How Technology Enables Business Transformation:
A Framework for Change & Roadmap for Technology

AIRS Conference
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Andrew Benson, Toronto, Ontario, Canada

Make the Connection. **Call 2-1-1**
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www.211Ontario.ca
Workshop Objectives

• Present a high-level framework for engaging service providers in planning business change

• Describe the business capabilities and technology components of a pan-Canadian shared service delivery model

• Illustrate how technology helps sustain change and generate financial benefit
Overview of Presentation

• Context – operating environment and business goals

• Business architecture – network to system

• Technology architecture – enabling transformation

• Deep dive – Integrated Phone project

• Q&A – at end (or interrupt)
Setting the Context:
Operating Environment & Business Goals
Environment - Canada

- 10 provinces, 3 territories
- 35 million residents
- 2 official languages
- Federal, Provincial, Municipal government
- Dozen licensed 2-1-1 providers
- Inform Canada (AIRS affiliate)
- United Way Canada
Environment - Ontario

- 444 municipalities
- 44 regional governments
- 7 licensed 211 centres
- Ontario 211 Services
- 30+ local community information centres
- 40 United Ways
- Large number and range of provincial I&R providers
Information and Referral – The Landscape

Information
- Provide information

Referral Assistance
- Identify caller needs and identify agencies that can meet needs
- Provide assistance

Intake
- Receives referral and screens to identify if client is eligible for services.

Decision
- Choice of programs within an agency

Registration
- Client registered with program

Common Point

Agencies
Public Navigation & Social Infrastructure
Components of 211 Service

1. Public Inquiry
2. Online Directories
3. Caller Needs
211: Powered by Partnerships

- Ontario Centre of Excellence for Child and Youth Mental Health
- ConnexOntario
- Ontario Paramedic Association
- Alzheimer Society of Ontario
- United Way
- Ontario
- Green Shield Canada
- Elder Abuse Ontario
- Stop Abuse - Restore Respect
- CCAC
- CASC - Centre d'accès aux soins communautaires
- Surrey Place Centre
- Ontario College of Family Physicians
- OPP
- United Way Centraide Canada
- Ontario Trillium Foundation
- Fondation Trillium de l'Ontario
211

ESTABLISH | EXPAND | TRANSFORM | ALIGN
Ontario Transformation & Pan-Canadian Alignment

**Establish**
- 211 launched by United Way of Atlanta
- CRTC designated 211 to improve access for Canadians to community services
- First 211 call centre opened in Toronto
- Government of Ontario and Trillium funding begins
- Ontario 211 Services founded to develop a province-wide 211 service

**Expand**
- 211 service available to 56% of Ontarians
- 7 call centres funded to deliver 211 phone service
- 35+ data providers sharing local data to support 211 service delivery
- 211 service available to 100% of Ontarians as of late 2011

**Transform**
- Community Up service delivery model for 211
- Open211 infrastructure and service platform
- 211 Ontario system governance
- Sustainable funding
- High-quality, standards-based data for referral, analysis and reporting
- Integrated communications and partnership development

**Align**
- 2-1-1 is the front door to human services in Ontario
- Highly valued and recognized brand
- High public awareness
- National alignment of 211 infrastructure and practices
- National integration of 211 specialists

- Funding secured to expand service
- 100% service coverage in Ontario
- Integrated provincial system
- Integrated pan-Canadian system
Community Up – Responding to Change

Professional and effective information & referral relies heavily on the quality of the resource data collected and knowledge of the local landscape.

- Community Up is a principled approach to designing a system where local service delivery agencies, United Ways, government decision-makers and municipal partners have a role in the 211 system.

- Community Up leverages the capacity and relationships of organizations, and the expertise of their people to build a stronger system, and improve the user experience.

- Community Up, in the context of information management, envisages data being collected locally, managed regionally, governed provincially, and aligned nationally.

For more information, download the ‘211 in Ontario: Vision and Road Map’ document at: www.211ontario.ca/aboutus
Business Architecture:
Network to System
FORM follows FUNCTION
Approach to Pan-Canadian Business Redesign

Acknowledgement and validate the current 211 operational constraints
National Service Partners have business-as-usual concerns and operational constraints that are the primary ground of day-to-day management and operations.

