Federation University

Role of community engagement in introducing unmanned aerial vehicles

Professor Joanne Porter

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I would like to acknowledge the traditional owners/custodians of the lands on which we meet today. I would like to pay my respects to Elders past, present. I would like to further acknowledge our commitment to working respectfully to honour their ongoing cultural and spiritual connections to this country.

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Walmart





AED on the fly

Automated External Defibrillator

Canadian study (2020)

Acceptance – application



Drone concept was found to be **acceptable** but concerns about providing CPR and using the AED was what **created anxieties**.

Need to understand the community's level of cardiac arrest literacy levels, information needs and **readiness** for innovation.

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AED on the fly

Concerns that the drone was **replacing** traditional paramedic services.

Inferior service replacement



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AED on the fly

Little agreement about the goals of community engagement and the best ways to design, conduct and evaluate it.

Community engagement places community at the centre of any program implementation in order to:

1) ensure **relevance** of the program
2) cause **minimal disruption** in the community and
3) **avoid** any risk of exploitation or ethical hazard.

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Beach-rescue drones in Spain

Scenario

Drones video images **interprets** a drowning person and it therefore approaches the scene to **drop** a life-jacket.

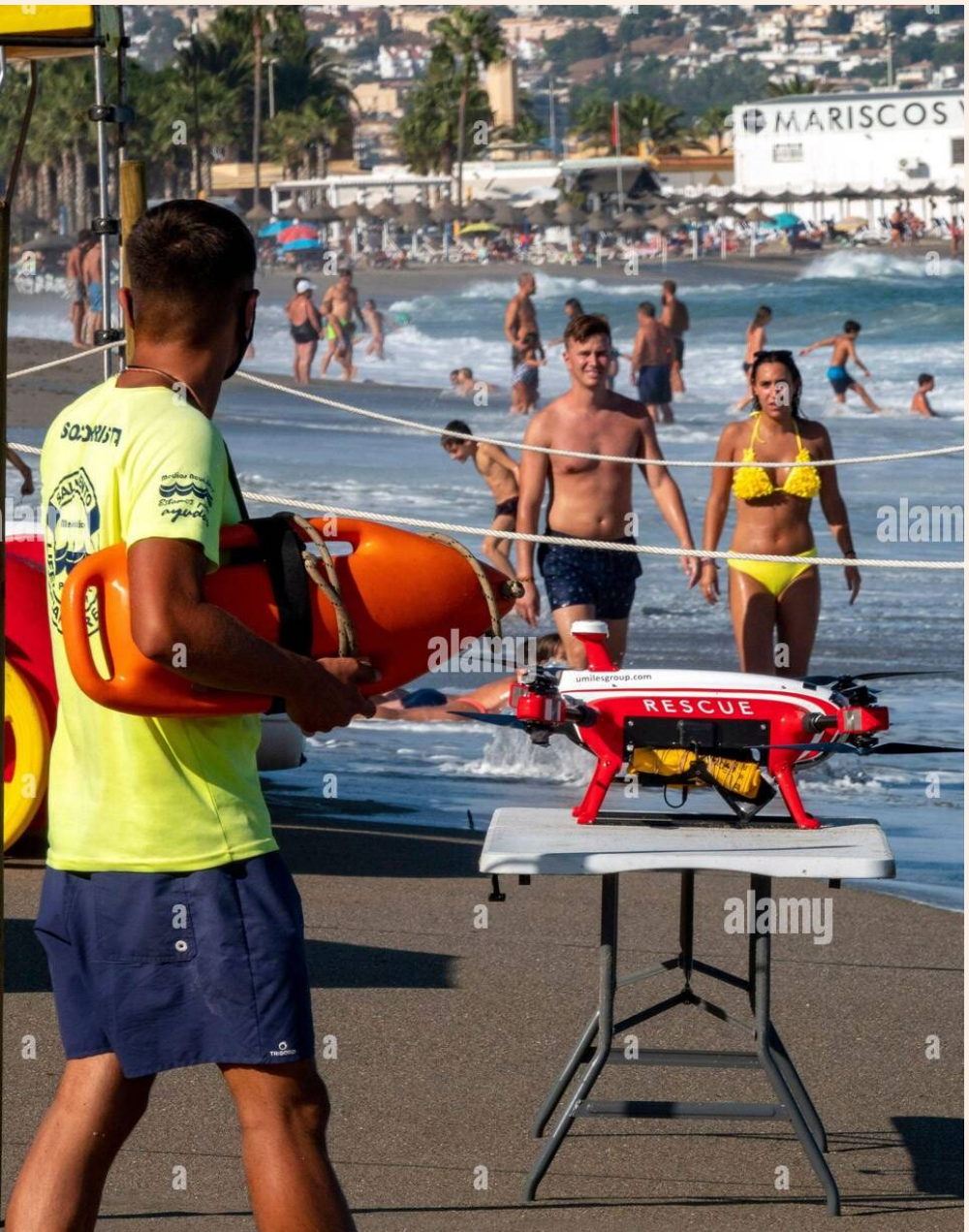






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Beach-rescue drones in Spain



N=3363 participants in the study 10 – 87 years of age

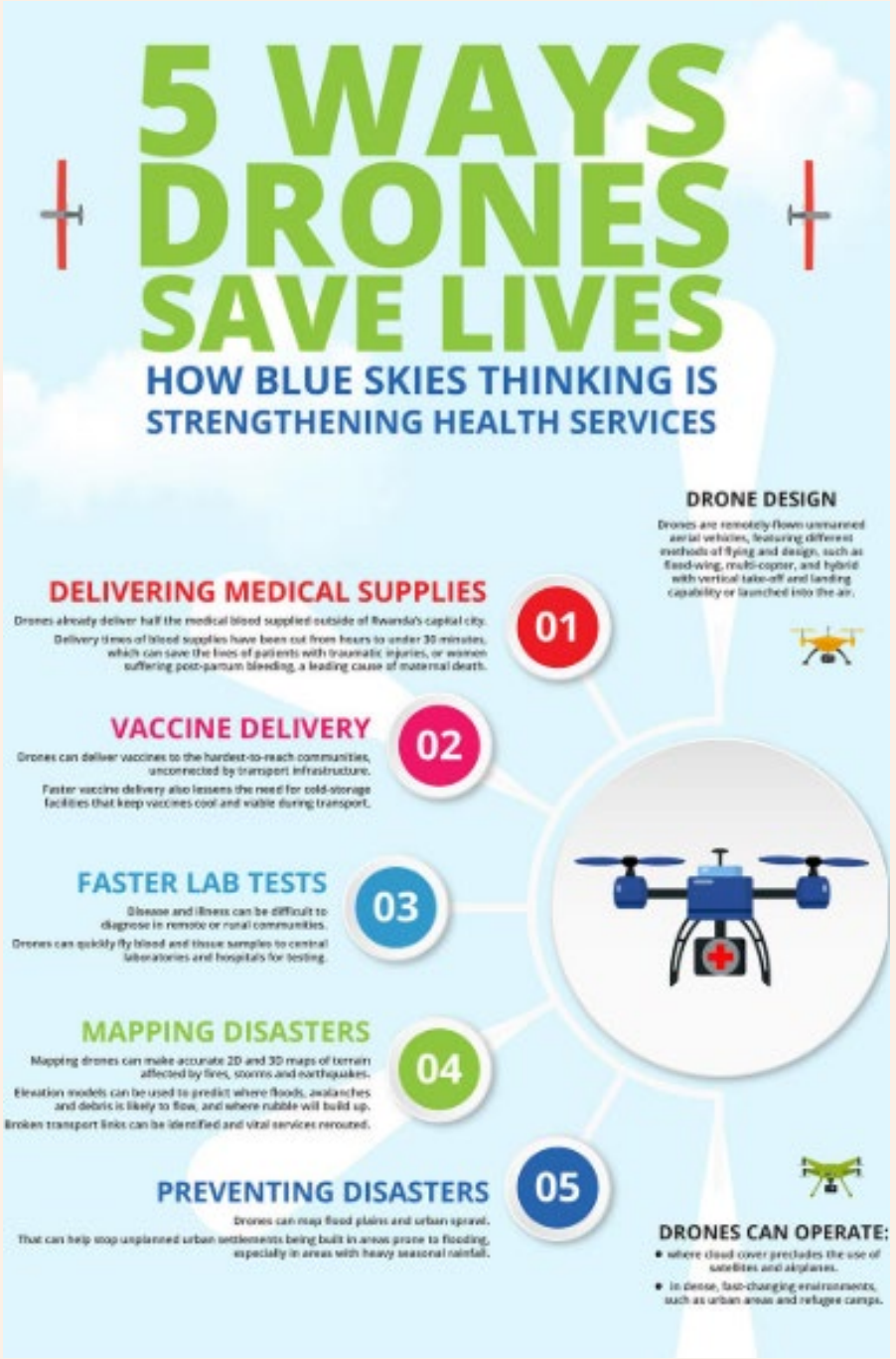
No longer a matter of whether or not they would support the technology but whether their **behaviour would change** in locations where the technology is implemented.

