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# **International Referenced Rate Pricing for Prescription Drugs**

Public Law 2021, Chapter 606 (LD 1636), *An Act To Determine Potential Savings in Prescription Drug Costs by Using International Pricing*, requires the Maine Health Data Organization (MHDO) to produce an annual report beginning in 2023 that provides information regarding potential savings that could be achieved by subjecting drugs identified as the costliest and most frequently prescribed in the State of Maine to a referenced rate as defined in the law. **This is MHDO's first annual report**.

## **Definitions for Terminology Used in this Report**

**Brand Drug** – a prescription drug, having a unique NDC, marketed under a proprietary name or registered trademark name, including a biological product, and approved under a New Drug Application or Biologics License Application.

**Drug Identification Number (DIN)** – a computer-generated eight-digit number assigned by Health Canada to a drug product prior to being marketed in Canada. A DIN uniquely identifies the following product characteristics: manufacturer; product name; active ingredient(s); strength(s) of active ingredient(s); pharmaceutical form; route of administration.

**Generic Drug** – a prescription drug, having a unique NDC, whether identified by its chemical, proprietary or nonproprietary name, that is not a brand drug, is therapeutically equivalent to a brand drug in dosage, strength, method of consumption, performance and intended use, and approved under an Abbreviated New Drug Application. Generic Drug includes a biosimilar product.

Multi-Source Drug – a brand drug or generic drug that is available from more than one manufacturer.

**National Drug Code (NDC)** – a code maintained by the US Food and Drug Administration that is uniquely assigned by manufacturer, product, and packaging.

**Pharmaceutically Equivalent Drug Products** - brand drugs and/or generic drugs that are identical in active ingredient(s), dosage form, route of administration, and strength or concentration

Prices on Canadian Provincial Formularies - represent amounts paid by payers in the province

**Single Source Drug** – a brand drug or generic drug that is only available from one manufacturer.

Wholesale Acquisition Cost (WAC) – a manufacturer's published list price for sale of a prescription drug product with a unique NDC to a wholesale drug distributor or other entity that purchases a prescription drug directly from the manufacturer, not including any price concessions. WAC represents the price paid in the US to manufacturers by drug wholesalers and almost never reflects actual amounts paid by payers in the US.

#### **Reference Rates Determined**

The following provisions in statute govern the determination of referenced rates of prescription drugs.

#### Part I

§8741, 2. A. Identify the 100 most costly prescription drugs and the 100 most frequently prescribed prescription drugs in the State of Maine, the Manufactures of these drugs and the average wholesale acquisition cost for each drug for the most current 12-month period.

- MHDO identified the 100 most costly generic drugs and brand drugs and the 100 most frequently prescribed generic drugs and brand drugs in the State of Maine, the manufacturers of these drugs and the average wholesale acquisition costs for the most recent 12-month period, which is January 1, 2022 December 31, 2022. These prescription drugs are identified by their National Drug Code (NDC).
- The total number of distinct NDC's identified in both categories of costliest and most frequently prescribed for both generic drugs and brand name drugs is 286.
- The data below is a snapshot of the complete data set that is available in the Excel File here.

