Primary Care Physician Compensation: Blended Capitation Model

Model Elements Report

November 2016
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Introduction

Innovative improvements in patient care quality and health system outcomes will be more likely to occur when physician compensation aligns with the goals of comprehensive primary health care.

Alberta Health, the Alberta Medical Association, and Alberta Health Services acknowledge that new compensation models for primary care are foundational to health system transformation, with particular emphasis on the patient’s medical home in order to encourage flexible, comprehensive and sustainable primary care. There is considerable opportunity to support health system transformation through the development of innovative compensation models for primary care physicians. Any primary care physician compensation model should align with broader health system goals, such as access, continuity, quality, equity, and productivity and all enablers and supports should be leveraged to ensure optimal implementation and evaluation of the model.

This Blended Capitation Model (BCM) report is a foundational document that provides an overview of the objectives of the model and systemic considerations that need to be considered. The report outlines and details the elements of the BCM.

The model will be implemented in various demonstration projects. This provides an opportunity to fully explore the viability of the model in a live setting prior to full scale implementation in Alberta. Evaluation will be completed by an independent third party evaluator with full engagement of participating physicians. Evaluating the demonstration project clinics through a continuing collaborative process involving all three stakeholders will allow for comprehensive testing of the model in order to identify and explore solutions to address any barriers and gaps in the model, and examine the feasibility of the model to be scaled up and applied generally to primary care in Alberta. A Blended Capitation Model Committee will oversee the development, implementation, and evaluation of the BCM.
Overview
The BCM was developed based on the guiding principles outlined in Alberta Health’s *Alberta’s Primary Health Care Strategy* and the Alberta Medical Associations’ *Primary Care Compensation Strategy*. The model focuses on enabling the provision of comprehensive care, while seeking to remove barriers to providing optimal care.

Model development involved extensive collaborative work to design a blended capitation compensation model that seeks to fulfill the objectives of:

- Improved access;
- Enhanced continuity of care;
- System sustainability;
- Encouraged health promotion and wellness;
- Comprehensive care provision;
- Enhanced collaborative and team-based care; and,
- Program accountability.

Scope
This model was developed to support comprehensive primary care physician services in an office-based setting through physician compensation. Physician services provided in other settings, including, but not limited to, hospital-based and long-term care services are out of the scope of this model.

Considerations

Systems/Information Technology (IT) Constraints
IT functionality beyond what is currently in place for fee for service (FFS) and capitation models is required to support the BCM. Business requirements have been developed and Alberta Health is exploring options to better operationalize the model from an IT standpoint. Selection of an IT solution will likely have impacts on how the model is operationalized and demonstration projects may include some adjustments to reporting and payments (including Business Cost Program, Rural Remote Northern Program, PCN payments and other payments and benefits), if necessary.

Expansion of the Model
Alberta Health recognizes that primary care can be provided in many settings in various ways. This model provides one alternative to physician compensation that enables the provision of comprehensive care; it is intended that this model, with adaptations identified during a demonstration project, will be applicable to a significant segment of primary care physicians in community-based offices.
Learnings from each phase will inform refinements required to adapt the model for successful implementation in subsequent phases and beyond.

**Compensation and Funding Sources**

For physicians participating in the model, there are various sources of compensation and funding. Figure 1 outlines the various types of compensation and payments, and their relation to the BCM. The payments that are within the model are in the blue bubble, and include primary care services that are offered in an office-based setting. All out-of-basket services and other payments are out of the scope of the model (as seen in the orange bubbles). Out-of-basket services will be compensated in the same manner as they were prior to the physician’s transition to the BCM. All other payments, including the Business Cost Program, Rural Remote Northern Program, Primary Care Network (PCN) payments and other payments and benefits will be unaltered in level, frequency and mode of payment.

**Figure 1: Physician Compensation and Payment Structure**
Elements

Affiliation

As capitation models pay a per patient amount to physicians in the BCM for each associated patient, it is essential to have a mechanism by which Alberta Health can determine which patients are affiliated with each physician to determine compensation.

