

An Approach to Quantifying and Appending Missing Prescription Utilization for Asthma Patients in Health Plan Claims Data Utilizing Point-of-sale Data

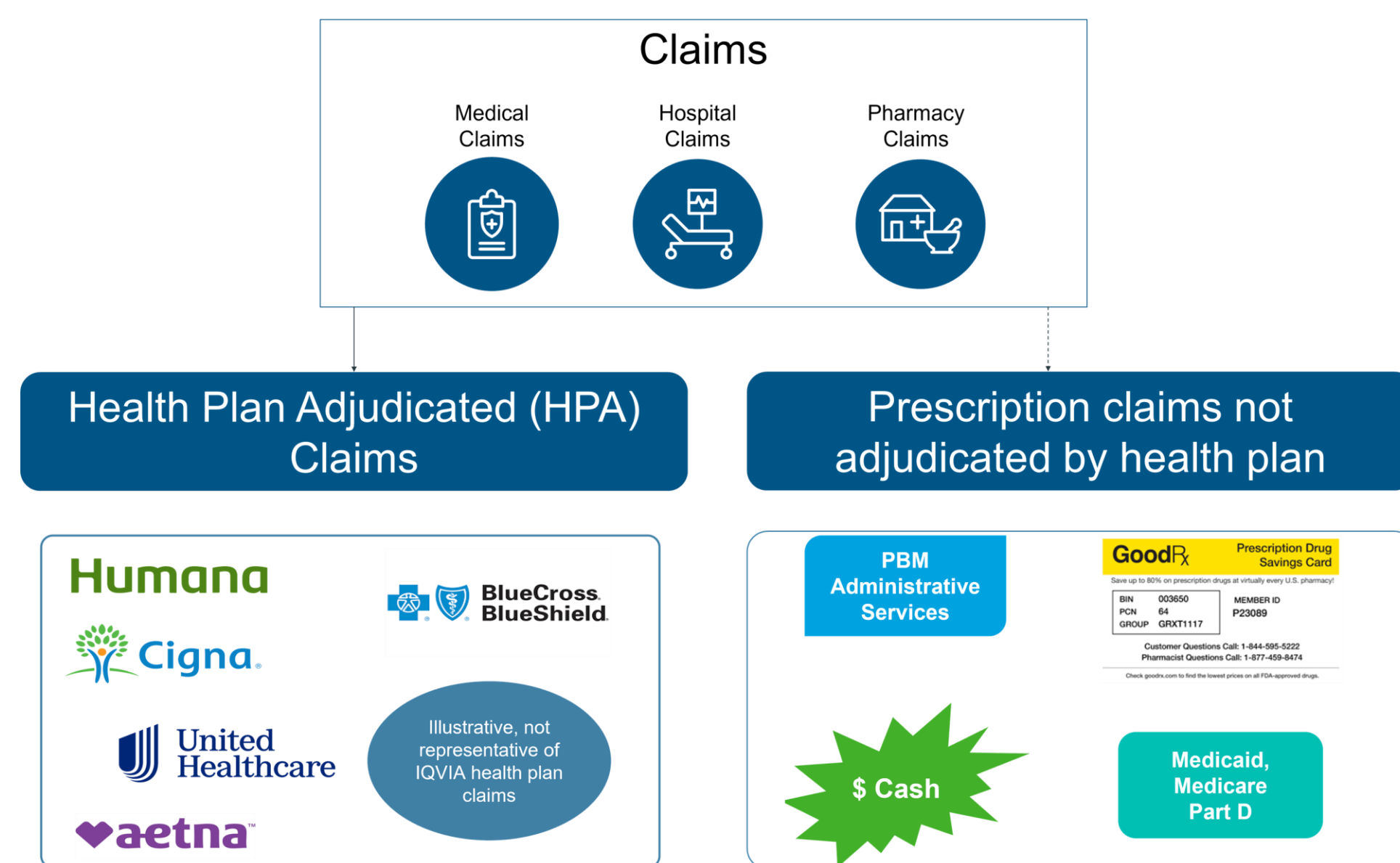
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Introduction