| Top 100 Most Co           | stly and Most Pro          | escribed P     | rescription Drugs  |  |                     |                   |   |  |   |  |
|---------------------------|----------------------------|----------------|--|--|---------------------|-------------------|---|--|---|--|
| §8741, 2. A. Identify the | 100 most costly prescripti | on drugs and t | he 100 most frequently prescribed prescription drugs in the State of | Maine, the Manufactures of these drugs and the average wholesale acqu    | isition cost for ea | ch drug for the m | ost current 12-n                                  | nonth period.  |   |  |
| Top 100 List              | Manufacturer Name          | NDC            | Item Description   | Therapeutic Class  | US Source Type      | Average WAC       | Manufacturer<br>Product<br>Available in<br>Canada | Manufacturer<br>Product Priced<br>on Provincial<br>Formulary | Other<br>Manufacturer<br>Product(s)<br>Available in<br>Canada | Manufacturer Product(s) Priced on Provincial Formulary |
| Brand Most Prescribed     | ABBOTT DIABETES CARE       | 57599000101    | Continuous Blood Glucose System Sensor Miscellaneous 1.000 EA UU     | Medical Devices And Supplies   | Single Source       | \$60.74           |   |  |   |  |
| Brand Most Prescribed     | ABBOTT DIABETES CARE       | 57599080000    | Continuous Blood Glucose System Sensor Miscellaneous 1.000 EA UU     | Medical Devices And Supplies   | Single Source       | \$60.74           |   |  |   |  |
| Brand Most Costly         | ABBVIE                     | 00074024302    | Adalimumab 40 MG/0.4ML Prefilled Syringe Kit 1.000 EA UU             | Analgesics - Anti-Inflammatory   | Single Source       | \$6,394.10        |   |  | Х   | Х  |
| Brand Most Costly         | ABBVIE                     | 00074433902    | Adalimumab 40 MG/0.8ML Pen-injector Kit 1.000 EA UU                  | Analgesics - Anti-Inflammatory   | Single Source       | \$6,394.10        |   |  | X   | Х  |
| Brand Most Costly         | ABBVIE                     | 00074379902    | Adalimumab 40 MG/0.8ML Prefilled Syringe Kit 1.000 EA UU             | Analgesics - Anti-Inflammatory   | Single Source       | \$6,394.10        |   |  | X   | X  |
| Brand Most Costly         | ABBVIE                     | 00074262528    | Glecaprevir-Pibrentasvir 100-40 MG Tablet 84.000 EA UU               | Anti-Infective Agents - Antivirals                                       | Single Source       | \$13,200.00       | X   | X  |   |  |
| Brand Most Costly         | ABBVIE                     | 00074210001    | Risankizumab-rzaa 150 MG/ML Solution Auto-injector 1.000 ML UD       | Dermatologicals  | Single Source       | \$18,227.95       |   |  |   |  |
| Brand Most Costly         | ABBVIE                     | 00074230630    | Upadacitinib 15 MG Tablet Extended Release 24 Hour 30.000 EA UU      | Analgesics - Anti-Inflammatory   | Single Source       | \$5,657.34        | X   | X  |   |  |
| Generic Most Prescribed   | ACCORD HEALTHCARE          | 16729000617    | Simvastatin 40 MG Tablet 1000.000 EA                                 | Cardiovascular Agents - Antihyperlipidemics                              | Multi-Source        | \$102.49          |   |  | X   | X  |
| Generic Most Costly       | ACORDA THERAPEUTICS        | 10144042760    | Dalfampridine 10 MG Tablet Extended Release 12 Hour 60.000 EA        | Psychotherapeutic and Neurological Agents - Miscellaneous - Misc         | Multi-Source        | \$3,518.11        |   |  | X   | X  |
| Generic Most Costly       | ACTAVIS PHARMA             | 00591352530    | Lidocaine 5 % Patch 30.000 EA UU                                     | Dermatologicals  | Multi-Source        | \$89.86           |   |  |   |  |
| Generic Most Prescribed   | ACTAVIS PHARMA             | 00591544305    | Prednisone 20 MG Tablet 500.000 EA                                   | Endocrine and Metabolic Agents - Corticosteroids                         | Multi-Source        | \$102.56          |   |  |   |  |
| Generic Most Costly       | AJANTA PHARMA LIMITED      | 27241009990    | Duloxetine HCI 60 MG Capsule Delayed Release Particles 1000.000      | Central Nervous System Agents - Antidepressants                          | Multi-Source        | \$300.00          |   |  | X   | X  |
| Generic Most Prescribed   | AKORN                      | 50383070016    | Fluticasone Propionate (Nasal) 50 MCG/ACT Suspension 16.000 GM       | Antihistamines/Nasal Agents/Cough & Cold/Respiratory/Misc - Nasal Agents | Multi-Source        | \$13.04           |   |  | X   | X  |
| Generic Most Costly       | ALVOGEN                    | 47781035703    | Buprenorphine HCI-Naloxone HCI Dihydrate 8-2 MG Film 30.000 EA       | Analgesics - Opioid  | Multi-Source        | \$190.00          | 3   |  | Х   |  |
| Generic Most Costly       | ALVOGEN                    | 47781010444    | Estradiol Vaginal 0.1 MG/GM Cream 42.500 GM UU                       | Vaginal And Related Products   | Multi-Source        | \$167.25          |   |  |   |  |

#### Part II

§8741 2. B. To the extent possible, determine the referenced rate for each drug identified in paragraph 2.A. (Part 1) by comparing the wholesale acquisition cost to the cost in official publications of the governments of the Canadian provinces of Ontario, Quebec, British Columbia, and Alberta. The referenced rate for each prescription drug must be calculated as the lowest cost among the resources described in this paragraph and the wholesale acquisition cost for the most recent 12-month period. If a specific drug identified in paragraph A is not included within the resources described in this paragraph, MHDO shall use for the purpose of determining the referenced rate the ceiling price for drugs as reported in other official publications of the government of Canada.