The BCM will utilize formal affiliation – the two-way, voluntary, consensual relationship between a physician and patient – for the purposes of determining the physician’s affiliated panel. Using this method, physicians are responsible for initiating a conversation with each patient to discuss the responsibilities and benefits of affiliation to each party. To formally affiliate, both the physician and the patient will sign a form agreeing to the physician-patient relationship, and the associated expectations and benefits.

Under the BCM, all patients must be formally affiliated to receive compensation for services after two FFS billings. This incents the physician-patient relationship, continuity of care, and ensures that all patients are provided the same comprehensive level of care. In order to affiliate patients, physicians will be able to bill up to two FFS interactions with each patient as Alberta Health recognizes that patients and physicians may want to develop a level of rapport before formally committing to the relationship.

After a maximum of two patient interactions, physicians will be compensated for the patient through blended capitation (a mix of capitation payments and FFS detailed below) for all patients who have formally affiliated. Physicians are not eligible for payment for any patients who do not affiliate after two interactions until such time that they do affiliate. In the case of emergency services provided to unaffiliated patients, physicians will be reimbursed, after they submit their claims for manual adjudication by Alberta Health.

Affiliation Panels

Experience with the initial implementation of other capitation models indicates that switching directly from FFS to capitation without any transition can be problematic. As such, demonstration projects will be able to provide an initial affiliation list to Alberta Health for verification and to frontload the provided affiliation list, such that capitation payments can be generated upon the establishment of the BCM. The program will then proceed to formally affiliate patients over the 18-month duration of the demonstration project to validate their frontloaded affiliation list.

The process of formal validation and reconciliation of the frontloaded affiliation list will involve the patient directly declaring their choice of physician. This declaration process will be incorporated into the existing workflow processes of the participating clinics (e.g. at reception
on check in for an appointment, date-stamped and recorded in the EMR). Demonstration project clinics will submit these declarations and affiliation details into APP Online, which will trigger the relevant payment rules. This process will be used both to confirm the patients on frontloaded affiliation list and to affiliate new patients. Submission by the clinic each month will represent physician consent and agreement to add the patient to the attachment list. The physician is responsible for the internal clinic processes facilitating this physician validation step. There will be no cap on the number of patients each clinic affiliates; however, panel size will be monitored in the accountability framework.

**Central Provincial Registry**
A central provincial registry to maintain physician-patient affiliation lists is supported by all stakeholders. However, required infrastructure will not be in place for the commencement of the demonstration project. In the interim, existing systems will be leveraged to affiliate patients.

**Basket of Services**
A Basket of Services (BOS) is required to determine the capitation component for each patient. The calculation used to determine the rate for each patient incorporates the age, gender and risk status of that patient, and calculates the average cost of the annual utilization of the services within the BOS of that age, gender and risk cohort. The BOS includes all “visits” and four procedures – totaling 49 health service codes (HSCs) – to reflect the typical activities of a non-specialized General Practitioners in an office-based setting. The criteria used to develop the BOS, as well as the HSCs within the BOS can be found in Appendix 1 and 2, respectively. Compensation for services within the basket will be remunerated at 85% capitation and 15% FFS up to 100% of an annual capitation rate. Compensation for any HSCs outside of the BOS would be paid at 100% FFS for affiliated patients. All payment rules established by the Schedule of Medical Benefits apply to the FFS portion of the model.

The model currently focuses on, and therefore is most relevant to General Practitioners providing primary care services in an office-based setting. The BOS may evolve over time to reflect the full spectrum of comprehensive family medicine provided by General Practitioners, particularly as the model is expanded for broader Alberta application. The HSCs within the BOS will be assessed for appropriateness throughout the evaluation period, and will be revised, if required.

**Payment Blend**
The BCM includes a mix of patient-based funding (capitation per affiliated patient) and volume-based funding (FFS portion to incent service event reporting (i.e. “shadow billing”)). The capitation component allows physicians to practice in a more efficient manner, such that there is funding available to support preventative services and collaborative care, and incents
continuity of care. The FFS component provides an incentive for physicians to “shadow bill” for services provided. Additional service event reporting codes will be created to capture work done by allied health team members. These codes will be valued at $0 and differentiate co-located teams from centralized teams to enable the collection of data showing services were provided to patients that did not involve the physician, thus strengthening the outcome measure of service provision. It is also important for accurately determining the Clinical Risk Group (CRG) of each patient.