Invite National Service Partners to consider an unconstrained future vision
Step out of our current constrained realities and collectively imagine an unconstrained future vision for a pan-Canadian 211 system – let’s explore what’s possible & create an idealized design.

Understand how the shared vision of a pan-Canadian 211 system might be made an operational reality
Sequence and apply the major constraints that will shape the idealized design into one or more options that could make the pan-Canadian 211 system a reality – let’s move forward together.
Guiding Principles for Design Process

The client always comes first
Explore all 211 system design decisions from the standpoint of how they impact the client and the key outcomes from 211 services

Do no harm
Client facing 211 services and service levels must be preserved and investments in a 211 system must not compromise the good work that has been done to date

Innovate and do more
Increase productivity through streamlined business processes and technology improvements and provide higher quality 211 service and greater value for money

Collaborate with new partners across the 211 value chain
Where new partners can improve the efficiency and effectiveness of a business function in the 211 value chain then engage them as an operating partner

Ensure transparency and accountability across the 211 system
Use service level agreements and operating contracts to ensure overall performance and accountability across the 211 system as well as agreements with funding partners

Fair and equitable representation
Ensure a balanced and inclusive representation of licensed 211 providers participate in the design process
2 Key Questions

#1 What is the set of 211 operating functions we need to think about and consider for a pan-Canadian operating model?

#2 How and where will we integrate / standardize these 211 operating functions in the pan-Canadian model?
Standardization and Integration
One, Both, None?

<table>
<thead>
<tr>
<th>Level of Standardization</th>
<th>Level of Integration</th>
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</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Pan-Canadian Service Collaboration &amp; Coordination across Regions</td>
<td>Regional Service Diversification</td>
</tr>
<tr>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Pan-Canadian Service Unification</td>
<td>Regional Service Replication of Pan-Canadian Standard</td>
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</tbody>
</table>
Example: Knowledge Management

Description: Management of resource data and information collected from 211 service delivery.

PC211 Focus: Increasing ability to mobilize caller and resource content across PC211 system and systems.

4, 4, 2

High

Level of Integration

"Integrate" (Coordination)

"Diversification"

Low

Level of Standardization

"Standardize"

Increased PC211 content mobilization

High need to interoperate on data and content

AIRS guidelines have moved us along this scale on the resource content.
Conclusion

Functional Integration & Standardization

Level of Standardization

Level of Integration

INTEGRATE
- Marketing Plan Development
- Access Channel Management
- Human services Demand

UNIFY
- Strategy Development
- Service Demand Planning
- Human Services I&R
- Knowledge Management
- Service Development and Evaluation
- Funding Planning

TECHNOLOGY INFRASTRUCTURE

DIVERSIFY
- Stakeholder Relations & Advocacy

STANDARDIZE
- Training and Certification

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Technology Architecture: Enabling Business Transformation
Ontario – Current State (2014)

- 30+ local databases and views
- 7 separate phone systems
- Multiple websites delivering information online
- Local and regional information management and reporting systems

Challenges for an Integrated System:

- Data: duplicate records; limited access to data; different interpretations of data standards (e.g. taxonomy, inclusion, naming)
- Phone: no connections between local/regional systems (e.g. phone systems cannot overflow or skill-route call to other service providers)
- Online: multiple websites splintering the 211 brand
- Intelligence: no virtual place for 211 service providers to collaborate or share knowledge
In the context of information management, Community Up envisions data collected locally, managed regionally, governed provincially, aligned nationally.

<table>
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<tr>
<th>SHIFT FROM:</th>
<th>SHIFT TO:</th>
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<tbody>
<tr>
<td>30+ local databases</td>
<td>1 open data repository</td>
</tr>
<tr>
<td>7 separate phone systems</td>
<td>1 shared unified communications system</td>
</tr>
<tr>
<td>Dozens of 211 websites</td>
<td>1 211-branded portal</td>
</tr>
<tr>
<td>Numerous information management systems</td>
<td>1 provincial collaboration &amp; content management platform</td>
</tr>
<tr>
<td>Network of call centres &amp; community information agencies</td>
<td>Integrated system of 211 service providers</td>
</tr>
</tbody>
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211 Technology Framework

• is a business strategy for opening and linking information and referral resources (i.e. program and services) data that crosses human services domains