49.1% of participants (n=1648) where rescue drones were being used, they would still **visit and like** the beach.

Australian study 2015

Study 1 – survey about attitudes

- Participants considered the benefits to themselves as less than the benefit to **society**.
- Safety risks **comparable** to that of other technologies.



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Australian study 2015

Study 2 – newspaper article 5 groups different terminology used

- Participants considered the technology to be low risk regardless of what it was termed.
- **Lack of knowledge** of the technology and its potential uses.
- Potential breaches of **privacy** and use of drones for spying.
- **Safety** was the third most common concern then security / misuse of drones and the use of drones by the military.

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Aviation community study UK 2022

- Drones can stay operational when weather conditions ground other crafts.
- Ideal for medical logistics more than parcel logistics.
- A desire for **equivalent** level of safety (ELOS) for drones to crewed aviation.
- Cost of new aircraft technology.
- Access rights to uncontrolled airspace is equitable and safe for all.
- **Shared airspace** will only work if aircraft are fitted with Detect-And-Avoid (DAA) systems.
- Fit drones with Ground Proximity **Warning Systems** (GPWS).

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Portugal study 2023 - Improve city congestion

Online survey n=300 16-62 years of age

Favoured **environmental benefits** over reduction in delivery time, which they would be willing to pay for.

- 76% drones for city logistics can have positive impacts for cities and citizens.
- 70% traffic reduction main benefit,
- 65% highlighted a reduction in pollution and
- 47% a reduction in delivery time.

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Public can participate in the research and development process. Public acceptance should be ruled by three principles:

1) **public knowledge** - communicate in a correct, user-friendly and timely manner, communicating key concerns and perceived risks in a transparent manner.

2) **awareness** - targeted outreach and public awareness efforts regarding extended functionalities and capabilities.

3) **engagement** - affected individuals are part of the policy making discussion and decision-development process.

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Community Engagement

Move beyond attitudes and awareness

- Relevance of drone application
- Readiness for innovation
- Behaviour change
- Infrastructure – Drone ports / delivery paths / logistics

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Targeted community engagement

Aviation community – different concerns and level of understanding

Decision-making process – inform policy

Pilot testing / refine / further testing – leads to best practice

Purpose of engagement

- Sharing updates
- Checking awareness & Knowledge
- Decision-making process
- Trouble shooting



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Community Engagement

Public investment

Environmental positive impact

Education – reduce anxieties about drone application

Timing of implementation

- Replace existing services
- Funding cuts to services
- Job security



M	Messaging	Language Communication plan
T	Timing	Pre / Post piloting Impact factors Co-design
V	Venue	Public space Meeting room
I	Information	Awareness Knowledge Event / Activity See / Touch / Question
P	Person / People	Front facing expert Representative of sector / industry Team / trusted independent Community champion Target population