Financial modeling has determined that the blended component will be a 85% capitation payment and 15% FFS payments up to 100% of the per patient expenditure rate (see BCM Financial Modeling Report).

Risk Adjustment
The purpose of risk adjustment within the BCM is to group individuals in the population according to their relative potential of consuming health system resources in a future period. Risk adjustment in addition to age and gender can be used to enhance the predictability of health care utilization across patient rosters from year to year.

The BCM will utilize patients’ health status as represented by their CRG and the demographic characteristics of age and gender to group them according to their respective risk. Socio-economic status has been excluded from this model as the data is not available at an individual level. Patients will be grouped according to the following criteria:

1. Clinical Risk Group – CRGs are a population classification system that uses diagnosis and procedure codes, pharmaceutical data and functional/mental health status to assign each individual, based on the condition or conditions that best describe the individual’s clinical state, to single, mutually exclusive risk groups. These risk groups in turn are refined to reflect differences in severity inherent within a disease or group of diseases. Individuals that fall into a mutually exclusive, severity-adjusted risk group are generally expected to have similar health system utilization patterns. For the BCM, four decision points were explored. Further information regarding CRGs can be found in Appendix 3.

2. Gender – Is a demographic characteristic recorded on legal documents which groups the population as being either Male or Female.

3. Age – Is a demographic characteristic which will be used to group the population into one of 20 age cohorts according to their age on the date the capitation rate applies.

The intent of the risk-adjusted grouping is to provide greater homogeneity of primary care physician expenditures within each group so the capitation rates will be as representative as possible of future expenditures for patients with those same characteristics.
Capitation Rates
Capitation rates will be determined for each of the Age-Gender-CRG groups by dividing the total BCM basket of service billings for patients within each risk-adjusted group by the total number of patients within the group. The capitation rates are calculated using FFS and CRG profile data, which typically have a time lag of 12 to 18 months; therefore, the current year’s capitation rates will be calculated using data from two fiscal years prior. Appendix 4 illustrates the process used to calculate the capitation rates.

The size of the Age-Gender-CRG group is a consideration in the calculation of the capitation rate. Analysis has shown there is a lack of homogeneity of GP utilization within the groups across the various levels of CRG aggregations; therefore, a minimum number of patients are required within a group in order to establish a useable rate.

Continuity and Negation
Negation is a mechanism to ensure there are no payments to multiple physicians for the provision of a service in the BOS. Negation also serves as a continuity of care incentive as physicians are financially penalized if their affiliated patients seek services from other physicians outside of their clinic or medical home, thus incenting more care to be provided to patients by their own physician or within the practice. If a patient seeks care outside of the home clinic, Alberta Health would recover the value of the in-basket service provided by the other physician.

Negation Transition Strategy
A transition strategy for negation is an essential element in providing stability to GP incomes during initial implementation, and during the period in which additional time and effort is required to implement practice changes and quality improvements as clinics move from FFS to blended capitation.

For the first year of the implementation of the demonstration project there will be no financial negation. During this time, demonstration project clinics will receive shadow negation reports. Physicians will also have access to overall negation in real time through the dashboard. The “shadow” negation report will outline the details of negation the clinic would have received if there was no negation transition strategy. This will provide information on what negation may look like in future years, and provides an idea of what level of change management may be required to reduce negation. In year two of the demonstration project, participating clinics will be negated at 100% up to the 85% capitation payment, as outlined below. Consideration will be given to clinics that require additional transition time based on extenuating circumstances at the discretion of the Minister of Health.
Full Negation Implementation
The BCM has contemplated the following types of negation following the initial, one-year negation transition strategy:

Visit to non-participating physician in an office-based setting
An affiliated patient receiving in-basket services from a non-participating physician in an office-based setting will cause the BCM physician to be negated the value of the service.