- For 193 of the 286 NDCs identified in Part I of this report (which represents 67.5% of the total), there is not a corresponding Drug Identification Number (DIN) on a provincial formulary in Canada.
  - When comparing NDCs in the US to the equivalent DINs in Canada there are not as many prescription drug products available in Canada.
  - In Canada, multi-source brand drugs (brand drugs that are also available from generic manufacturers) are often excluded from provincial formularies and are instead replaced by lower cost generic equivalents.
- A reference rate as defined above (the lowest cost option when looking at the WAC and the costs in the Canadian provinces) has been determined for 93 of the 286 NDCs identified in Part I of this report (which represents 32.5% of the total).

- The reference rate for 21 of the 93 NDCs is based on the WAC as that is the lowest cost option; 19 of these 21 NDCs are for generic drugs and 2 NDCs are for brand drugs.
- The reference rate for 72 of the 93 NDCs is based on the lowest cost option identified in the
   Canadian provinces; 16 of these 72 NDCs are for generic drugs and 56 NDCs are for brand drugs.
- The data below is a snapshot of the complete data set that is available in the Excel File here.

# Reference Rate \$8741 2. B. To the extent possible, determine the referenced rate for each drug identified in paragraph 2.A. (Part 1) by comparing the wholesale acquisition cost to the cost in official publications of the governments of the Canadian provinces of Ontario, Quebec, British Columbia, and Alberta. The referenced rate for each prescription drug must be calculated as the lowest cost among the resources described in this paragraph and the wholesale acquisition cost for the most recent 12-month period.