• the strategy’s foundation embeds Linked Open Data principles and best practices

• aligns to the Government of Canada and Ontario Government’s open data strategy

• builds on the progress, assets and capacity and avoids the limitations and constraints of the following initiatives: Open Referral; Linked Data; CIOC

• is a practical, efficient and sustainable model to collecting, managing, accessing and sharing human services data

• **211 Technology Framework – concepts and capabilities that enable the Community Up model.**

• **If Community Up answers the question of ‘what we do’, then Open211 answers the question of ‘how we do it’**
211 Technology Components

OPEN DATA

KNOWLEDGE MOBILIZATION

INTEGRATED PHONE

211 ONLINE
Open Data Repository

OPEN DATA REPOSITORY

External Data System

Open 211 Database
(AIRS or Open Referral Logical Model)

211 Search Service

Data Management Application

Web APIs
(REST, Open Referral (Ohana), Linked Data (SPARQL), Other)

API Gateway

Extended Data
(Linked Data triple store)

Administration UI

Service Delivery Partners

Public

Developers
Integrated Phone

INTEGRATED PHONE

Callers

Interactive Voice Response → Automated Call Distribution → Voice / Data Store → 211

Telephony System

Specialized I&R Providers

Issues and Referral Data
Resource Searching
Call Tracking System
Knowledge Mobilization

211 Warehouse
(Tabular Data Model)

Modeled Data

Canned Reports

BI User Tools

Content Management

Collaboration Tools

Authenticated Users

Funders
211 Online

Service Partners

Customized Results
Keyword, Topics
Public Search
Public

Stakeholders

Agency Relationship Management System
(stakeholder communications)

Social Media
- Twitter
- Facebook
- LinkedIn
- YouTube

Non-211 Channels
Social Listening Tools

211
Identity and Access Management

Open Data Repository

Integrated Phone

Knowledge Mobilization

211 Online

Identity Management & Access Control
Deep Dive:
Integrated Phone
Integrated Phone – Goals

**Quality**
- Skills-based routing
- Shared standards
- Consistent Caller experience

**Efficiency**
- Increased staff utilization
- Reduced capital and operating costs
- Coordinated workforce planning

**Flexibility**
- Scalable solution
- Extendable platform

**Opportunity**
- Emergency management
- Program registration and intake
- On-boarding 10-digit help lines
## Integrated Phone – Key Shifts

<table>
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<th>Shift To</th>
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<tbody>
<tr>
<td>7 separate phone systems (different vendors, different models)</td>
<td>1 shared unified communications platform</td>
</tr>
<tr>
<td>ACD routes calls across the agency</td>
<td>ACD routes calls across Ontario</td>
</tr>
<tr>
<td>Time call waits in queue is dependent on capacity of agency</td>
<td>Time call waits in queue is dependent on capacity of Ontario</td>
</tr>
<tr>
<td>Process for ‘scaling-up’ is to bring on more staff</td>
<td>Process for scaling up is to ‘flick a few switches’ (ports, routing)</td>
</tr>
<tr>
<td>Bricks-and-mortar pool of skills (e.g. languages) for routing callers</td>
<td>Virtual pool of skills for routing callers</td>
</tr>
<tr>
<td>Caller data must be aggregated &amp; formatted for provincial analysis</td>
<td>Caller data can be automagically generated</td>
</tr>
<tr>
<td>Different applications for collecting caller needs and referral</td>
<td>Single, shared system for collecting caller data (iCarol)</td>
</tr>
</tbody>
</table>
Integrated Phone
From On-Premise to In-Cloud

211 Ontario – Regional Call Centres

Contact Centre
(IVR, ACD, Disaster Recovery, CRM Integration, Workforce Optimization)

PSTN

Contact Centre
(IVR, ACD, Disaster Recovery, CRM Integration, Workforce Optimization)
Integrated Phone – Return on Investment

- $1M investment (capital and equipment management costs) amortized over 5 years
- Increases call capacity by 2-fold (~450K additional calls)
Integrated Phone - Approach

- Assess (requirements, consulting)
- Plan (charter, investment, pilot)
- Deploy (regional rollout)
- Connect (integrate regions)
- Manage (expand, enhance)
Thank You

Questions?

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When you don’t know where to turn.

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