Visit to an Emergency Department
Clinics that join the BCM will not be subject to negation in instances where an affiliated patient receives an in-basket service from a non-participating physician in an Emergency Department (ED) setting. However, as part of the accountability framework, the frequency of visits to the ED that are deemed to be more appropriately provided in a primary care physician’s office (i.e. Family Practice Sensitive Conditions and in-basket services) will be monitored and the decision to institute ED negation will be revisited if the volume and/or associated cost of these visits becomes material.

Geographic Negation
There are situations in which an affiliated patient cannot seek care from the affiliated clinic. This might occur when the patient is a significant distance away from the affiliated clinic. As such, the BCM has contemplated including a geographic limitation on negation. This would provide an exemption on negation for services provided a certain radius away from the affiliated clinic.

However, the current IT system Alberta Health has in place is not capable of automatically exempting this type of negation. Due to the resources that would be required to manually reconcile this amount, the exclusion of this negation element will not be considered for the BCM demonstration project implementation. It will be built into the accountability framework in order to monitor where services are being sought and their impact on negation. At such time that the IT system can automatically exempt negation outside of a geographic radius, the exclusion of geographic negation will be reconsidered for the model.

Special Interest GPs
Special interest GPs are GPs that include in their practice specialized services in a particular area (e.g., low risk obstetrics, sports medicine). Some special interest GPs practice in a particular area almost exclusively, while others do so in addition to practicing full-scope primary care. Currently in Alberta, special interests are self-declared by the GP; therefore, any GP can state any interest (and reduced scope) without requiring additional accreditation or qualification. There is no accreditation or credentialing process by organizations such as the College of
Physicians and Surgeons of Alberta, therefore there are difficulties in accurately determining GPs acting in a special interest GP capacity.

In order to avoid a significant amount of negation for special interest GP services, services have been removed from the BOS that represent a significant amount of specialized work (e.g., consultations and referral services, gynecologic, prenatal and obstetrical care codes). Due to the negation transition strategy in which all negation will be exempted for the first year of implementation, including negation for services provided by special interest GPs, a decision on the future approach for special interest GPs will be informed by information gathering during the first six months to one year of the demonstration project.

**Transition Support**

Individual financial modelling will be conducted for clinics prior to selection for the demonstration project. Clinics that participate in the demonstration project will have access to shadow negation reports and access to an interactive dashboard with information on process indicators to support monitoring. Alberta Health and the Alberta Medical Association will also have designated staff to support the transition to the BCM.

**Accountability**

An accountability framework and evaluation framework were developed for the BCM in order to ensure that the objectives of the models are being met, and to ensure strategic alignment at the provincial level with Alberta Health’s *Alberta’s Primary Health Care Strategy* and the Alberta Medical Associations’ *Primary Care Compensation Strategy*.

Accountability is “being answerable to someone for meeting defined objectives.”¹ The overall accountability framework consists of a standardized performance reporting matrix and will create accountability mechanisms, through both performance measurement and evaluation, for participating physicians and other stakeholders participating in the demonstration project model.

**Evaluation**

Evaluation of a program or model involves the “systematic assessment of the processes and/or outcomes of a program [or model] with the intent of furthering its development and improvement”². The evaluation framework evaluates the progress of the BCM model, and will be used to determine the degree to which the BCM incents change in physician services and practices in a way that supports or enhances the model’s objectives. The results of the

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¹ Deber & Schwartz, 2011; Emanuel & Emanuel, 1996; Frink & Klimoski, 2004; Marmor & Morone, 1980
² Office of Educational Assessment, 2005
evaluation will be used to inform any adaptations and possible expansions to the model which includes but is not limited to the following:

- Negation methodology;
- De-rostering methodology;
- Central Patient Attachment Registry processes; and
- Special Interest GP definition.

A third party evaluator supported the development process of both frameworks, which are outlined in greater detail in the evaluation framework.

**Refresh**

In order to ensure the model continues to be reflective of in-office GP services (visits and high expenditure non-visits), and to ensure the rates take into account any negotiated rate increases, the following elements will be refreshed on an annual basis:

- Capitation rates;
- Assigned risk groups;
- Basket of Services;
- Basket of Services identification methodology;
Appendices

Appendix 1: Basket of Services Criteria

Criteria used to select HSCs into this BOS were as follows:

Step 1: Identify all office based visit items provided by GPs in Alberta.