|                         |                       |             |   |                         | Province Paid Per Unit |                     |            |              |                   |
|-------------------------|-----------------------|-------------|---|-------------------------|------------------------|---------------------|------------|--------------|-------------------|
| Top 100 List            | Manufacturer Name     | NDC         | Item Description  | Average WAC<br>Per Unit | Ontario                | British<br>Columbia | Alberta    | Lowest Value | Reference<br>Rate |
| Brand Most Prescribed   | ABBOTT DIABETES CARE  | 57599080000 | Continuous Blood Glucose System Sensor Miscellaneous 1.000 EA   | \$60.7429               | N/A                    | N/A                 | N/A        | N/A          | \$60.7429         |
| Brand Most Prescribed   | ABBOTT DIABETES CARE  | 57599000101 | Continuous Blood Glucose System Sensor Miscellaneous 1.000 EA   | \$60.7429               | N/A                    | N/A                 | N/A        | N/A          | \$60.7429         |
| Brand Most Costly       | ABBVIE                | 00074024302 | Adalimumab 40 MG/0.4ML Prefilled Syringe Kit 1.000 EA UU        | \$3,197.0500            | N/A                    | N/A                 | N/A        | N/A          | \$3,197.0500      |
| Brand Most Costly       | ABBVIE                | 00074433902 | Adalimumab 40 MG/0.8ML Pen-injector Kit 1.000 EA UU             | \$3,197.0500            | N/A                    | N/A                 | N/A        | N/A          | \$3,197.0500      |
| Brand Most Costly       | ABBVIE                | 00074379902 | Adalimumab 40 MG/0.8ML Prefilled Syringe Kit 1.000 EA UU        | \$3,197.0500            | N/A                    | N/A                 | N/A        | N/A          | \$3,197.0500      |
| Brand Most Costly       | ABBVIE                | 00074262528 | Glecaprevir-Pibrentasvir 100-40 MG Tablet 84.000 EA UU          | \$157.1429              | \$178.2950             | \$181.8609          | \$178.2950 | \$178.2950   | \$157.1429        |
| Brand Most Costly       | ABBVIE                | 00074210001 | Risankizumab-rzaa 150 MG/ML Solution Auto-injector 1.000 ML UD  | \$18,227.9481           | N/A                    | N/A                 | N/A        | N/A          | \$18,227.9481     |
| Brand Most Costly       | ABBVIE                | 00074230630 | Upadacitinib 15 MG Tablet Extended Release 24 Hour 30.000 EA UU | \$188.5780              | \$36.8579              | N/A                 | \$36.8579  | \$36.8579    | \$36.8579         |
| Generic Most Prescribed | ACCORD HEALTHCARE     | 16729000617 | Simvastatin 40 MG Tablet 1000.000 EA                            | \$0.1024                | N/A                    | N/A                 | N/A        | N/A          | \$0.1024          |
| Generic Most Costly     | ACORDA THERAPEUTICS   | 10144042760 | Dalfampridine 10 MG Tablet Extended Release 12 Hour 60.000 EA   | \$58.6352               | N/A                    | N/A                 | N/A        | N/A          | \$58.6352         |
| Generic Most Costly     | ACTAVIS PHARMA        | 00591352530 | Lidocaine 5 % Patch 30.000 EA UU                                | \$2.9953                | N/A                    | N/A                 | N/A        | N/A          | \$2.9953          |
| Generic Most Prescribed | ACTAVIS PHARMA        | 00591544305 | Prednisone 20 MG Tablet 500.000 EA                              | \$0.2051                | N/A                    | N/A                 | N/A        | N/A          | \$0.2051          |
| Generic Most Costly     | AJANTA PHARMA LIMITED | 27241009990 | Duloxetine HCl 60 MG Capsule Delayed Release Particles 1000.000 | \$0.3000                | N/A                    | N/A                 | N/A        | N/A          | \$0.3000          |
| Generic Most Prescribed | AKORN                 | 50383070016 | Fluticasone Propionate (Nasal) 50 MCG/ACT Suspension 16.000 GM  | \$0.8150                | N/A                    | N/A                 | N/A        | N/A          | \$0.8150          |
| Generic Most Costly     | ALVOGEN               | 47781035703 | Buprenorphine HCI-Naloxone HCI Dihydrate 8-2 MG Film 30.000 EA  | \$6.3333                | N/A                    | N/A                 | N/A        | N/A          | \$6.3333          |
| Generic Most Costly     | ALVOGEN               | 47781010444 | Estradiol Vaginal 0.1 MG/GM Cream 42.500 GM UU                  | \$3.9353                | N/A                    | N/A                 | N/A        | N/A          | \$3.9353          |

#### Part III

§8741 2. C. For each drug identified in paragraph A, the organization shall determine the potential savings that could be achieved by subjecting those drugs to the referenced rate as calculated pursuant to paragraph B. The savings must be determined based on the payments reported in the organization's claims database for the most current 12- month period.

- A reference rate was calculated for the 93 NDCs as identified above.
- The potential savings calculation for the 72 drugs with a reference rate based on the lowest cost option identified in the Canadian provinces is \$146.7M; of which 1.4% of the potential saving is for generic drugs and 98.6% is for brand drugs. (**Note:** potential savings calculations do not consider the impact of rebates to net prices in the US market as rebate data at the NDC level is not available in the MHDO claims data).
- The data below is a snapshot of the complete data set that is available in the Excel File here

| Potential Savings   |  |  |  |   |  |   |  |  |  |  |
|---|--|--|--|---|--|---|--|--|--|--|
|   |  |  |  |   |  |   |  |  |  |  |
| §8741 2. C. For each drug identified in paragraph A, the organization shall determine the potential savings that could be achieved by subjecting those drugs to the referenced rate as calculated pursuant to paragraph B. The savings must be determined based on the payments reported in the organization's claims database for the most current 12- month period. |  |  |  |   |  |   |  |  |  |  |
|   |  |  |  |   |  |   |  |  |  |  |
|   |  |  |  | , |  | , |  |  |  |  |