- Health plan claims databases are used extensively for health outcomes research, with prescription claims used as a proxy for drug utilization. Prescription claims in health plan adjudicated (HPA) claims data may omit prescription claims using alternative forms of payment including discount cards, cash, Medicaid and Medicare Part D (Figure 1)
- Previous Research has demonstrated that as many as 15-20% of patients in HPA claims data may have prescription claims that are not captured by the health plan, and 15% or more of the patients in HPA claims databases may be missing all dispensed prescriptions in specific therapeutic classes due to alternate payers^{1,2}
- While the magnitude of omitted prescription data in some therapeutic categories has been demonstrated, there has not been a method described to augment such claims data. Such an augmented data file may provide more accurate metrics for measuring prescription drug exposure and utilization
- Asthma is marked by inflammation of the bronchial tubes, with extra sticky secretions inside the tubes. People with asthma have symptoms when the airways tighten, inflame, or fill with mucus. Asthma is a serious disease that affects about 25 million Americans and causes nearly 1.6 million emergency room visits every year³
- A variety of medications are used to manage asthma symptoms. The combination of an inhaled corticosteroid and a long-acting beta-agonist (ICS/LABA) reduce inflammation and relax the airway muscles, while oral corticosteroids (OCS) are used as short-term therapy during an asthma attack⁴
- NCQA quality measures include Asthma Medication Ratio which makes accurately tracking medication use in asthma patients important to health plans⁵

Figure 1: Loss of Pharmacy Claims in Health Plan Claims Data



Objectives

- This study quantifies the extent of prescription claims information for asthma patients that are not adjudicated within health-plan-sourced claims data and shows how appending with point-of-sale data (POS) may provide a more accurate proxy for utilization

Methods

Databases

IQVIA PharMetrics® Plus

- IQVIA PharMetrics® Plus is a health plan claims database comprised of fully adjudicated medical and pharmacy claims for more than 210 million unique enrollees since 2006. Data contributors to the database are largely commercial health plans. It is representative of the commercially insured US national population for patients under 65 years of age. It contains a longitudinal view of inpatient and outpatient services, prescription and office/outpatient administered drugs, costs, and detailed enrollment information. All data are compliant to the Health Insurance Portability and Accountability Act (HIPAA) to protect patient privacy. PharMetrics Plus contains health-plan adjudicated (HPA) data

Longitudinal Prescription Data (LRx)

- IQVIA receives nearly 4 billion prescription claims per year with history from January 2004 with coverage up to 92% for the retail channel, 62% for traditional and specialty mail order, and 76% for long-term care. The longitudinal prescription data (LRx) is derived from electronic information received from pharmacies, payers, software providers and transactional clearinghouses. This information represents activities that take place during the prescription transaction and contains information regarding the product, provider, payer and geography. LRx data is longitudinally linked back to an anonymous patient token and can be linked to events within the dataset itself and across other patient data assets, including PharMetrics Plus. LRx contains HPA and non-HPA data

Study Population

- Patients included in the analysis met the following criteria:
 - Patients with ≥ 1 non-ancillary medical claim for asthma in PharMetrics Plus during the index period 1/1/2019 - 12/31/2019
 - Patients in #1 with continuous eligibility for medical and pharmacy benefits during the study period 1/1/2019 - 12/31/2020 (Figure 2)
 - Patients in #2 with a linkable ID to the LRx database
 - Patients in #3 with at least 1 prescription claim in PharMetrics Plus for ICS/LABA or OCS during the study period
- Development of the study population can be seen in Table 1
- Patients meeting the above criteria had all ICS/LABA and OCS prescriptions extracted and merged during the study period. The merged prescription data were then de-duped resulting in an augmented prescription dataset that included all the prescription claims in PharMetrics Plus along with those prescription claims in LRx that were not observed in PharMetrics Plus (Figure 3)