Step 2: Remove any service that required a referral (consultations etc.).

Step 3: Remove any special interest GP services identified in the previous analysis (i.e. prenatal visits).

Step 4: Identify all office based non-visit items provided by GPs in Alberta.

Step 5: Add back in any non-visit HSC in the top services by expenditures (i.e. any item that represented more than 1% total GP office based expenditures).

The four non-visit items that were added back in were as follows:

- 03.04J Development, documentation and administration of a comprehensive annual care plan for a patient with complex needs
- 13.99BC Pelvic examination using a speculum requiring swab(s) and/or sample(s) collection; and/or Periodic Papanicolaou Smear
- 13.59A Intramuscular or subcutaneous injections
- 98.12L Non-surgical treatment (cryotherapy, chemotherapy), warts or keratoses
### Appendix 2: HSCs within the BOS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>03.03A</td>
<td>Diagnostic interview and evaluation, described as limited (Visit not requiring complete history and evaluation)</td>
<td>03.03L</td>
<td>Other diagnostic interview and evaluation (Group session, multiple patients, per patient where a physician is involved in providing care and teaching to patients in attendance)</td>
</tr>
<tr>
<td>03.04A</td>
<td>Diagnostic interview and evaluation, described as comprehensive (Comprehensive visit)</td>
<td>03.05A</td>
<td>Other diagnostic interview and evaluation, unqualified (Patient care advice to paramedic - pre hospital patch, assisted living/designated assisted living and lodge staff, active treatment facility worker for hospital in-patient, long term care worker for patients in a long term care facility, nurse practitioner or home care worker, any day 2200 to 0700 hours, provided via telephone or other telecommunication methods, in relation to the care and treatment of a patient.)</td>
</tr>
<tr>
<td>08.19G</td>
<td>Other psychiatric evaluation and interview (Direct contact with an individual patient for psychiatric treatment (including medical psychotherapy and medication prescription), psychiatric reassessment, patient education and/or general psychiatric counselling, per 15 minutes or portion thereof)</td>
<td>03.04N</td>
<td>Diagnostic interview and evaluation, described as brief (Abbreviated assessment of a patient’s condition)</td>
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<tr>
<td>03.01N</td>
<td>Diagnostic interview and evaluation, unqualified (Management of anticoagulant therapy to include ordering necessary blood tests, interpreting results, adjusting the anticoagulant dosage as required)</td>
<td>03.05B</td>
<td>Diagnostic interview and evaluation, described as limited (Visit not requiring complete history and evaluation)</td>
</tr>
<tr>
<td>03.01NG</td>
<td>Diagnostic interview and evaluation, unqualified (Patient care advice to paramedic - pre hospital patch, assisted living/designated assisted living and lodge staff, active treatment facility worker for hospital in-patient, long term care worker for patients in a long term care facility, nurse practitioner or home care worker, weekdays 0700 to 1700 hours, provided via telephone or other telecommunication methods, in relation to the care and treatment of a patient.)</td>
<td>03.05I</td>
<td>Diagnostic interview and evaluation, described as limited (Special call to office)</td>
</tr>
<tr>
<td>03.01NH</td>
<td>Diagnostic interview and evaluation, unqualified (Patient care advice to paramedic - pre hospital patch, assisted living/designated assisted living and lodge staff, active treatment facility worker for hospital in-patient, long term care worker for patients in a long term care facility, nurse practitioner or home care worker, weekdays 1700 to 2200 hours, weekends and statutory holidays, 0700 to 2200 hours, provided via telephone or other telecommunication methods, in relation to the care and treatment of a patient.)</td>
<td>08.19J</td>
<td>Diagnostic interview and evaluation, unqualified (Patient care advice provided to community mental health care workers, child protection workers, group home staff, or educational personnel weekdays 0700 to 1700 hours in relation to the care and treatment of a patient receiving community mental health care services under the Alberta community mental health care program.)</td>
</tr>
<tr>
<td>03.01H</td>
<td>Diagnostic interview and evaluation, unqualified (Assessment of an unrelated condition in association with a Workers’ Compensation service)</td>
<td>08.19H</td>
<td>Diagnostic interview and evaluation (Second and subsequent physician attendances at a formal, scheduled, professional conference related to the care and treatment of a psychiatric patient, on behalf of a specific patient, per 15 minutes or major portion thereof)</td>
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<tr>
<td>03.01J</td>
<td>Diagnostic interview and evaluation, unqualified (Assessment of an unrelated condition in association with a Workers’ Compensation service)</td>
<td>08.44A</td>