|  |                                |             |   | Average WAC   | Reference    | Annual Cost @<br>Average WAC | Annual Cost @<br>Reference | Potential    |
|--|--------------------------------|-------------|---|---------------|--------------|------------------------------|----------------------------|--------------|
| Top 100 List                                 | Manufacturer Name              | NDC         | Item Description  | Per Unit      | Rate         | Per Unit                     | Rate Per Unit              | Savings      |
| Brand Most Costly                            | JANSSEN BIOTECH                | 57894006103 | Ustekinumab 90 MG/ML Solution Prefilled Syringe 1.000 ML UD                       | \$25,432.6997 | \$3,344.0018 | \$42,837,096                 | \$5,632,408                | \$37,204,688 |
| Brand Most Costly, Brand Most Prescribed     | B-M SQUIBB U.S. (PRIMARY CARE) | 00003089421 | Apixaban 5 MG Tablet 60.000 EA  | \$8.8168      | \$1.2233     | \$11,770,430                 | \$1,633,106                | \$10,137,324 |
| Brand Most Costly, Brand Most Prescribed     | LILLY                          | 00002751001 | Insulin Lispro 100 UNIT/ML Solution 10.000 ML UU                                  | \$27.4700     | \$2.3544     | \$5,999,565                  | \$514,211                  | \$5,485,354  |
| Brand Most Costly                            | GILEAD SCIENCES                | 61958250101 | Bictegravir-Emtricitabine-Tenofovir Alafenamide Fumarate 50-200-25 MG Tablet      | \$119.4600    | \$29.3715    | \$7,124,180                  | \$1,751,615                | \$5,372,565  |
| Brand Most Costly                            | PFIZER U.S.                    | 00069050130 | Tofacitinib Citrate 11 MG Tablet Extended Release 24 Hour 30.000 EA UU            | \$173.3890    | \$35.8827    | \$6,280,565                  | \$1,299,758                | \$4,980,807  |
| Brand Most Costly                            | VERTEX PHARMACEUTICALS, INC.   | 51167033101 | Elexacaftor-Tezacaftor-Ivacaftor 100-50-75 & 150 MG Tablet Therapy Pack 84.000 EA | \$298.4171    | \$209.6750   | \$15,681,600                 | \$11,018,268               | \$4,663,332  |
| Brand Most Costly, Brand Most Prescribed     | BOEHRINGER INGELHEIM           | 00597015330 | Empagliflozin 25 MG Tablet 30.000 EA  | \$18.9979     | \$2.0650     | \$5,221,925                  | \$567,604                  | \$4,654,321  |
| Brand Most Costly, Brand Most Prescribed     | BOEHRINGER INGELHEIM           | 00597015230 | Empagliflozin 10 MG Tablet 30.000 EA  | \$18.9979     | \$2.0650     | \$4,215,522                  | \$458,212                  | \$3,757,310  |
| Generic Most Costly, Generic Most Prescribed | TEVA PHARMACEUTICALS USA       | 00093317431 | Albuterol Sulfate 108 (90 Base) MCG/ACT Aerosol Solution 8.500 GM UU              | \$4.2329      | \$0.0243     | \$647,490                    | \$3,718                    | \$643,772    |
| Generic Most Costly                          | MYLAN                          | 00378932132 | Fluticasone-Salmeterol 250-50 MCG/ACT Aerosol Powder Breath Activated 60.000 EA   | \$1.9407      | \$0.6335     | \$832,470                    | \$271,742                  | \$560,728    |
| Generic Most Costly                          | MYLAN                          | 00378932032 | Fluticasone-Salmeterol 100-50 MCG/ACT Aerosol Powder Breath Activated 60.000 EA   | \$1.5618      | \$0.5292     | \$321,170                    | \$108,825                  | \$212,345    |
| Generic Most Costly                          | MYLAN                          | 00378932232 | Fluticasone-Salmeterol 500-50 MCG/ACT Aerosol Powder Breath Activated 60.000 EA   | \$2.5523      | \$0.8994     | \$317,781                    | \$111,982                  | \$205,799    |
| Generic Most Costly                          | SANDOZ                         | 61314063705 | Prednisolone Acetate (Ophth) 1 % Suspension 5.000 ML UU                           | \$8.8500      | \$1.4527     | \$89,158                     | \$14,635                   | \$74,523     |
| Generic Most Costly                          | SANDOZ                         | 00781618556 | Travoprost 0.004 % Solution 2.500 ML UU   | \$66.1920     | \$6.4610     | \$66,286                     | \$6,471                    | \$59,815     |
| Generic Most Costly, Generic Most Prescribed | MYLAN                          | 00378395205 | Atorvastatin Calcium 40 MG Tablet 500.000 EA                                      | \$0.2752      | \$0.1754     | \$146,856                    | \$93,599                   | \$53,257     |
| Generic Most Costly, Generic Most Prescribed | MYLAN                          | 00378395105 | Atorvastatin Calcium 20 MG Tablet 500.000 EA                                      | \$0.2752      | \$0.1632     | \$121,289                    | \$71.928                   | \$49,361     |