Figure 2: Study Timeframe

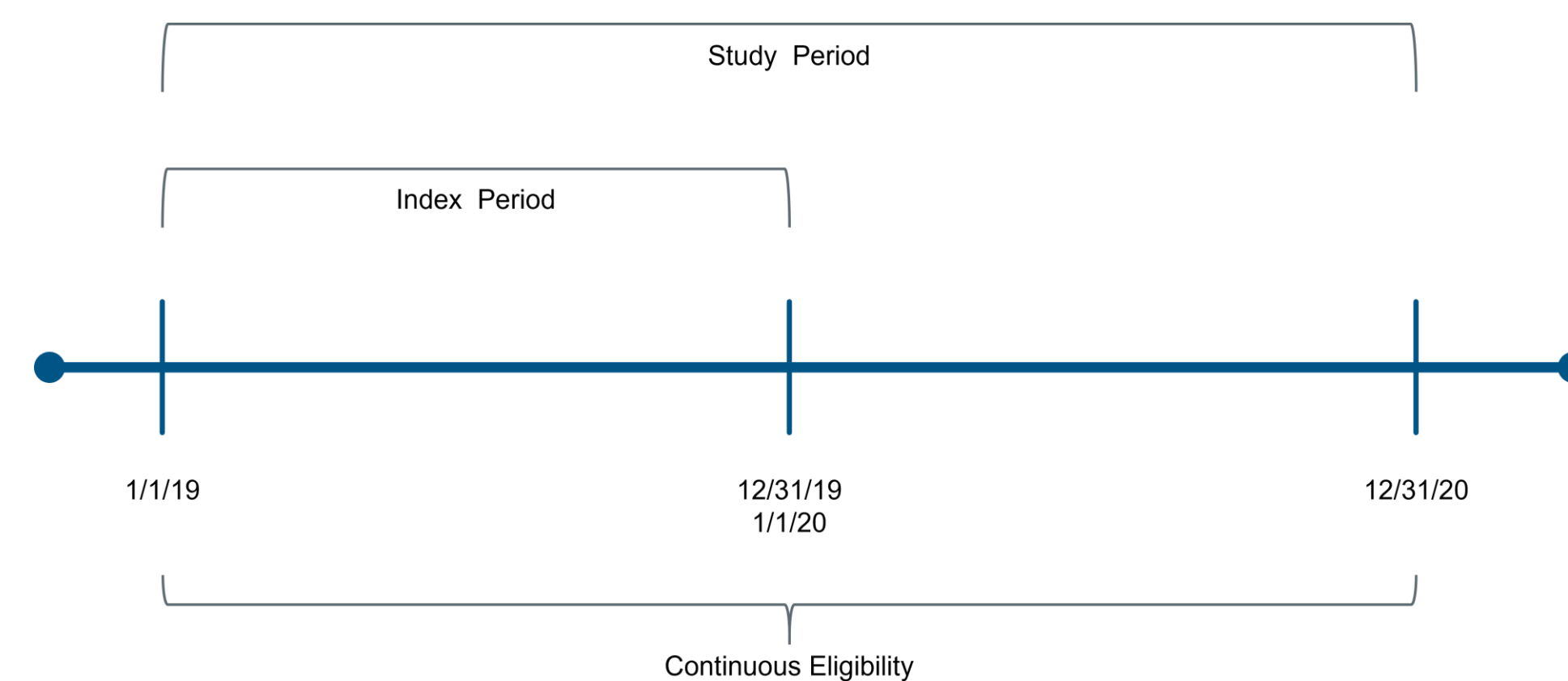
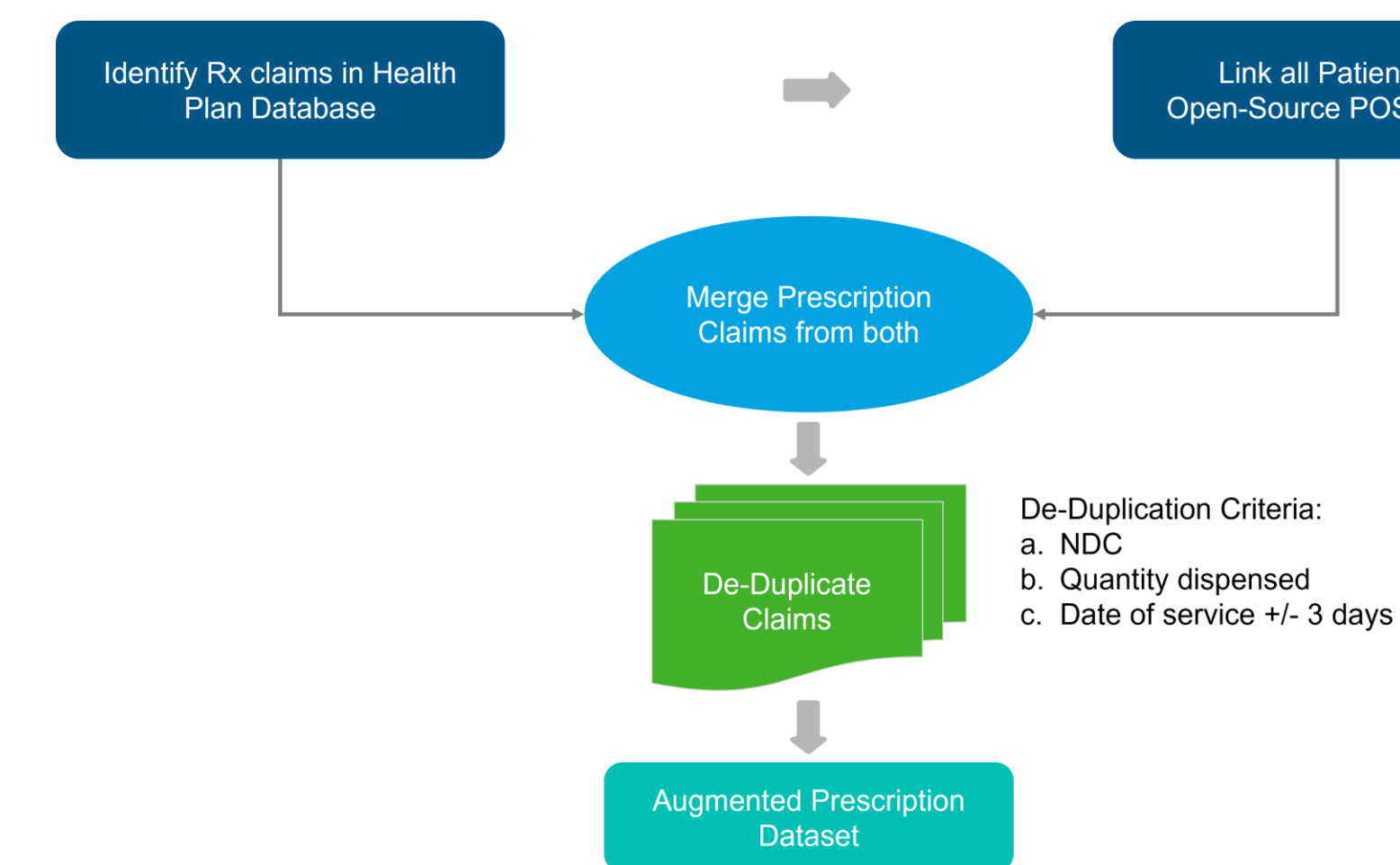