<td>Group therapy (Group psychotherapy, where all members of the group are receiving therapy in the session, full 15 minutes or major portion thereof for the first call when only one call is claimed)</td>
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<tr>
<td>03.01JH</td>
<td>Diagnostic interview and evaluation (Direct management, reassessment, education and/or general counselling of a patient with a chronic pain, per 15 minutes or portion thereof)</td>
<td>08.19K</td>
<td>Other psychiatric evaluation and interview (Second and subsequent physician attendance at a formal, scheduled, professional conference related to the care and treatment of multiple psychiatric patients, when discussion occurs on behalf of a specific patient)</td>
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<tr>
<td>08.19I</td>
<td>Other psychiatric evaluation and interview (Formal, scheduled, professional conference related to the care and treatment of multiple psychiatric patients with other physician(s), allied health professionals, educational, correctional and other community agencies on behalf of a specific patient, provided by the physician most responsible for the patient’s care)</td>
<td>03.05C</td>
<td>Other diagnostic interview and evaluation (Formal, scheduled, professional interview relating to the care and treatment of a palliative care patient with other physicians, family, and/or direct therapeutic supervision of allied health professionals or community agencies, on behalf of a specific patient, full 15 minutes or major portion thereof for the first call when only one call is claimed)</td>
</tr>
<tr>
<td>03.02A</td>
<td>Diagnostic interview and evaluation, described as brief (Abbreviated assessment of a patient’s condition)</td>
<td>03.05D</td>
<td>Diagnostic interview and evaluation, described as comprehensive (Comprehensive evaluation including completion of forms to determine capacity as defined by the Personal Directives Act (PDA) (RSA 2007 c62)[a])</td>
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<td>03.05IA</td>
<td>Diagnostic interview and evaluation (Formal, scheduled, multiple health discipline team conference, full 15 minutes or major portion thereof for the first call when only one call is claimed) (With para-medical personnel regarding the provision of health care where social and other issues are involved)</td>
<td>08.19F</td>
<td>Other diagnostic interview and evaluation (Formal, scheduled, professional interview relating to the care and treatment of a psychiatric patient with other physician(s), and/or direct therapeutic supervision of, allied health professionals, educational, correctional and other community agencies on behalf of a specific patient, provided by the physician most responsible for the patient’s care, per 15 minutes or major portion thereof)</td>
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<td>03.05S</td>
<td>Other diagnostic interview and evaluation, described as limited (Special call to office)</td>
<td>03.05V</td>
<td>Other diagnostic interview and evaluation (Formal, scheduled, professional interview relating to the care and treatment of a patient with chronic pain with other physicians, and/or direct therapeutic supervision of allied health professionals or community agencies, on behalf of a specific patient, per 15 minutes)</td>
</tr>
<tr>
<td>08.19F</td>
<td>Other psychiatric evaluation and interview (Formal, scheduled, professional conference related to the care and treatment of a psychiatric patient with other physician(s), and/or direct therapeutic supervision of, allied health professionals, educational, correctional and other community agencies on behalf of a specific patient, provided by the physician most responsible for the patient’s care, per 15 minutes or major portion thereof)</td>
<td>03.05X</td>
<td>Other diagnostic interview and evaluation (Formal, scheduled, professional interview related to the care and treatment of a patient with chronic pain on behalf of a specific patient, full 15 minutes or major portion thereof for the first call when only one call is claimed)</td>
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<tr>
<td>08.19I</td>
<td>Other psychiatric evaluation and interview (Formal, scheduled, professional conference related to the care and treatment of multiple psychiatric patients with other physician(s), allied health professionals, educational, correctional and other community agencies on behalf of a specific patient, provided by the physician most responsible for the patient’s care)</td>
<td>03.01L</td>
<td>Diagnostic interview and evaluation, unqualified (Physician to physician or podiatric surgeon telephone or telehealth videoconference consultation, referring physician, any day 2200 to 0700 hours)</td>
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<td>08.19</td>
<td>Other psychiatric evaluation and interview (Formal, scheduled, professional conference related to the care and treatment of multiple psychiatric patients, when discussion occurs on behalf of a specific patient)</td>
<td>03.01LI</td>
