not requiring additional costs to practice (5): Reason:

1F	*Culturally and Linguistically Appropriate Services*	Basic PCP and EMR functions
2A	*Patient Information*	Basic PCP and EMR functions
2B	*Clinical Data*	Basic PCP and EMR functions
2C	*Comprehensive Health Assessment*	Basic PCP and EMR functions
3E	*Use of Electronic Prescribing*	Basic PCP and EMR functions