Table 1 – Patient Attrition

Step #	Attrition Reason	ICS/LABA	OCS
		Patients Remaining	Patients Remaining
		n	n
1	Patients in P+ with a non-ancillary medical claim for asthma during the index period 1/1/19 - 12/31/2019	1,539,255	1,539,255
2	Patients in #1 with CE between 1/1/2019 - 12/31/2020 (the study period)	856,351	856,351
3	Patients in #2 with a linkable ID to LRx (study population)	689,709	689,709
4	Patients in #3 with at least 1 prescription claim in P+ for ICS/LABA or OCS during the study period	188,289	347,963

Figure 3: Creation of the Augmented Prescription Dataset



Results

- The Linkage rate from PharMetrics Plus to the LRx database was 80.5%
- In the PharMetrics Plus dataset prior to augmentation, 27.3% of the patients had a prescription claim for ICS/LABA, and 50.5% of the patients had a prescription claim for OCS during the study period
- In the augmented dataset, 28.6% of the patients had a prescription claim for ICS/LABA, and 53.5% of the patients had a prescription claim for OCS during the study period
- In the augmented dataset, we observed 4.8% additional users of ICS/LABA, and 6.1% additional users of OCS, these patients having claims only in LRx
- The total volume of claims not adjudicated in health plan claims was 10.9% for ICS/LABA and 11.3% for OCS (Table 2)
- In the augmented dataset, the payer type for the non-HPA claims seen in Table 2 are described in Table 3

Table 2 – Volume of non-HPA Claims

	ICS/LABA	OCS
Total Rx count for PharMetrics Plus and LRx	1,504,939	1,084,800
Total Rx count for PharMetrics Plus only	1,357,550	974,323
Number of non-HPA claims	147,389	110,477

Table 3 – Payer Type for Non-HPA Claims

Pay Type of Non-Adjudicated Claims in the Augmented Dataset	ICS/LABA		OCS	
	n	%	n	%
Cash	1,302	0.9%	4,097	3.7%
Discount card: (GoodRx, Mfgr vouchers etc.)	8,932	6.1%	6,106	5.5%
Medicaid	1,034	0.7%	885	0.8%
Medicare Part D	16,382	11.1%	11,657	10.6%
Commercial (all other commercial payers)	119,703	81.2%	87,596	79.3%
Other/Unspecified	36	0.0%	136	0.1%
Total	147,389	100.0%	110,477	100.0%

Discussion and Conclusions

- Health-plan claims databases capture prescriptions that are submitted to them for payment. There may be a substantial number of prescription claims dispensed through alternate payers. In this analysis of asthma patients, it was observed that more than 10% of the total volume of ICS/LABA and OCS prescription claims were paid for outside the health plan adjudication system
- Approximately 5% of the asthma patients had no health-plan adjudicated (HPA) claims for ICS/LABA or OCS, which may have classified them as non-users in a health plan claim database
- While approximately 20% of the non-HPA claims were due to patients paying cash, using discount cards or had government payers such as Medicaid or Medicare Part D, approximately 80% of the non-adjudicated claims were classified as commercial payers
- A large majority of the non-HPA claims classified as commercial payer were prescription claims processed by one of the several large pharmacy benefits managers (e.g. Express Scripts, OptumRx, Prime Therapeutics, Med Impact, Caremark and others) that were not reported at a health plan level. These included carve-out prescription benefits, HMO-capitated model plans, PBM services for union organizations, cost control – discounted fee arrangements and others
- This analysis demonstrated that a substantial number of non-HPA prescription claims in health plan claims databases can be augmented with an open-source point-of-service prescription claims database such as LRx. The resulting augmented database may provide more accurate prescription drug utilization data for use in outcomes research, quality measurement and in targeting patients for disease management programs

References

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Disclosure

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