## **Key Findings Preparing This Report**

- When comparing NDCs in the US to pharmaceutically equivalent DINs in Canada there are not as many prescription drug products available in Canada.
- Many drugs currently patented in the US are not under patent in Canada. This allows for generic competition in Canada while brand drugs remain the only products available in the US.
  - In Canada, multi-source brand drugs (brand drugs that are also available from generic manufacturers) are often excluded from provincial formularies and are instead replaced by lower cost generic equivalents.
- Prices on Canadian provincial formularies represent amounts paid by payers in the province. In contrast, WAC
  represents the price paid to manufacturers by drug wholesalers and almost never reflects actual amounts paid
  by payers in the US.
  - Many generic drugs show no Reference Rate savings resulting from the comparison of Canadian paid amounts to the US WAC amounts.

### **Data Sources and Methodology**

Under contract with MHDO, Ten2Eleven Business Solutions provided MHDO technical support in the preparation of this report.

MHDO performed its analysis using descriptive drug product, pharmaceutical equivalency, and historical pricing information compiled from Wolters Kluwer's Medi-Span MedFile v2 (MediSpan) and Canadian Drug File data files, and pharmaceutical claims data submitted to the MHDO All Payer Claims Database as required by 90-590 Rule Chapter 243, Uniform Reporting System for Health Care Claims Data Sets, for the most recent 12-month period (April 1, 2021-March 31, 2022).

Manufactures are incorporated as different corporate entities in the US and Canada. To compare country to country pricing between products by manufacturer, MHDO developed a crosswalk of US and Canadian manufacturers. Where possible, manufacturers were mapped by associating similar corporate names; when no match was found, MHDO performed internet research to determine corporate relationships between US manufacturers of NDCs on the Top 100 List and manufacturers of pharmaceutically equivalent products in Canada.

The MediSpan and Canadian Drug Files share a common proprietary data element that is maintained by Wolters Kluwer to denote pharmaceutically equivalent drug products. This Generic Product Identifier (GPI) was used together with the manufacturer crosswalk to map products that are identical with respect to active ingredient(s), dosage form, route of administration, and strength or concentration but without considering the presence of inactive ingredients.

Where US NDCs could be mapped to a Canadian DIN, and were priced on at least one provincial formulary, MHDO determined a Reference Rate for the NDC as described in §8741 2. B. Province pricing was evaluated based on amounts published as applicable for December 31, 2022, adjusted for the US / Canadian exchange rate of 1.3554 posted by the Wall Street Journal as of the close of the market on Friday, December 30, 2022 . Reference Rate values were calculated per NDC unit of measure.

MHDO next calculated potential savings that could be achieved by subjecting NDCs on the Top 100 List to the Reference Rate. MHDO first determined the total quantity dispensed (by NDC unit of measure) and average percent markup above/below WAC for commercial claims during the claim review period (April 1, 2021 – March 31, 2022). The average rate of markup above/below WAC was then applied to both the average WAC per NDC unit of measure and the Reference Rate, and both metrics were multiplied by the dispensed quantity. Finally, resultant values were compared to determine total potential savings for each NDC.

MHDO received one time funding from an external source to cover the annual data acquisition cost for the Canadian Drug File. Funding is needed to continue MHDO's subscription to the data file on an annual basis.

#### Footnotes:

<sup>1</sup>1 Wall Street Journal Website. Markets. Accessed January 9, 2022 at https://www.wsj.com/market-data/quotes/fx/USDCAD/historical-prices

<sup>2</sup> Average WAC per NDC unit of measure was calculated by summing the mathematical product(s) of the number of days during the most recent 12-month period (January 1, 2022 – December 31, 2022) that a drug product was priced at a unique WAC per unit value multiplied by the unique WAC per unit value and dividing the sum of all mathematical products by the number of days in the 12-month period. (((\$a x 31 days) + (\$b x 150 days) + (\$c x 184 days)) / 365 days)