INTENSIVE CARE UNITS: A CASE STUDY FOR RESILIENCE

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Intensive Care Units Context

- Production of high-risk care (pushing the boundaries)
- Under-specified ("land of uncertainties" and of the unexpected)
- Not sized for peak hours
- The lack of care production may be more dangerous than the lack of care precaution
- Lots of economical, political, psychological pressures

>> Recurrent exceedence of operational capacities
The HUG-ICU has been resilient over the last 5 years!

- A large ICU (36 beds, about 350 people)
- A merging in 2006 triggering a major organizational crisis (turn-over, absenteeism, burn-out). **But:**
  - More patients admitted: +20% in productivity
  - Peak hours properly handled
  - Decrease of readmission rates
  - One of the worse average SAPS in Switzerland
  - One of the best outcome: only 0.25 of the SAPS predicted deaths
Resilience research project:

Can a better understanding of the resilience mechanisms allow for:
- stabilizing gains?
- further improvements?

1. Resilience Theoretical framework
2. Key features of a resilient system (RE, RAG, HRO, ...)
3. Translation into ICU context language (Indicators, data to be collected)
4. Data gathering and analysis

Feedback loop: Resilience Assessment Framework
Expected and observed organizational resilience features

- High level of anticipation
- High uncertainty management skills:
  - E.g. ability to act without a diagnosis (clinical misunderstanding)
- High tactical flexibility: frequent shifts of perspective
  - from care to resuscitation, from care to withdrawal
- High degree of operational flexibility
  - a lot of expert technical gestures but few binding protocols
- High level of resource management skills
  - Dynamic reallocation of experienced people to difficult cases
- High level of learning activities
  - boosting experience building for junior staff so they can be quickly supportive in overload situations
Some interesting additional issues

- “Polycentric governance”
- The role of shared values
- “Margins of manoeuver” management
- “Constraints that deconstraint”
- The benefits of “coopetition”
- Trust and confidence
- The role of individual commitment
From organizational crisis to polycentric governance?

- 2006 merging triggered an organizational crisis
- Top management layer: disagreements, lack of legitimacy
- Self organization among the physicians staff to cope with daily needs
- Had to manage admission decisions: potential conflicts with other Departments in the hospital
- Minimum conflict line: admit anyone “deserving” intensive care
- Merging > more beds > more flexibility
- Self-organization to reach that goal
- High level of autonomy and protocol adjustments
High level values

- Physicians developed high level values consistent with their goals
- Key paradigm: “Distributive justice”
  - Anyone deserving intensive care must be admitted
  - Redistribution of available care resources all over the patient recruitment basin (no privilege for patients already admitted)
- High solidarity among physicians, high degree of adherence to this value
- Supported by management, extended to the whole staff
- Shared values make sense of the job (decisions)
- Patient flow management becomes a critical issue
Patient flow: a permanent management of “margins of manoeuvre”

- Permanent anticipation of potentially available beds during staff meetings, pre-visit, etc.
  - Permanent update of “jokers” list

- Nurse Resource Manager: a senior nurse in charge of dispatching nurse resources, anticipating potential admission requests and monitoring response capacities
  - In contact with other departments in the hospital
  - Visiting nurse teams at work to check state and potential
  - Talking to physicians

- Back up solutions within other departments: agreements with trustable staff (ex ICU) to accept “de-located” IC

- Call back of additional resources
Constraints that deconstraint

- **Rules for role flexibility:**
  - Flexible roles and levels of delegation (to residents, to trainee nurses, to new comers)
  - Depends on workload and individual competence image (trust)
  - Protection envelopes: sentinel events, deviation from target margins, alerting signals, call back rules, ...
  - Cross-jobs monitoring (e.g. senior nurses on residents)

- **Rules for adapting rules:**
  - High level values ("patient interest") drives risk management
  - Strong reference to medical knowledge (evidence based), high level of competence, elitist selection
  - Shared "sacrificing" decisions principles: ethical, medical, psychological
  - Team and families involved in decisions, not a solo exercise
  - Senior or additional expert advice taken when needed
The benefits of “coopetition”

- Very strong, binding team work culture
  - strong values of solidarity and mutual support among caregivers
  - strong group pressure on individuals
- But different roles still have different interests and visions
  - E.g: difficult case admission during night: interesting case for doctors, lot of disturbance and additional work for nurses and caregivers
- This “coopetition” is a moderator of decision making
  - binds decision makers to play the consensus game, to adhere to accepted values and principles
- Collibration (Dunsire): the expression of different interests is encouraged to facilitate a balanced decision
Trust and confidence

- Because of the flexibility of tasks and roles allocation, a critical condition of robustness is the coherence between allocated competences and needed competences.
- A permanent, dynamic, competence allocation process is running.
- Implies that individual and collective competence images be accurately tuned, far beyond official and formal qualifications.

- In other words, mutual trust and self-confidence are a core issue.
- There are many formal and informal mechanisms to establish the relevant levels of trust and confidence:
  - E.g. a resident will get feedback on his/her competence image from the kind of task delegated to her/him in critical clinical situations.
  - Resonance between team and individual assessments.
The role of individual commitment

- (for a proportion of staff) High degree of personal commitment and devotion to the job and to the team
- Resilience at the organization level partially gained through individual “heroism”
- A high individual price (emotions) rewarded (compensated) by social recognition, team solidarity and justified by shared values
- People who cannot sustain it for a long time leave the Unit
- Turn over as a “resilience” factor at the organization level!
  - But a high price to pay: long and difficult-to-build expertise is lost as well
Why success rather than failure?

- The crisis opened a window of opportunity
- The physicians self-organized themselves to cope with daily needs, following their line of interest:
  - anyone deserving IC admitted: less conflicts
  - more patients, more difficult cases, more challenges
  - more autonomy, more opportunities to experiment and publish
- They happened to form a “nice group”
- The department chief was smart enough to recognize (audit) and facilitate the process
  - Team Resource Management program implemented for 100% of the staff over 1 year
  - Designed as a strong shared values building process
- It worked: more patients, better care quality
Conclusion

- Most resilience features (+ HRO) as described by theory can be easily observed
- ... but most have not been intentionally « engineered » into the ICU
- Rather emerged from empirical experience, and were facilitated by self organization processes through the organizational crisis
- Are they just the “natural” response of an organization facing the kind of constraints an ICU faces?
- Could they be more intentionally engineered?
  - Is crisis a good strategy to design a resilient system?
  - Management by chaos? (rather than chaos management)
Thanks for your attention