<td>Diagnostic interview and evaluation, unqualified (Physician to physician or podiatric surgeon telephone or telehealth videoconference consultation, referring physician, any day 2200 to 0700 hours)</td>
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<td>Code</td>
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<tr>
<td>03.05D</td>
<td>Other diagnostic interview and evaluation (Formal, scheduled, multiple health discipline team conference for purposes to include care planning, care plan review, annual integrated care conference, patient management, related to a patient in a continuing care facility where the facility or program, as outlined in the Continuing Care Health Service Standards, is responsible for patient care, full 5 minutes or major portion thereof for the first call when only one call is claimed, to a maximum of 12 units per hour)</td>
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<td>03.01BA</td>
<td>Diagnostic interview and evaluation, unqualified (Patient care advice provided to community mental health care workers, child protection workers, group home staff, or educational personnel weekdays 1700 to 2200 hours, weekends and statutory holidays 0700 to 2200 hours in relation to the care and treatment of a patient receiving community mental health care services under the Alberta community mental health care program.)</td>
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<td>03.05U</td>
<td>Other diagnostic interview and evaluation (Second and subsequent physician attendance at formal, scheduled, professional interview relating to the care and treatment of a palliative care patient with other physicians, family and/or direct therapeutic supervision of allied health professionals or community agencies, on behalf of a specific patient, full 15 minutes or major portion thereof for the first call when only one call is claimed)</td>
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<td>08.12A</td>
<td>Psychiatric commitment evaluation (Certification under the Mental Health Act)</td>
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<td>08.19N</td>
<td>Other psychiatric evaluation and interview (Renewal, amendments, cancellation or expiry of a CTO as well as necessary work involved in the completion of an apprehension order, examination on apprehension, written statement or non-compliance report, per full 15 minutes)</td>
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<td>08.19L</td>
<td>Other psychiatric evaluation and interview (Issuance, development and documentation of a Community Treatment Order (CTO) as defined by the Mental Health Act including all activities and services that are directly related to the CTO initiation and development, per full 15 minutes)</td>
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<td>09.01F</td>
<td>Limited eye examination (Complete oculo-visual examination)</td>
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<td>03.01MT</td>
<td>Diagnostic interview and evaluation, unqualified (Completion of a Physician Report form under the Mandatory Testing and Disclosure Act)</td>
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<td>08.19M</td>
<td>Other psychiatric evaluation and interview (Second physician involved in the issuance, development and documentation of a CTO, per full 15 minutes)</td>
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<td>03.05W</td>
<td>Other diagnostic interview and evaluation (Second and subsequent physician attendance at a formal, scheduled, professional interview relating to the care and treatment of a patient with chronic pain with other physicians, family, and/or direct therapeutic supervision of allied health professionals or community agencies, on behalf of a specific patient, per 15 minutes)</td>
<td></td>
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<tr>
<td>03.01BB</td>
<td>Diagnostic interview and evaluation, unqualified (Patient care advice provided to community mental health care workers, child protection workers, group home staff, or educational personnel any day 2200 to 0700 hours in relation to the care and treatment of a patient receiving community mental health care services under the Alberta community mental health care program.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>03.04J</td>
<td>Diagnostic interview and evaluation, described as comprehensive (Development, documentation and administration of a comprehensive annual care plan for a patient with complex needs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.99BC</td>
<td>Other miscellaneous diagnostic and therapeutic procedures NEC (Periodic Papanicolaou Smear)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.59A</td>
<td>Injection or infusion of other therapeutic or prophylactic substance nec (Intramuscular or subcutaneous injections)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>98.12L</td>
<td>Local excision or destruction of lesion or tissue of skin and subcutaneous tissue (Non-surgical treatment (cryotherapy, chemotherapy), warts or keratoses)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 3: CRG Analysis and Selection Process

