Measure & MeasureReport

Exchange Analytics Data

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Exchanging Raw/Transactional Data

Different FHIR resources available with option of LIST / Bundle /Library

Submit a claim
Create diagnostic report
Update patient detail
Issue medication
Check appeal status
Show my claims
Exchanging Analytics Data?

Granularity
Slices

Dimensions
Filter

Timeline
Units

What is last 12 months claims count?
How many of them in which status?

Trend of Claim processing rate
Compare claim submissions by providers
Measure – Claims Volume & Amount

- **Granularity**
  - Claims / Claim details
  - Yearly/Monthly/Daily

- **Timeline**
  - Date Range
  - Year To Date
  - Last 365 days

- **Units**
  - Volume
  - $ Value

- **Filter**
  - Practitioner
  - Tax Id Number(s)

- **Slices / Dimensions**
  - Line of Business
  - Types of Claims
  - Processing Status
  - Approval Status
  - Submit Date / Closure Date
Quality Reporting & Testing

Operation

$evaluate-measure

URL: [base]/Measure/$evaluate-measure
Quality Reporting

Measure
- Population Group
  - Populations
    - IP
    - DEN
  - Stratifiers
    - Age
    - Gend
  - Supplemental Data
    - Gend
    - Dec

MeasureReport - Summary
- Population Group
  - Populations
    - 500
    - 250
  - Stratifiers
    - 250
    - 250
    - 250
    - 250
  - Supplemental Data
    - 250
    - 250
    - 0
    - 500
Analytics Reporting

FHIR Client → FHIR API Request → Measure

$evaluate operation → Measure Report

Aggregated Storage Layer → Transactional Data

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Resources, Operation & Parameters

**Measure** – Represents a clinical quality measure and provide evaluation through the $evaluate-measure operation.

**MeasureReport** – Represents the response to a specific measure evaluation request returned by the $evaluate-measure operation

$evaluate-measure - The evaluate-measure operation is used to calculate an eMeasure and obtain the results.

<table>
<thead>
<tr>
<th>measure</th>
<th>subject</th>
<th>periodStart</th>
<th>lastReceivedOn</th>
</tr>
</thead>
<tbody>
<tr>
<td>practitioner</td>
<td>reportType</td>
<td>periodEnd</td>
<td></td>
</tr>
</tbody>
</table>
## Parameter Resource

Parameter – This resource is a non-persisted resource used to pass information into and back from an operation.

<table>
<thead>
<tr>
<th>Name</th>
<th>Flags</th>
<th>Card.</th>
<th>Type</th>
<th>Description &amp; Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameters</td>
<td>Σ N</td>
<td></td>
<td>Resource</td>
<td>Operation Request or Response</td>
</tr>
<tr>
<td>parameter</td>
<td>Σ I</td>
<td>0..*</td>
<td>BackboneElement</td>
<td>Operation Parameter</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>+ Rule: A parameter must have one and only one of (value, resource, part)</td>
</tr>
<tr>
<td>name</td>
<td>Σ</td>
<td>1..1</td>
<td>string</td>
<td>Name from the definition</td>
</tr>
<tr>
<td>value[x]</td>
<td>Σ I</td>
<td>0..1</td>
<td></td>
<td>If parameter is a data type</td>
</tr>
<tr>
<td>resource</td>
<td>Σ I</td>
<td>0..1</td>
<td>Resource</td>
<td>If parameter is a whole resource</td>
</tr>
<tr>
<td>part</td>
<td>Σ</td>
<td>0..*</td>
<td>see parameter</td>
<td>Named part of a multi-part parameter</td>
</tr>
</tbody>
</table>
# Measure – Structure Elements

<table>
<thead>
<tr>
<th>Group</th>
<th>Code</th>
<th>Description</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>claimCount</td>
<td>Claim Count</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>Code</td>
<td>Description</td>
<td>Criteria</td>
</tr>
<tr>
<td>Stratifier</td>
<td>Code</td>
<td>Month:ApprovalStatus</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criteria</td>
<td></td>
<td>Month:ApprovalStatus</td>
<td></td>
</tr>
<tr>
<td>Component</td>
<td>Code</td>
<td>Description</td>
<td>Criteria</td>
</tr>
</tbody>
</table>

### MeasureReport – Structure Elements

<table>
<thead>
<tr>
<th>group</th>
<th>code</th>
<th>claimCount</th>
</tr>
</thead>
<tbody>
<tr>
<td>measureScore</td>
<td>measure value with unit</td>
<td></td>
</tr>
<tr>
<td>population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>stratifier</td>
<td>code</td>
<td>Month:ApprovalStatus</td>
</tr>
<tr>
<td></td>
<td>stratum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>value</td>
<td></td>
</tr>
<tr>
<td></td>
<td>component</td>
<td></td>
</tr>
<tr>
<td></td>
<td>code</td>
<td></td>
</tr>
<tr>
<td></td>
<td>value</td>
<td></td>
</tr>
<tr>
<td>measureScore</td>
<td>measure score for stratum code value with unit</td>
<td></td>
</tr>
</tbody>
</table>
Indicative Mapping

KPI Name

Measure Value at group level

Code defining slicing/dimension

Array – One element for each value of Stratifier code

Stratifier Code Value

Measure value for each stratifier code value
Sample Response

```json
{
    "resourceType": "MeasureReport",
    "status": "complete",
    "type": "summary",
    "measure": "claimCountMeasure",
    "subject": {
        "reference": "1234",
        "type": "Organization"
    },
    "date": "2021-05-17T15:40:05+00:00",
    "period": {
        "start": "2020-01-01T00:00:00+05:30",
        "end": "2020-03-31T00:00:00+05:30"
    },
    "group": [
        {
            "code": {
                "text": "claimCount"            
            },
            "measureScore": {
                "value": 255,
                "unit": "count"            
            }        
        },
        {
            "code": {
                "text": "TransactionMonth:ApprovalStatus"            
            },
            "stratifier": [
                {
                    "code": {
                        "text": "202001:Approved"            
                    },
                    "measureScore": {
                        "value": 70,
                        "unit": "count"            
                    }        
                },
                {
                    "value": {
                        "text": "202002:Approved"            
                    },
                    "measureScore": {
                        "value": 40,
                        "unit": "count"            
                    }        
                },
                {
                    "value": {
                        "text": "202002:Denied"            
                    },
                    "measureScore": {
                        "value": 10,
                        "unit": "count"            
                    }        
                },
                {
                    "value": {
                        "text": "202003:Approved"            
                    },
                    "measureScore": {
                        "value": 100,
                        "unit": "count"            
                    }        
                },
                {
                    "value": {
                        "text": "202003:Denied"            
                    },
                    "measureScore": {
                        "value": 20,
                        "unit": "count"            
                    }        
                }        
            ]        
    }
}
```
Implementation Process

- Identify and define the Measure
- Define the parameters needed
- Publish Measure
- Enable $evaluate-measure operation with FHIR end point for given measure
  - Map the data element
  - Define the logic to evaluate measure as per input parameters
  - Generate the MeasureReport when operation invoked
Thank You

We create a healthier world.
One insight, one connection, one person at a time.

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