



Patient Transitions and Air Traffic Control - Safety by Design Comparison

Time for standard phraseology for healthcare handover and transitions ?

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Problem: Transitions within and across healthcare sectors are complex, dynamic, and variable. They tend to be locally improvised. There is relentless pressure to move patients to different levels of care, all under time and resource constraints.

Background: We are working on several fronts to standardize; 1) Transition language, 2) Documentation, 3) Role Definitions and 4) Alternate level of care (ALC) classification. In September 2014, we visited the NAV CANADA Vancouver Area Control Center (VR ACC) to learn how these experts in air traffic control keep us safe during all phases of flight.

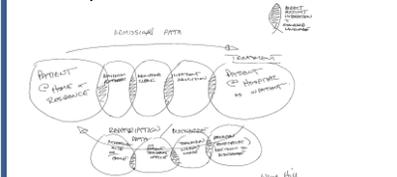
HEALTHCARE LEARNS FROM AVIATION: VR ACC provides the **safe, orderly and efficient** flow of air traffic over most of the landmass of British Columbia and a large portion of airspace off the West Coast. The intervention consisted of direct observation of the provision of air traffic services (control / process) and mapping to both (Real) Interior Health Patient Transitions and (Ideal) processes.

Learning: In our patient transitions, there is a heavy reliance upon individual practitioners' resourcefulness, vigilance and mostly paper documentation (many forms) without training/ or clear expectations about verbal handovers. Few processes are consistent across the health authority and local improvisation seems the rule.

This contrasts significantly with air traffic controllers who are trained from day one to communicate with clear, concise, and standardized **phraseology** (the way in which words and phrases are used in speech). These individuals are highly trained, adaptable and follow standard procedures which ensure that control information is passed from controller to controller in a consistent manner. The result is sustained situational awareness, minimized controller workload, and the effective management of various dynamic operational conditions (number of aircraft, weather, terrain, etc).

	NAVCANADA Air Navigation Services <small>ICAO International Standard Phraseology (How to speak) Radio Licence required for all players: Pilots / Crew/ ATC</small>	How Do You Rate ? REAL vs IDEAL 	Ideal Health Care Transitions <small>Framework for Measuring Transitions of Care – USA National Transitions of Care Coalition</small>
Structure	Accountable air traffic controller throughout flight profile (departure through to destination): Unambiguous role in air navigation coordination Flight Plan : Filed in advance, updated as required to remain accurate, accessible to all concerned Use of information technology: Integrated electronic information systems that are interoperable	Accountable provider at all points of transition ? YES: NO: Variable: Plan of Care: filed in advance accessible to all concerned ? YES: NO: Often incomplete: Effective use of health information technology (HIT). YES: NO: Often paper / fax only:	Accountable provider at all points of transition. <ul style="list-style-type: none"> Patients should have an accountable provider or a team of providers during all points of transition. This provider(s) should be clearly identified and will provide patient-centered care and serve as central coordinator of his/her care across all settings, across other providers. Plan of Care. <ul style="list-style-type: none"> The patient should have an up-to-date, proactive care plan that includes clearly defined goals, takes into consideration the patient's preferences, and is culturally appropriate. Use of health information technology <ul style="list-style-type: none"> Management and coordination of transitional care activities is facilitated through the use of integrated electronic information systems that are interoperable and available to patients and providers.
Process	 Information transfer between controllers <ul style="list-style-type: none"> ✓ Timeliness, completeness, and accuracy of information transferred ✓ Protocol of shared accountability in effective transfer of information ✓ Effective verbal communication is crucial to the safety of the flight throughout the various phases of flight (taxi, take-off, enroute, descent, landing). ✓ Air traffic controllers transfer control of an aircraft from one controller to the next, using predefined phraseology and order of information – the required information is passed and in an expected format: HAND-OFF position of aircraft aircraft identification / SSR code control information Example: "HAND OFF, 20 MILES NORTH OF VICTORIA VOR, GABC, DESCENDING TO 17,000"	Clearly defined / complimentary transition roles ? YES: NO: Variable: Communication between providers ? Timeliness, completeness, and accuracy of information YES: NO: Variable: Protocol of shared accountability ? YES: NO: Variable: Patient prepares for transfer Appropriate patient education YES: NO: Variable: Verbal Communication between providers ? I – Identity of patient / MRP ? D – Current Diagnosis ? R – Recent changes ? A - Anticipated changes/ needs ? W – What to be concerned about ? Standard format for handover (verbal) phraseology ? YES: NO: Variable: Documentation only:	Care team processes <ul style="list-style-type: none"> Medication reconciliation Test tracking (lab and diagnostic procedures) Referral tracking Admission and discharge planning Follow up appointment Information transfer/communication between providers <ul style="list-style-type: none"> Timeliness, completeness, and accuracy of information transferred Protocol of shared accountability in effective transfer of information I – Identity of patient / MRP ? D – Current Diagnosis ? R - Recent changes ? A - Anticipated changes/ needs ? W – What to be concerned about ? Patient education and engagement <ul style="list-style-type: none"> Patient prepares for transfer Patient education for self-management Appropriate communication with patients with limited English proficiency and Health literacy
Outcome	Area air traffic controllers provide the safe, efficient and orderly flow of flights in large sections of Canadian airspace called Flight Information Regions (FIRs) from seven Area Control Centres (ACCs) across the country.	Safe, orderly and efficient flow of patients across healthcare sectors ? YES: NO: Variable	<input type="checkbox"/> Patient experience (including family or caregiver) <input type="checkbox"/> Provider experience (individual practitioner or health care facility) <input type="checkbox"/> Patient safety (medication errors, etc.) <input type="checkbox"/> Health care utilization and costs (reduced avoidable hospitalization) <input type="checkbox"/> Health outcomes (clinical and functional status, intermediate outcomes, therapeutic endpoints)

Napkin Sketch: All Air Traffic transitions are linked by a **10-15 second "burst"** of standard verbal communications. Even automated ATC-Pilot communications are similarly formatted .



In dynamic environments, experts **MUST** interact verbally with clarity, brevity and precision. In Healthcare we have relied too heavily upon vigilance and documentation (alone). Now is the time for some simple standards.

Transitions Progress :
Handover "Phraseology" IDRAW
 We have developed simple, verbal guidelines and videos (IDRAW) for all handovers focusing on three principles:
 i) Patient / MRP identification,
 ii) Relevant clinical detail,
 iii) Active receiver who clarifies intent.
 See youtube; [Interactive Handover](#)
[Interactive Handover App – scan this](#)

Standard Role definitions – TLN
 We are harmonizing the Transition Liaison Nurse (TLN) role across the health authority and beginning to create common tools and processes.

Repatriation Coordination: OTIS
 At our own "area control center" the IH Patient Transport Office (PTO) conducts a daily teleconference between many sites to coordinate and expedite patient repatriation back to their home facility using their *Online Transport Information System (OTIS)* . In a pilot study , this resulted in a 90% decrease (24 to 2.5 hrs) in lead time, fewer refusals, proactive planning, decreased workload

By comparing to a high reliability organization, we hope to accelerate and simplify our patient transitions