The Clinical Risk Groups (CRGs) are a concise, comprehensive and clinically specific classification system for a full range of populations. The CRGs relate the historical clinical and demographic characteristics of the individual to the amount and type of health care resources that the individual will consume in the future.

The use of CRGs to represent health status in the blended capitation model

CRGs have been utilized within Alberta Health and Alberta Health Services in different applications for a number of years. The CRG application was compared to other risk adjusting options and was determined to be the most appropriate for the Alberta context.

In Alberta, the CRGs are maintained within Alberta Health Services which generates the CRG assignment using multiple combinations of input variables. The most appropriate iteration of the CRG output used is dependent on the context in which the CRG will be applied in the health system.

Decision-making process used to finalize the CRG risk adjustment method

The CRG approach requires a decision on at least four levels. The first is regarding the input data that will be used for the CRG assignment; the second decision is the length of the time period from which input source data will be pulled; the third is a decision whether to include severity index when calculating the Base_CRG and the fourth relates to the level of aggregation that will be chosen within the CRG hierarchy.

Input data used for the CRG assignment

The CRG assignment algorithm is designed to determine a CRG category with inputs from four primary sources or a sub-set of inputs.

Alberta Health Services uses two different sets of input data which produce two different sets of CRG outputs. Method 2 is used for the BCM, which includes the following inputs:

- Inpatient Data - Includes all diagnoses and procedures from Inpatient Discharge Abstract Database (DAD) files except ‘questionable’ secondary diagnoses.
- Outpatient Data - All activity within the Ambulatory Care Classification System (ACCS) and the National Ambulatory Care Reporting System (NACRS) with all diagnoses and procedures included but ‘questionable’ secondary diagnoses excluded.
- Physician Billing Data – Includes all 3 diagnostic codes all functional centre types, all specialists and GP data and the medical billing procedure Health Service Codes.
- Pharmacy (PIN) Data – Includes all pharmacy dispensing data.
Time Period – BCM will use the 3 year rolling group
Alberta Health Services includes one, two or three years of source data for the input variables. The BCM will use the three year option.

Severity Index BCM will use the 4-digit Base_CRG
The BCM will use the 4-digit Base_CRG in its formula to calculate each patient’s CRG group. Data analysis investigating the use of 4-digit versus 5-digit CRGs showed that although utilizing the 5 digit Base_CRG would result in a more accurate grouping, it would also add complexity which may result in inaccuracies and present the potential for manipulation.

Levels of CRG Aggregation
The CRG uses a clinically precise hierarchical model where each individual is assigned to a mutually exclusive group based on the condition or conditions that best describe the individual’s clinical state across the time period. For the BCM, the CRG groups vary in granularity from nine Macro Health Statuses (MHSs) to 272 4-digit Base_CRGs.

Final Grouping Calculation and relation to $R^2$
The BCM uses the 4-digit Base_CRG plus Age Cohort plus Sex as the grouper. As noted above, 4-digit Base_CRG and MHS combined with age and sex were considered to classify patients into homogeneous groups. These grouping methods – age, sex and MHS or 4-digit Base_CRG – were compared for their predictability of future cost which is measured by $R^2$. As the distribution of the GP service costs does not follow a normal distribution and the homogeneity of the cost within each group is low, the BCM requires at least 50 patients in each group to generate a capitation rate that can be applied. Except for age*sex alone, all of the other groupers result in some groups with fewer than 50 patients.

These small groups will be rolled up to the MHS level to reach 50 patients (e.g. MHS*age*sex).

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3 The higher the $R^2$ means the grouping method is more predictable.
Appendix 4: Example of process to calculate capitation rates